California Election Procedures

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California Election Procedures March, 2010 876
California Election Procedures August, 2008 876

Part 1: Introduction

Part 1 contains information about the following topics.

- Use Procedures
- Introduction
- 1.1 System Description and Components
- 1.2 Terms and Definitions

Use Procedures

Election Systems & Software, Inc.

These procedures are proposed for approval by the California Secretary of State in accordance with California Elections Code Sections 19200 and 19205 and shall apply to the use of Election Systems & Software (ES&S) voting systems at all elections governed by the California Elections Code.

These procedures shall be effective upon approval by the California Secretary of State and shall be used in conjunction with all other statutory and regulatory requirements applicable to elections in California. Insofar as feasible, all procedures prescribed herein shall be carried out in full view of the public.

These procedures constitute a minimum standard of performance. They are not intended to preclude additional steps being taken by individual elections officials to enhance security and reliability of the electoral process.

Submitted

First submission: April 8, 2008

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Introduction

The Election Systems & Software (ES&S) voting system is an integrated suite of products that offers a streamlined and efficient method for conducting and reporting elections.

Unity® software is a group of applications that, when used with ES&S ballot tabulators and voting machines, enables an election authority to fully administer and conduct an election.

The *California Election Procedures* manual contains guidelines for following election procedures adopted by California's Secretary of State according to the State Elections Code sections 19200 and 19205 and govern the use of the Model 100 Precinct Level Ballot Tabulation System at all elections governed by the California Elections Code. Use the information in the *California Election Procedures* manual to conduct all elections governed by the California Elections Code when you use Model 100 precinct scanners, Model 650 central scanners, and/or the ES&S AutoMARK Voter-Assist Terminal.

Follow the guidelines included in the *California Election Procedures* manual along with all other statutory and regulatory requirements.

The Election Assistance Commission (EAC) has published an Election Management Guidelines document, along with a series of Quick Start Guides that were used in the development of the *California Election Procedures* manual.

These publications can be found on the EAC's Website at http://www.eac.gov/election/quick-start-management-guides and have been added to this document as Part 12: EAC Quick Start Management Guides. These documents can be a useful supplement to the materials included in the *California Election Procedures*.

The procedures contained in this manual shall be effective beginning August 2010 and shall be used in conjunction with all other statutory and regulatory requirements. Should there be a conflict with current or future provisions of the Elections Code, such provisions shall take precedence. Insofar as feasible, all procedures prescribed herein shall be carried out in full view of the public.

The procedures described here constitute a minimum standard of performance and are not intended to preclude additional measures implemented by individual elections officials to enhance security and reliability for the election process.

Consult the California Elections Code for the exact election requirements in your jurisdiction. Contact California's Secretary of State or go online to www.leginfo.ca.gov/cgi-bin/calawquery?codesection=elec&codebody=&hits=20 for a copy of the California Elections Code.

Contact ES&S

ES&S support representatives are available Monday through Friday between 8:00 A.M. and 5:00 P.M. central time.

You can contact an ES&S support representative in several ways.

Contact an ES&S Support Representative

Telephone:	877-377-8683 (USA & Canada)
	402-593-0101 (International)
Fax:	402-593-8107
Write:	Election Systems & Software
	11208 John Galt Blvd.
	Omaha, NE 68137 USA

ES&S support services are subject to the prices, terms, and conditions in place at the time the service is used.

1.1 System Description and Components

This chapter provides information about system requirements for the following Unity versions. It also provides an introduction to the various components of the Unity system.

Unity 2.4.3.1 Requirements

- COTS Software (Commercial Off the Shelf software)
- Unity Software
- AIMS (AutoMARK Information Management System)
- Unity Hardware
- COTS Hardware

Unity 3.0.1.1 Requirements

- COTS Software
- Unity Software
- AIMS
- Unity Hardware
- COTS Hardware

Unity 2.4.3.1 Requirements

COTS Software

- Adobe Acrobat 4.0
- Adobe Acrobat Type Manager Light 4.1
- Adobe Type Basics
- RM Cobol Runtime System 7.50.01
- Cobol WOW 3.12.00
- Crystal Reports 9.0
- MS Excel 2003
- Window XP Service Pack 2
- Norton Anti-Virus Protection 2005

Unity Software

- Audit Manager (AM) v. 7.0.2.0
- Election Data Manager (EDM) v. 7.2.1.0
- ES&S Image Manager (ESSIM) v. 7.2.0.0
- Hardware Programming Manager (HPM) 5.0.3.0
- Election Reporting Manager (ERM) 6.4.3.3

AIMS

AutoMARK Information Management System v. 1.0.9

Includes:

- MS Access XP
- MS SQL (MSDE) v. 2000 SP 3

Unity Hardware

- Model 100 HW 1.3 FW 5.0.0.0
- Model 650 HW 1.1 FW 1.2.0.0
- AutoMARK Voter Assist Terminal (VAT) v. 1.0.168 HW A100 & A200
  Includes:
  - Scanner Printer Library v. 1.3.3.2
  - Operation Logger v. 1.0.116
  - Scan Driver v. 1.523
  - Scanner v. 1.26
  - WIN CE v. 5.0.1400

COTS Hardware

- Iomega Zip Drive (External)
- Omni Drive USB Professional
- SanDisk ImageMate Compact Flash Reader, Model #SDDR-91

Unity 3.0.1.1 Requirements

COTS Software

- Adobe Acrobat 7.0 Standard
- Acrobat Distiller 7.0
- Adobe Type Manager Light 4.1
- Norton Anti Virus Protection 2005
- RM Cobol Runtime System 7.50.01
- Cobol WOW 3.12.00
- PC Card Manager 1.3 (1.60)
- Omni Drive USB Professional (Driver)
- Crystal Reports 9.0
- MS Excel 2003
- Window XP Service Pack 2

Unity Software

- Audit Manager (AM) v. 7.3.0.0
- Election Data Manager (EDM) v. 7.4.4.0
- ES&S Image Manager (ESSIM) v. 7.4.2.0
- Hardware Programming Manager (HPM) 5.2.4.0
- Election Reporting Manager (ERM) 7.1.2.1

AIMS

AutoMARK Information Management System v. 1.2.18

Includes:

- MS Access Runtime 2002 v. 10.0.26.27.01
- MS SQL v. 8.00.761

Unity Hardware

- Model 100 HW 1.3 FW 5.2.1.0

- Model 650 HW 1.1 FW 2.1.0.0
- AutoMARK Voter Assist Terminal (VAT) v. 1.1.2258 HW A100 & A200
  - Scanner Printer Library v. 1.3.5.1
  - Operation Logger v. 1.0.125
  - Scan Driver v. 1.531
  - Scanner v. 1.39
  - WIN CE v. 5.0.1400

COTS Hardware

- Iomega Zip Drive (External)
- Omni Drive USB Professional
- SanDisk ImageMate Compact Flash Reader, Model #SDDR-91

COTS Overview

- Adobe Acrobat Standard -Used by ESSIM to generate ballot image suitable for printing
- Acrobat Distiller - Used by ESSIM to generate ballot image suitable for printing
- Adobe Type Manager Light - Adds addition fonts for use in ESSIM
- Norton Anti Virus Protection 2005 – California Secretary of State approved Virus protection for the Unity 3.0.1.1 System
- RM Cobol Runtime System 7.50.01- Application platform used by HPM and ERM
- Cobol WOW 3.12.00 – Application platform used by HPM and ERM
- PC Card Manager 1.3 (1.60) required to write firmware upgrade files to PCMCIA cards for the Model 100
- Omni Drive USB Professional (Driver) - Hardware component required by HPM to write election definition to PCMCIA cards for use by the Model 100
- Crystal Reports 9.0 – Automatically installed by EDM, used to generate reports
- MS Excel 2003 – Used by AIMS to export translation for additional languages
- Windows XP Service Pack 2 – Required operating system for Unity 3.0.1.1 and Unity 2.4.3.1.

Unity Software Overview

Unity® software is a group of applications that, when used with Election Systems and Software (ES&S) ballot tabulators and voting machines, enables an election authority to fully administer and conduct an election. This includes the following front-end tasks.

- Create and maintaining an administrative database
- Create an election definition
- Lay out ballots, whether they are paper or electronic
- Set up tabulators and voting machines.

It also includes the following back-end tasks

- Acquire election results
- Accumulate all the results and other tabulator and voting machine data
- Print all reports
- Export files, as required, to other entities.

Each of the applications may be used on a standalone basis in conjunction with the other applications in the suite, being supplied with data from or supplying data to another application running at another facility.

NOTE: Unity applications require the user to have a good working knowledge of IBM-compatible personal computers, the Microsoft® Windows XP operating system, the election process and election terminology.

Each of the Unity applications are described in the following paragraphs.

Audit Manager

Election Data Manager and Ballot Image Manager use Audit Manager to store detailed logs of the actions performed in both programs. Open Audit Manager to access audit logs and control user access for Election Data Manager and Image Manager.

Election Data Manager

The Unity Election Data Manager™ (EDM) application is used to create the election data used for all ballot layout and tabulation for all equipment used in the election. You set up an administration database consisting of the following.

- Precincts
- Districts
- Polling Places
- Political Parties
- Contests
- Precinct/district relationships

The administration database is set up one time. It does not have to be changed unless there are changes due to such things as redistricting. This database is then used to set up election-specific information by activating the parts that are required for a specific election. For example, a special school bond election might require only a few precincts, one polling place and one contest; where a countywide election would require that all parts be active.

After you set up the administration database, you add candidates to the appropriate contests for an election. Then you use a merge process to build ballot styles for the election. If a ballot has multiple languages on it, you also enter the translations.

This information is then used by the Image Manager applications to lay out the physical ballots that meet legal presentation requirements. EDM also has the ability to import information, such as candidate lists, from text-based files using an import wizard that is included with EDM.

ES&S Image Manager

The Unity ES&S Image Manager™ (ESSIM) application is used to create the camera-ready ballot layouts needed for an election for the Model 100 and Model 650 tabulators, and the AutoMARK voter-assist terminal.

ESSIM uses the election definition files created by EDM and creates the ballot layouts including all user instructions that are required on the physical ballot. These requirements are both legal and aesthetic. ESSIM provides many of the controls associated with commercial typesetting systems, but is geared to the ballot creation process. It handles all of the different ballot styles in the election, and globally applies any changes made by the user.

NOTE: Basic knowledge of the printing trade and the associated terminology and printing controls is useful to the ESSIM user.

Hardware Programming Manager

The Unity Hardware Programming Manager™ (HPM) application is used to put the election definition in the format required by each of the ES&S tabulators and download the definition to all of the media required by all tabulators used in the election. HPM receives its information from EDM and the image managers associated with the tabulators that are being used in the election. You can also use HPM to enter tabulator-specific information, used in processing of ballots, that is not available from the ballot layout applications.

Election Reporting Manager

The Unity Election Reporting Manager™ (ERM) application stores precinct-level results in its database, which is created from the HPM election definition. It accumulates these results into election-wide summaries. Precinct results are obtained in the following ways.

- Direct reading of precinct tabulator media
- Processing of central tabulator media or results files
- Manual entry.

You can select up to five subtotal groups for different results categories, and related to specific tabulators. You select one of these tabulators to perform a results update.

ERM also provides the following types of reports, each with several user-selectable formats.

- Precinct
- Summary
- Canvass
- Logs
- Status

These reports can be printed, or you can create print image files for previewing before printing or exporting. Special export files are also available for web update, state reporting or for import to a commercial database.

AIMS

The AutoMARK Information Management System (AIMS) is a WINDOWS PC-based application software that manages all of the information required by the AutoMARK™ Voter Assist Terminal (VAT) for an election. ES&S supplies an installer for all the election software required for the AIMS system to function smoothly. The system performs a wide range of tasks that record and protect all election information.

The AIMS process starts with the printed optical scan ballot. In addition to the printed ballot, files produced by the ES&S Unity System may be imported into AIMS for ease in loading data into the AutoMARK Election Database. In lieu of the import procedure, data may be manually entered into AIMS. Election specific information including precincts, splits, races and candidates is maintained by AIMS. After previewing and verifying all election data, AIMS writes the election database to a secure compact flash memory card (FMC). The FMC supplies ballot content information to the VAT.

Model 100 Precinct Count Scanner

The Model 100 precinct ballot scanner is part of a jurisdiction-wide election tabulating system. Each scanner can process ballots for up to 10 precincts.

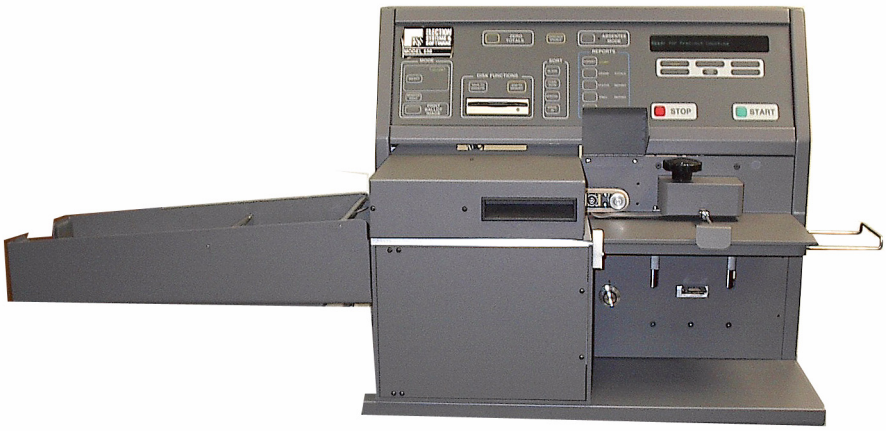
Voters make selections and then insert their ballots directly into the Model 100 at the polling place. The scanner tabulates votes and sorts blank and write-in ballots from other ballots as soon as they are inserted. The scanner then feeds each ballot into the attached ballot storage bin.

Precinct Count Scanner Functions

Model 100 scanners perform the following functions.

- Check the pre-printed codes along the ballot edge to determine the precinct, split, and type of each scanned ballot.
- Read voter choices for candidates or issues. The entire reading process takes seconds for each ballot.
- Check for ballot irregularities. For example, if a voter opts not to vote in one race, the scanner recognizes and records that choice. Or, if the scanner detects a torn ballot, the scanner stops and provides the operator with instructions for handling the ballot.
- Tabulate votes for each race and tracks the race count by precinct. Tracks the total ballots counted by precinct and by ballot type.
- Generate reports to show up-to-the-minute scanner totals. Save scanner results to a PC card, which allows results from multiple scanners to be combined and tallied at a central count location. The scanner also generates a date stamped audit log of scanner activities.

Model 650 Central Count Scanner



The ES&S central count system combines decentralized pencil-and-paper voting with centralized automated ballot counting. Voting takes place at various locations within a precinct, or via Vote by Mail or Mail Precinct Ballot. After the polls close, or at the end of vote by mail voting, poll workers put ballots into a locked ballot box. The boxes are taken to the central vote-counting location and counted using Model 650.The Model 650 Central Ballot Scanner is a high-speed, computerized, optical mark reader.

NOTE: Jurisdictions can also use central count scanners in a system with precinct counters, to count early vote and vote by mail ballots.

Central Count Scanner Functions

Model 650 scanners perform the following functions.

- Authenticates ballot stock.
- Check the pre-printed codes along the ballot edge to determine the precinct, split, and type of each scanned ballot.
- Read voter choices for candidates or issues. The entire reading process takes only a fraction of a second for each ballot.
- Check for ballot irregularities. For example, if a voter opts not to vote in one race, the scanner recognizes and records that choice. Or, if the scanner detects a torn ballot, the scanner stops and provides the operator with instructions for handling the ballot.
- Tabulate votes for each race and tracks the race count by precinct. Tracks the total ballots counted by precinct and by ballot type.
- Track vote by mail results in several ways:
  - Tallies vote by mail votes with the regular precinct totals
  - Tallies vote by mail votes separately from the regular precinct totals
  - Tallies votes as a duplicate precinct set
  - If using ERM, tallies votes as a separate group within ERM
- Generate reports to show up-to-the-minute totals by individual precinct, city, or by county. Final reports serve as unofficial election night results. The scanner also generates a date stamped audit log of scanner activities.
- Save election results to disk, in order to save a permanent record of the election or to use as backup data.

AutoMARK Voter-Assist Terminal

The AutoMARK Voter-Assist Terminal (VAT) is part of an optically scanned, precinct based, electronic voting system which is comprised of election definition and ballot generation software, and ballots.

The AutoMARK VAT is generally used for marking ballots by persons who are visually impaired, physically disabled, or more comfortable reading or hearing instructions and choices in an alternative language. The AutoMARK VAT does not store, count, or tabulate votes.

1.2 Terms and Definitions

Refer to the *ES&S Technical and Election Terms Glossary* for additional terms and definitions.

Anti-Static Padded Bag

Such a bag is provided by the manufacturer of the Model 100 as packing material for the PCMCIA memory cards hereinafter referred to as “memory cards”. These bags or bags of similar construction and materials shall be used to cover memory cards during transportation. This requirement is in addition to the requirement to secure the memory cards in a serialized, tamper-evident container during transportation and storage.

Refer to section 10.1 Physical Security of System and Components for information about the requirements for securing memory cards.

Audible Tone

The Model 100 is equipped with a beeper to emit an audible signal when a ballot anomaly condition is encountered requiring voter or operator intervention, or to confirm a processing action. This signal complements a message displayed on the LED display.

Automatic Read Test

In testing it is often desirable to enter a single ballot repeatedly. To do so, without the delay of the ballot moving through a complete path from throat to exit slot, the Repetition Count feature may be invoked. Under this control, the ballot will be entered at the throat, counted, exited at the throat, and reprocessed without handling by the tester. The number of readings is under keypad code control. This feature is only available for testing, and not during election processing.

Ballot

The printed document which provides a voter the opportunity to vote for all appropriate candidates and ballot measures by using an appropriate marking device to indicate selections in available voting positions. The ballot shall have two detachable serialized stubs. All ballots are controlled by the Secretary of State, pursuant to California Code of Regulations, and shall be printed with distinctive tints and designs as specified by the Secretary of State, and shall be produced and distributed in accordance with regulations adopted by the Secretary of State. All ballots must be printed by a state certified printer which includes counties that may wish to produce their own ballots, known as ballot on demand. The ballot with its one or two perforated stubs may be of various dimensions. After removal of all stubs, the ballot shall measure eight (8.5) inches in width. The length must be a minimum of 14 inches with a maximum length of 19 inches. With the ballot positioned in portrait orientation, such as a letter or this typed page would normally be held for reading, the various ballot sections are: a serialized binding stub at the top; followed by a serialized voter's stub, and the main processable ballot section. The binding stub is stitched or stapled together as a pad when the ballots are gathered, and is the part remaining affixed to the pad when the voter's ballot and attached voter stub have been removed for voting.

All voting positions on the ballot are indicated by an unfilled oval adjacent to the names of candidates, available write-in spaces, and the for or against (Yes/No) ballot measure indications. Such unfilled ovals shall be uniform throughout the ballot, and shall be of such a design as to suggest the necessity of a mark to "fill in" the oval thus indicating a voting choice. The ballot may be scored horizontally for folding, but not vertically. The folding score shall not intersect a voting position. If any voting position on the ballot is used for more than one candidate or ballot measure at the same election, each such ballot shall have a ballot style identification code printed thereon. A party identification code shall be printed on each partisan ballot at a primary election.

Ballot Classifications

The various ballot classifications are as follows:

Blank Ballot. A blank ballot is one on which there are no voting position marks that can be read by ES&S tabulators. It may be truly blank in all voting positions, or it may have marks in these positions which cannot be read because they are of insufficient marking.

Damaged Ballot. A damaged ballot is one which has been torn, bent, or otherwise mutilated so that it cannot be processed through the ES&S tabulator. Damaged ballots at the precinct level are spoiled and a new ballot is reissued to the elector.

Demonstration Ballot. This ballot, used for demonstration purposes, displays a mock election. Offices are frequently fictitious; candidates are usually historical figures; and measures are obviously not serious. Such ballots may be used and re-used for demonstrations from voter to voter and from election to election such ballot shall not be produced and printed on state certified ballot stock at any time.

Error Ballot. This is a ballot whose header code does not match the header code expected by the Model 100's memory card for a particular precinct or ballot style.

Normal Ballot. This is a description usually applied to a ballot which has been voted and is not distinguished by any anomaly, such as overvoted offices, a damaged condition, blank, etc. "Normal" ballots are customarily directed to the right compartment of the Model 100's ballot box.

Provisional Voter Ballot. A ballot issued, pursuant to Elections Code section 20107, to a voter claiming to be properly registered to vote, and whose qualification or entitlement to vote cannot be immediately established upon examination of the index of registration for the precinct or upon examination of the records on file with the county elections official. Such voters shall be provided a provisional ballot which shall not be tabulated until verification of eligibility has been confirmed. Said ballot votes shall only be added to races in which the said voter is entitled to vote.

Challenged Ballot. A ballot on which the voter's entitlement must be verified.

Spoiled Ballot. A ballot issued to a voter and returned by the voter for another ballot because of an inadvertent error made during the ballot marking process.

Ballot Layout

The ballot configuration unique to each precinct or precinct split which encompasses all candidates, including any rotation of candidate names, and ballot measures to be voted on at a specific election.

Ballot Statement

A comparison of the number of ballots received from the elections official by each precinct board with the sum of all precinct voter voted ballots, returned Vote-By-Mail voted ballots, provisional voter voted ballots, and all spoiled and unused ballots at an election.

Date/Time Stamp Feature

All entries on the Operations Log from the AutoMARK VAT are date/time stamped.

Destructible Seal

Any type of numbered device, such as a boxcar seal, used to close a container, room, or area and that requires damage to, or destruction of, the numbered device to gain access to the contents therein. Audit control logs must be maintained recording the sealing and/or unsealing process to including: seal number; date, time and nature of activity; and the person's name. A destructible seal is used to secure the cover of the memory card housing in the Model 100. It is secured in place prior to transporting the unit. It is broken and removed at the polling place following printing of the results tape, such printing taking place after the closing of the polls.

Device Report

This report lists the serial number of a Model 100 and of the memory card installed therein. At the polling place the report shall be compared against the Model 100 and its memory card housing. This report need not be a separate document, but may be included within another control document.

Model 100 Ballot Box Compartments or Bins

In operation, the Model 100 is mounted over a three compartment ballot box. A processed ballot is directed, under program control, to one of two of these compartments, or bins. "Normal" ballots are usually sent to the right bin, while other classifications of voted ballots are usually diverted to the left bin. It is the option of the county to use the divert process within the ballot box function. The Front Auxiliary Bin is used for the temporary storage of unprocessed, voted vote by mail ballots turned in at the polls or provisional ballot secure storage. An additional storage example would be ballots voted during a Model 100 failure. The Model 100 is equipped with an integral backup battery unit that permits up to eight hours of continuous unit operation in the event of a power outage.

Election Coding

This term applies to the election preparation function of providing specific election parameters to memory cards using special software. These parameters include, but are not limited to the definition of offices, candidates, voting positions, number of candidates to be elected, statistics to be accumulated, ballot path and striping controls, keypad utility and control codes which may be made available, plus any other election-specific parameters.

Elections Official

As used here, this term shall apply to the County Clerk, the County Registrar of Voters, the City Clerk or any other person who has been properly and legally charged with the responsibility of conducting the election. These Procedures shall be liberally interpreted, so that when permitted by law, the elections official may deputize others to perform designated functions.

Election Results Summary System

An Election Results Summary System is used for the accumulation of jurisdiction-wide results and statistics, and for the printing of reports. Election results summary systems consist of an election preparation and tabulation resident PC and the requisite number of Model 100 units to accomplish the uploading of precinct result totals.

FMC

Flash memory card

Header Codes

Codes are printed in the upper front corners of a ballot, identifying it as being of a specific ballot style, political party, or other grouping. The header code may also designate the ballot as to precinct, if desired. When multiple precinct processing is implemented, header coding identifying each precinct separately is required. If the header coding on a ballot is not identical to that carried by the memory card, that ballot will not be accepted for processing and an error message indicating that condition will be printed and displayed.

Invalid Code Printing

This can occur when the printed codes on ballots for the identification of the precinct, ballot style, or party do not match the programmed instructions in the Model 100's memory card.

Initialization

This is the final process of preparing a Model 100 for ballot processing. At the warehouse or final testing area, before transportation or movement of the unit to the precinct or counting location, all results and statistical counters are reset to zero and a confirming message is obtained. At the precinct or central counting place, when power is applied, a report reflecting and confirming zero counts will print automatically. Following this, the LCD will display the message, "OK TO READ BALLOTS".

LCD Display

There is a four line, 40 character per line LCD display on the front panel of the Model 100. The LCD indicates that power is on and shows a count of the number of ballots that have been processed. This is also referred to as the “public counter”. It displays the number of ballots processed through the Model 100 up to that point. Ballot anomaly messages are also displayed in clear text on the LCD.

LCD Display and/or Printed Results

The Operations Log can be printed from the AutoMARK VAT at the discretion of the elections official. All diagnostic messages are logged on the units’s memory card irrespective of whether the message is printed and/or LCD displayed.

LCD Display and/or Printed Results Tape Messages

A certification message, followed by signature lines may be printed. The message attests that the statistics and results are true to the best of the Precinct Board’s knowledge. The elections official may choose to implement this function or not. He or she may also choose the wording of the message. Diagnostic messages can be printed on the Model 100’s tape at the discretion of the elections official. All diagnostic messages are logged on the unit’s memory card irrespective of whether the message is printed and/or LCD displayed.

Log/Results

The AutoMARK VAT provides a printable Operations Log. During election preparation and testing, the tape indicates or confirms actions taken, results generated, and that selected functions are operable. This printing becomes an election reconstruction audit trail checkpoint.

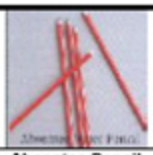
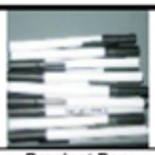
Log/Results Tape

The Model 100 Printer uses a paper tape roll, similar to an adding machine tape, for printing election activity messages, reports and election results. During election preparation and testing the tape indicates or confirms actions taken, results generated, and that selected functions are operable. At the precinct, when the Model 100 is first supplied with power, the tape will print, showing Ballot Statistics (zero counts), Acceptable Security Codes, and Totals (zero Counts) for all candidates within all offices applicable to the precinct, or precincts. This printing becomes an election reconstruction audit trail checkpoint. The precinct workers must confirm zero counts, and by comparison against sample or official ballots, confirm that the Model 100 is counting all of the measures, offices and candidates expected on the particular ballot style for that precinct. Measures, candidates and offices shall print in the exact order as they appear on the ballot. The tape is detached and kept in the polling place location and can be viewed by members of the public as needed it may also be posted in plan view within the polling place location. Each polling place shall produce at least two copies of the tape this process shall be repeated at the closing of the polling place location with the in precinct results being printed in the same manner.

Marking Device

The elections official shall issue to each elector for use in marking the ballot either a VL Ballot Pen or a device which will make a mark complying with carbon content ink specifications as published by the manufacturer of the Model 100. ES&S does not recommend that erasers be used or supplied to polling place locations.

Approved Marking Devices

Pen						
Name	VL Ballot Pen	Precinct Pencil	Felt Tip Pen	Absentee Pen	Absentee Pencil	Precinct Pen
Part #	6100	PS-PP	00505	00500	00540	75409
Type	BIC Grip Roller ball Black - .7mm tip	Sanford Design Ebony – Jet Black Extra Smooth	Eberhard Faber Felt Tip Pen	Spearhead Pen	Unknown	BIC Round Stic Black Medium Point

Tabulators (Sensor Type)	Recommended Precinct Device	Alternate Precinct Device	2nd Alternate Precinct Device	Absentee Marking Device	Comments
Model 100 (Visible Light)	VL Ballot Pen	*Precinct Pen		Absentee Pen	*ES&S strongly recommends the VL Ballot Pen over an Alternate
Model 650 (Visible Light)	VL Ballot Pen	Felt Tip Pen	Precinct Pencil	Absentee Pen/Pencil	

Memory Card (PCMCIA Card)

A memory card is an intermediate storage medium which must be installed in a Model 100 in order to process ballots. A discrete number engraved into or affixed by non-removable label to each memory card to specifically identify a memory card.

Memory Card Reading (Download and Upload)

The parameters of the election and other instructions are downloaded onto the memory card via appropriate software. The Model 100 also accomplishes the uploading of election results from the memory card to the ballot tabulation software resident PC. The County should apply appropriate security wherein such PC resides within the county's operation to prevent unauthorized access to its equipment.

The parameters of the election and other instructions which have been prepared via appropriate election preparation software for the tabulator which will be used, are then read into the AIMS Personal Computer (PC) where the data is transformed into the format needed by the AutoMARK VAT. This data is transferred via a Flash memory card, which is inserted into the AutoMARK VAT. The County should apply appropriate security wherein such PC resides within the county's operation to prevent unauthorized access to its equipment.

Multiple Precinct Processing

Model 100 firmware is capable of processing from one to ten precincts simultaneously. When so employed, the ballots for each precinct shall have discrete identifying codes. The election shall be coded so that the log/results tape will show discrete vote totals and discrete statistics for each precinct. Combined statistics, such as total ballots processed, total ballots directed to bins, ballots striped and other counts will be printed as an aid to auditing. The discrete statistics printed for each precinct shall show, per precinct, total ballots cast and of what type.

Object Code

The version of a computer program in which the source code language has been converted or translated by a compiler or assembler into the binary-code machine language of the computer with which it is to be used. These machine instructions are unique to the particular computer processor being used and can be executed directly by the computer processor without further simplification.

Orientation Codes

Special marks are printed on the ballot to indicate its orientation as it is fed into the Model 100. This allows the voter to place his or her ballot in the Model 100's read path in any of its four orientations.

Override

Certain classifications of ballots may, under program control, be returned to the voter for correction and/or further action before processing. If permitted by law, and at the discretion of the elections official, the voter may "override" the decision or action process by causing the ballot to be accepted as is. During processing, only the override function is available to the voter. All other Model 100 functions are masked by the "Conduct Election" mode of operation. Elections officials should always refer to the California Election Code when making such decisions.

Overvote

The overvote condition occurs when the voter marks more candidates than the number of candidates to be elected. In an office to which one candidate can be nominated or elected, a second vote creates an overvote condition. The result is that no vote for that office can be tallied since the voter's intent is unknown. In the case of ballot measures, a "Yes" vote and a "No" vote for the same measure creates the overvote condition. When marked ballots come into question the elections official shall defer to voter intent as described in the California Election Code.

The AutoMARK VAT detects an overvote, and alerts the voter. The ballot will not be marked until the voter clears the overvote.

Provisional Ballot

Provisional ballots are the same as the regular precinct ballots. They are issued to those voters who claim to be registered but whose right to vote at that precinct cannot be immediately established. Voted provisional ballots are placed in special color coded envelopes and returned to the elections official with other precinct supplies upon the close of polls. Procedures for processing provisional voter ballots at the precinct shall be in accordance with the stipulations of the Elections Code.

Reusable Test Deck

This term is used to designate a stack of ballots which are not election-specific. These Procedures specify that the Reusable Test Deck shall consist of ballots carrying a demonstration, famous name type election. This deck can be used for accuracy testing or voter out reach by the County.

Secrecy Sleeve

An envelope or folder of such design and dimensions as to hide from view the voted ballot while it is being carried by the voter from the voting booth to the stub removal station. If ballots are to be processed through the Model 100 or the AutoMARK in the polling place, the ballot remains in the secrecy sleeve after stub removal as the voter carries it to the Model 100. There the voter inserts the ballot into the throat of the Model 100, taking care that the secrecy sleeve is kept back from the ballot grasping devices at the throat. (If there is no likelihood that ballot secrecy would be compromised, it is suggested that the voter be encouraged to remove the ballot from the secrecy sleeve prior to insertion into the Model 100.) Refer to California Election Code for information about the use of a secrecy sleeve.

Semiofficial Canvass

The process of collecting, processing, and tallying ballots on election night. This may include reporting of results to the Secretary of State. The semiofficial canvass may include some or all of the Vote-By-Mail ballot vote totals. The semiofficial canvass is contrasted with the official canvass which begins not later than the first Thursday following the election and, for statewide elections, must result in final certification 28 days following the election.

Tests

Accuracy Tests. Accuracy tests verify that the vote tallying hardware is operating correctly. Accuracy testing consists of entering a known number of ballots with a predetermined number of voted response positions into Model 100 and/or Model 650 scanner(s). The accuracy test group of ballots has predetermined totals for all contests on the ballot, with every candidate in a contest receiving a different number of votes than any other candidate in that contest. All ballot styles and/or types are subjected to accuracy testing. Additionally, all equipment that is subjected to use should be tested during this process.

Logic Tests. Logic tests must be run both before and after processing official ballots for an election, and are generally confined either to the Election Results Summary System specified in item 1.2.32 or stand-alone, high speed optical scan ballot processing units. For a stand-alone, high speed ballot processing unit, the logic test group of ballots has predetermined totals for all contests on the ballot, with every candidate in a contest receiving a different number of votes than any other candidate in that contest. All ballot styles and/or ballot types are tested. For precinct based units such as the Model 100, logic testing encompasses the uploading of precinct(s) vote totals from a unit's memory card to the Elections Results Summary System. Logic Test output can be in the form of a precinct or jurisdiction wide, election results report, signed by the Logic and Accuracy Board. Submission of the vote tally programs and election specific files tested must be made to the Secretary of State not less than seven days before the election. The Secretary of State shall certify compliance and accuracy. This process shall take place prior to each election in which reports are electronically reported to the Secretary of State office.

System Proofing

System proofing verifies that all materials, files, and programs for an election are correctly prepared. This proofing process occurs over a two week period sometime between 40 days prior to the election day and 14 days prior to election day. Logic and Accuracy Testing is included in system proofing. Any language translations must be provided by a court certified translation service.

Time Control Feature

This feature, when implemented, will cause a cautionary message to be printed on the Log/Results tape and displayed on the LCD message screen if an effort is made to open or close the polls before predetermined times of day. All entries on the Audit Log and printed reports are date/time stamped.

Timing Marks

These are vertically printed marks appearing along both vertical edges of an ES&S ballot. Assurance of proper ballot printing registration is given when these marks appear in corresponding positions along each edge of the ballot. Timing marks should be checked upon receipt of ballots from the printer.

VAT

Voter-assist terminal

Vote Both Sides Notification

The instructional notations printed at the bottom of each side of a two-sided ballot, urging the voter to vote both the front and back sides of the ballot. Such notification is mandatory.

Write-in Voting Position on the Model 100 Ballot

For each office, immediately below the space on which the last candidate's name is printed, there shall be a space or spaces available for the voter to cast write-in votes when required. These spaces shall be equal in number to the number of persons to be elected to the office. An unfilled oval shall be printed adjacent to each write-in space.

Part 2: Ballot Definition

Part 2 contains information about the following topics.

- Ballot Definition
- 2.1 Overview
- 2.2 Paper and Printing Specifications (as appropriate)
- 2.3 Layout Requirements and Specifications (as appropriate)

Ballot Definition

ES&S scanners use 11-, 14-, 17-, and 19-inch ballots. Standard, coded ballot stock measures 8.5 by 17 inches. The standard ballot that the scanner reads has three columns and is 8.5 by 14 inches with 36 rows of ballot selection text and 216 voting target (oval) locations. Use the extra three inches on the coded stock for ballot stubs. Place two stubs on your ballots. Use the bottom stub as the bind stub to tear the ballot away from the bound stack and use the next stub as the audit stub to keep a paper record of your registered voters. All ballots used with the election process must be produced and finished by a Secretary of State certified printer and the county must follow the Secretary of State procedures for ballot inventory.

A single scanner ballot usually fits on a single sheet of ballot stock but the ballot can fill two sheets or more. You can format the ballot as single sided or double sided, with up to three columns on each side. ES&S delivers ballots in stacks of 300 and shrink wraps or binds ballots according to the specifications of each jurisdiction.

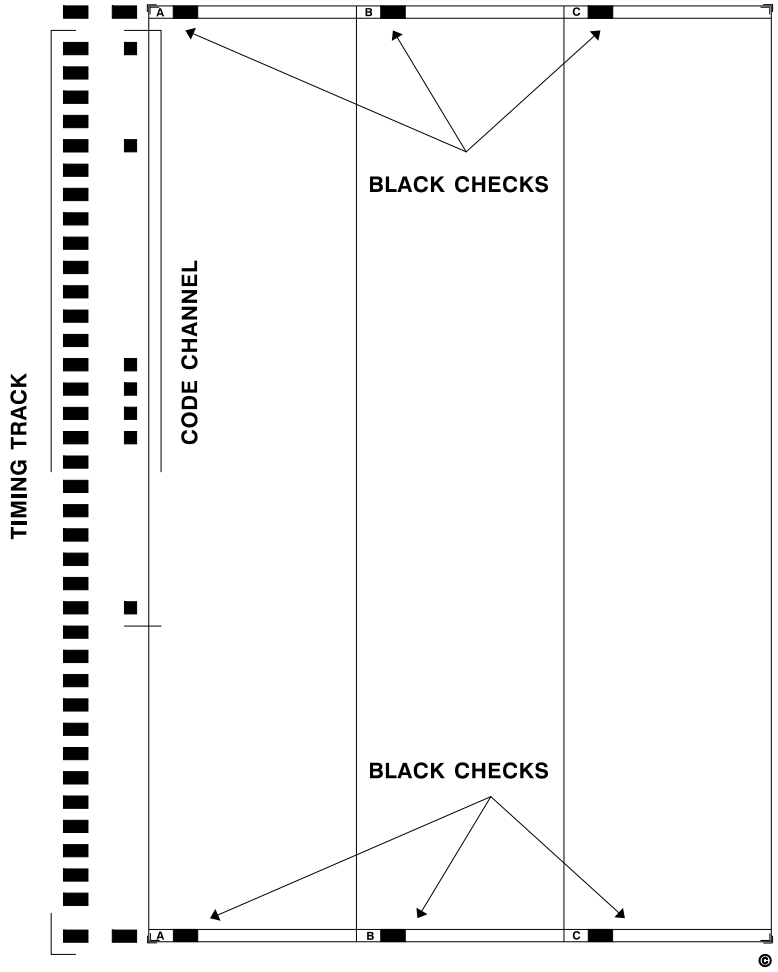
Ballot paper and punch cards used by any jurisdiction holding an election governed by California law are tinted, watermarked or overprinted with a design furnished by the Secretary of State of California. ES&S prints ballots to ensure that the watermark or overprint is clearly visible.

Voting Targets

Voting targets (ovals) appear to the left of each ballot selection and voters use special, machine-readable marking devices to fill in the ovals to indicate ballot selections. Scanners cannot read the ink used to print the actual ovals or ballot text (such as contest descriptions and candidate names). Machine-readable ink is black and ink that the scanner cannot read is a shade of gray or another color. The six possible column positions for ovals correspond to fiber-optic sensors on the scanner.

Machine Readable Marks

Other than voter marks, the machine-readable marks on the ballot include the timing track, code channel and black check marks. The timing track is the row of black boxes on the far-left edge of an optical scan ballot. Scanners read the timing track to locate oval positions on the ballot. The code channel is the column of numbered black boxes on the left side of a ballot immediately right of the timing track. The scanner reads combinations of boxes in the code channel to determine the precinct, split, type and style of a ballot. Black checks appear above and below each ballot column, above and below the timing track, and above and below the code channel on optical scan ballots. The locations of black checks correspond to sensor locations of ES&S ballot scanners (the black check mark in column A corresponds with sensor A) Ballot scanners read black checks to calibrate sensors.



Ballot Data

Scanners draw three types of data from scanned ballots: audit information, ballot information and voter marks.

Audit Information

The scanner reads the timing track and black checks for audit information. The scanner rejects ballots with damaged or misprinted boxes in the timing track. The scanner reads black checks to calibrate sensors. ES&S prints all of the audit marks on a ballot in machine readable ink.

Ballot Information

Scanners read the code channel for ballot precinct, type, split and style information. The code channel relays ballot information that matches the ballot sequence number, the party designation of the ballot (ballot type), and ballot split information.

Voter Marks

The scanner reads and records voter marks, combines the selections for each voter and produces election results based on the combined totals. The scanner reads properly marked ovals (completely filled).

Ballot Contents

The ballots for ES&S central scanners contain the following information in accordance with section 13103 of the California Elections Code:

- The title of each office arranged to conform to the Elections Code.
- The names of all qualified candidates with exceptions outlined in the California Elections Code.
- Titles and summaries of measures submitted for voter approval.

Candidate and party names appear on ballots according to the guidelines in section 13105-13108 of the California Elections Code.

Contest order adheres to the guidelines in section 13109 of the Elections Code. Additional ballot formatting also adheres to the guidelines in division 13, chapter 3 of the Elections Code.

Identifying Ballots

The precinct name appears in the lower left corner of most ballots. Use the precinct name to verify that scanned ballots belong to the correct precinct.

You can also use the three digit sequence number (at the lower right corner of most ballots) to identify the ballot precinct. A colon and a split number follow the ballot sequence number on ballots from split precincts.

In accordance with section 13003 of the California Elections Code all ballots must include the Election specific watermark and its associated color scheme as directed by the Secretary of State Office.

Ballot Stubs

Format each ballot with one or two ballot stubs and include the identifying information specified in section 13261 of the California Elections Code on each stub.

Sample Ballots

Use the guidelines from Division 13, Chapter 4 of the California Elections Code to create and send sample ballots to each registered voter in the jurisdiction that displays the ballot that will be used.

Ballot Shortages

Remind polling place workers to contact election central long before the polling place runs out of a particular ballot style. If your jurisdiction completely runs out of ballots and you do not have ballot on demand to print additional ballots on ES&S code stock which requires a separate certification by the Secretary of State, you can photocopy ballots. Hand-count the copied ballots when the ballots return to the central count location. The County Clerk or a designated elections official should initial, stamp or mark each photocopied ballot to designate each copied ballot as a valid ballot that can be hand counted or reproduced as duplicated ballots.

NOTE: Consult the California Elections Code for laws and statutes regarding the duplication of ballots.

Reserve Ballots

Keep copies of each ballot used in your jurisdiction at the central count location. If a polling place runs out of ballots duplicate ballots at the central location, if necessary, and deliver the ballots to the correct polling place. Also keep copies of vote by mail ballots at the central location.

2.1 Overview

Ballot layout for paper ballots is performed in ES&S Image Manager using the county and election information you established in Election Data Manager

Refer to the Part 4: Election Set Up and Definition for information about setting up an election and how to create a ballot image for printing.

2.2 Paper and Printing Specifications (as appropriate)

The following paragraphs describe the paper, ink, and printing requirements for use with Model 100 and Model 650 scanners.

Refer to the *ES&S Ballot Production* manual for complete information about the requirements for producing ballots for ES&S scanners.

80# Opaque Ballot Paper

ES&S 80# opaque ballot paper is one- or two-sided and contains three ballot columns on each side. Each ballot column contains contest, candidate and heading text. A voting target appears next to each candidate name (or referendum). Voting targets are ovals that voters mark to indicate selection.

ES&S is not responsible for the performance of the ballot if a substitute paper is used without specific approval from ES&S. ES&S code or digital stock meets all the specifications for the ES&S Models 100, and 650 scanners. ES&S code stock is already printed with timing and code tracks. Inspect all paper stock before printing on it. The use of non-ES&S paper stock may cause sensor difficulties with paper brightness, bleed through, smearing, paper transport or sheet sensor calibration. ES&S scanners do not function properly with other types of ballot stock. Order ballot stock through ES&S to make sure your paper meets scanning requirements. Code boxes should be dark with all lines clear and edges clean. There should be no smearing of ink or any offset. Cut lines should be visible on all four sides of the ballot.

The code stock may not be in exact registration from one style to another. As a result there may be as much as 1/16 inch difference from one style to another. If bleed cut lines are not visible on all four sides of the ballot, the stock is not cut to tolerances.

Paper Requirements

Paper Stock	ES&S certified custom manufactured 80 lb. Wausau OPT Opaque White. Weyerhaeuser OPT is a certified stock
Grain Direction on Finished Ballot	Long
Basis Weight	80# text weight (36.2874 kg)

Paper Requirements *(continued)*

Thickness	0.0061 in. (0.015494 cm)
Smoothness	130 Sheffields
Moisture	5.5 percent
Opacity	97.0
Brightness	92 to 94
PPI	338

Models 100 and 650 cannot read colored paper stock.

Ink Requirements

Print all of the machine-readable components with high quality, commercially available black ink (extra or double black). Print with a minimum density of 0.95 and a maximum density of 1.5. For best results, use a density of 1.15. Do not use powder or varnish. Make sure that all offset is solid and dense without voids, breakthroughs, dirt, foreign particles or gray lines. Do not smear, smudge or spray the ink when you handle the ballots. Use inks with high tack.

The printer will test the ballot ink on the press with a densitometer. Only use readable black ink to print ballot components. Do not print text in the active voting tracks.

Colored Ink

Do not use additives or substitute ink without approval from ES&S. Use the following approved inks create screens on your ballot:

- Red PMS Warm Red
- Orange Pantone 151
- Brown Pantone 472
- Yellow Pantone 116
- Purple Pantone 252

Ballot Printing Requirements

Use the following specifications to generate acceptable ballots.

Ballot Printing Requirements

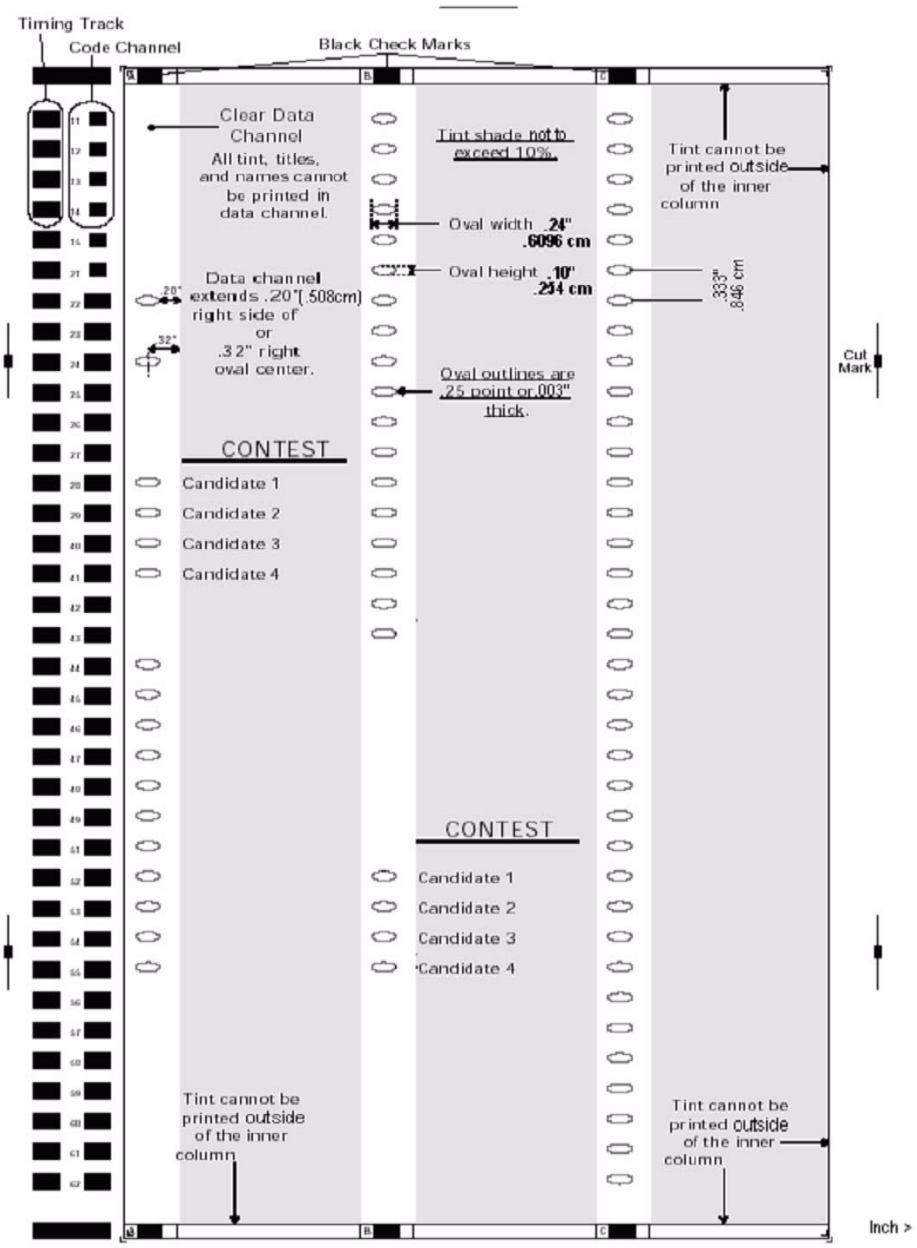
Determine Stock Needs	Stock needs are determined by the county which will consist of the number of precincts and the number of ballots required by each precinct. For ES&S 80# Opaque Ballots, the number of sequences, splits, types and ballot size will also be included.
Place the Order	Call ES&S at 1-800-247-8683
Print From ESS File	Yes, unless the printer does the layout
Print with MRC inks	Only if needed
Different colors of ink for text areas	Yes
Ink Density	1.15 - 1.25
Use Powder or Varnish	No
Use Sequenced Stock	Yes
Add Split or Type Codes	Only if needed
Verify Sequence / style number	Visually inspect front and back plates
Use Registration overlay	Yes
Registration Front to Back	Align cross hairs and bullets in all four corners
Stubs and Number	If necessary, bottom of ballot
Shrink Wrap	Yes (with backer)
Send 5 samples of each style ballot to ES&S, or as specified	Yes

2.3 Layout Requirements and Specifications (as appropriate)

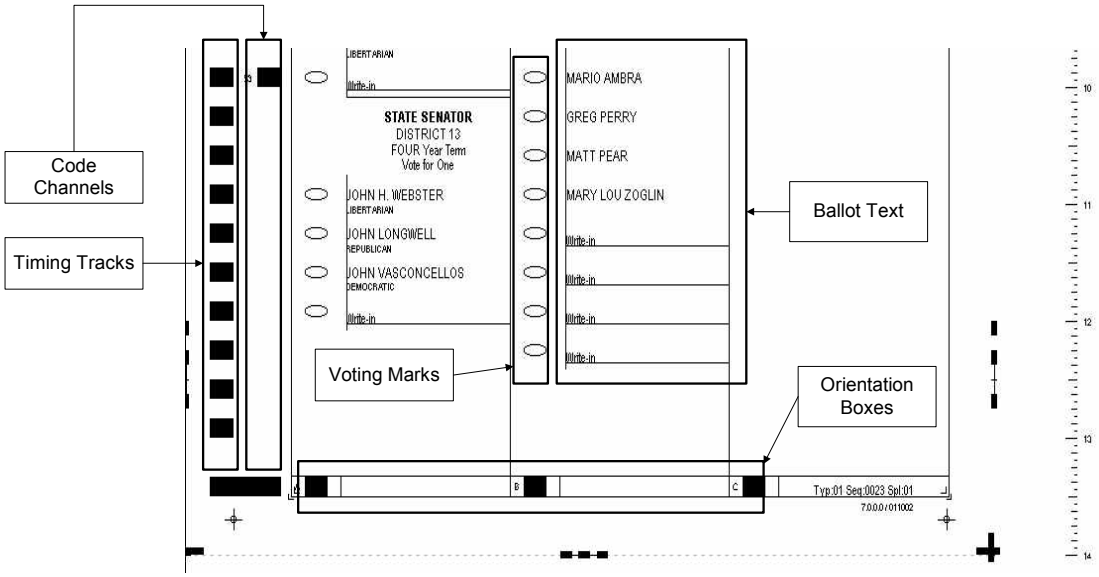
Scanners will reject ballots that are printed incorrectly. A jam can occur if the ballots are damaged or cut too wide. Incorrect ballot design or printing can slow scanning. This can cause reading and tabulation errors. Check the ballots against the specifications provided in this manual to ensure correct operation.

ES&S 80# Opaque ballots are one- or two-sided and contain three ballot columns on each side. Each ballot column contains contest, candidate and heading text. A voting target appears next to each candidate name (or referendum response). Voting targets can be ovals or incomplete arrows that voters mark to indicate selection.

Example of an ES&S 80# Ballot



Machine-readable Components



Machine-readable components are areas of the ballot where scanners recognize and record marks (such as voting targets and code boxes). Each ballot has four machine-readable components:

- **Code Channel** The code channel is the column of numbered black boxes to the immediate right of the timing track. The scanner reads the code channel to identify the precinct, split, type and style of the ballot. It is a barcode that differentiates one ballot from another.
- **Orientation Boxes (Black Check Marks)** Black checks appear above and below each ballot column, above and below the timing track, and above and below the code channel. The locations of black check marks correspond to sensor locations on ES&S ballot scanners (sensor A on your scanner reads the black check mark above and below column A on the ballot). Ballot scanners read black checks to calibrate sensors. Where the timing track intersects the vertical column, a potential voting target can be programmed. Tracks A, B, and C are on the front of the ballot while D, E, and F are on the back.
- **Timing Track** The timing track is the vertical column of black boxes on the left edge of the ballot. Two sensors read the timing track and the code channel on your ballot.

- **Voting Targets** A voting target is the selection area next to a ballot response that voters mark to indicate ballot choices. Properly printed voting targets are invisible to optical sensors. Depending on the type of election equipment, the targets appear as ovals, incomplete arrows, touch screen boxes or punch areas. Place ballot text, tint or ruling lines no closer than 0.20 inches (0.508 cm) from the oval voting mark, .06 inches (.152 cm) from the arrow voting mark

Ballot Specifications Diagnostic Testing

Upon receipt of official ballots from the certified printer, the elections official shall inspect the ballots, ensuring that the following minimum criteria have been adhered to during ballot production.

- Ballot Format: with respect to number of columns, front and back printing, the inclusion of all ballot styles, precinct identifications if expected, and within each ballot style the listing, in proper order, of offices, measures, candidates and response positions.
- Ballot Paper Stock: use an appropriate measuring device, or accept the printer's written declaration.
- Ballot Width Accuracy: measure according to specifications.
- Printing Registration Relative To Edges Of Ballot: insure that cut marks appear consistently along each edge.
- Watermark: Ensure that your ballots have the correct watermarked graphic and color scheme for that election.
- Check ink density reflectivity for readable marks.
- Check For Voids In Readable Areas: there shall be no extraneous printing such as dots, splashes, etc. in the empty area inside the oval, nor in the header coding area.
- Check the readable oval mark size.
- Check the ink offset
- Check for ink bleed through and smears
- Check any slits and/or perforations.
- Positioning of fold scores: ensure these do not intersect voting positions.

Part 3: System Installation and Configuration

Part 3 contains information about the following topics.

- 3.1 Hardware Requirements and Specifications
- 3.2 Hardware and Network Set-Up and Configuration
- 3.3 Software Installation and Configuration
- 3.4 Acceptance Testing
- 3.5 Software and Firmware Upgrades

3.1 Hardware Requirements and Specifications

Warning: It is the responsibility of the jurisdiction to review and accept all applicable license agreements and to ensure that all software used is licensed and installed legally.

Refer to Part 10: Security for information about maintaining the security of your election hardware before you install, upgrade, or use your election hardware.

Operating System Requirements

The Unity® 2.4.3.1 configuration is specified in the appropriate Federal and State Certification documents on file with the State of California. Certification was achieved on Windows® XP Pro SP1.

The Unity® 3.0.1.1 configuration is specified in the appropriate Federal and State Certification documents on file with the State of California. Certification was achieved on Windows XP Pro SP2.

The configurations in those certifications not withstanding, a higher level of security can be manifested by updating the operating environment configuration to Windows XP Pro SP2 with the most recent security patches and the configuration settings outlined as follows. The California Secretary of State requires its jurisdictions to configure their systems as described in the following sections.

Versions 2.4.3.1 and 3.0.1.1 of Unity require the following system specifications.

- Pentium 266MHz
- 2.0GB hard drive
- 32 MB RAM
- 24x CD-ROM
- 3.5-inch disk drive
- Printer

An appropriately qualified system administrator, under the authority of the responsible county elections official, should complete the following steps. The California Secretary of State requires that a log be kept of all such activities including, but not limited to, the date, time, PC serial number, steps performed, technician name and authorizing elections official's name and signature.

PCs used for elections are not to be used for any other purpose.

1. Each PC and media device to be used with Unity must be formatted prior to installation or reinstallation to ensure a clean system free of unauthorized software.
2. Each PC to be used with Unity should be loaded with Windows XP Professional SP2 and updated with the most current Microsoft Updates. Do not connect the PC directly or indirectly to the Internet to obtain updates. Download updates to portable media using a separate PC.
3. Follow the steps documented in Appendix F: Windows XP Hardening and Verification.
4. The following BIOS Settings must be set using procedures from the appropriate BIOS vendor for the PC's used.
   a. A BIOS Password for access to the BIOS settings should be implemented and placed under the control of the appropriate county elections officials and their IT Staff.

Refer to the 10.2.2 User-Level Security heading in Section 10.2 Logical Security of System and Components for California Secretary of State requirements for passwords.

   b. Set the BIOS to boot only to the Hard Drive to prevent circumvention of operating system Security.
   c. Disable all network ports and modem hardware.
   d. Seal all jurisdiction PC cases used for elections during the time they are used for election activities.

3.2 Hardware and Network Set-Up and Configuration

Cover all unused ports, including serial, parallel, USB, and ethernet ports, using security seal tape, whenever possible, to prevent unauthorized access. Seal logging procedures similar to those described in other sections of this document are required.

Warning: Per the direction of the Secretary of State, no network connection to any device not directly used and necessary for voting system functions may be established. Communication by or with any component of the voting system by wireless or modem transmission is prohibited at any time. No component of the voting system, or any device with network connectivity to the voting system, my be connected to the Internet, directly or indirectly, at any time.

Refer to Appendix F: Windows XP Hardening and Verification in Part 13: Appendix for procedures for securing the network of the Unity platform.

Warning: It is the responsibility of the jurisdiction to review and accept all applicable license agreements and to ensure that all software used is licensed and installed legally.

Refer to Part 10: Security for information about maintaining the security of your election hardware before you install, upgrade, or use your election hardware.

This chapter provides information about the following topics.

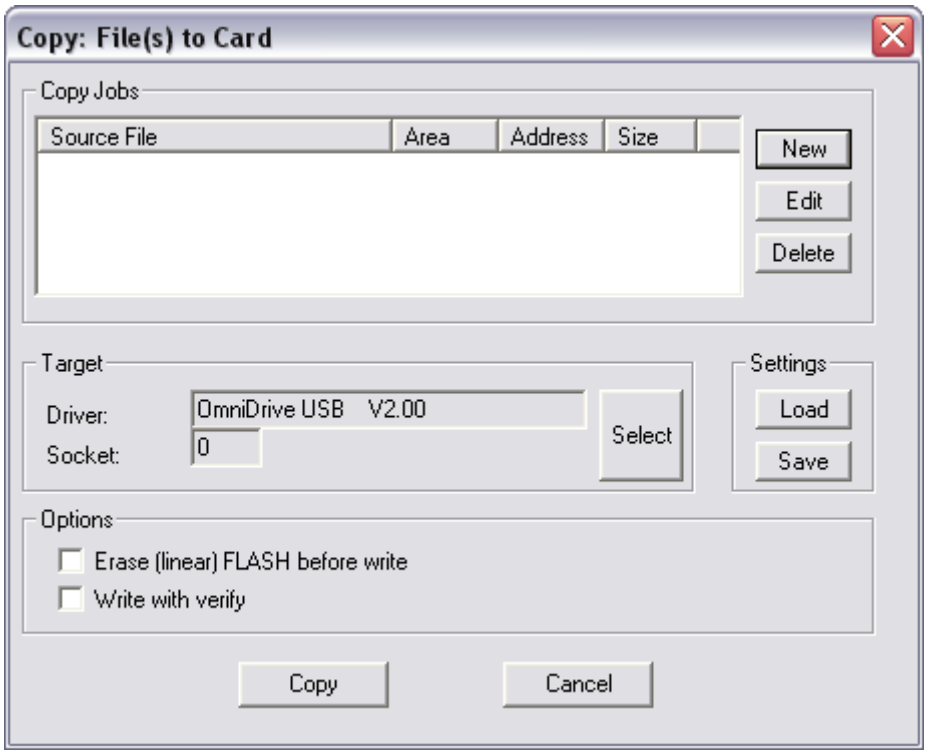
- Install Model 100 Firmware
- Install Model 650 Firmware
- Install AutoMARK Firmware

Install Model 100 Firmware

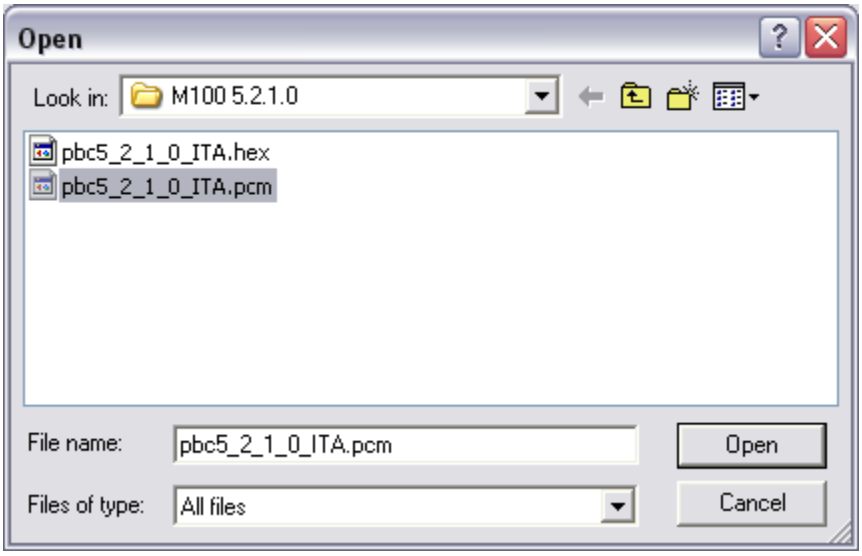
To install firmware on the Model 100, you must first receive authorization from ES&S to obtain the firmware files from the California Secretary of State's office. After receiving the trusted install file from the Secretary of State or the Independent Testing Authority (ITA) (Usually on CD ROM) take the following steps to create a firmware PCMCIA Card.

1. Insert the CD into the CD ROM drive.

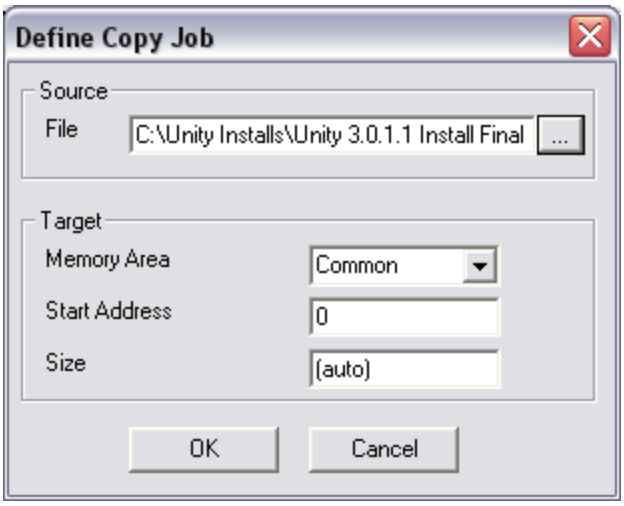
2. Open PC Card Manager.
3. Under **Actions**, select **Copy: File(s) to Card**.



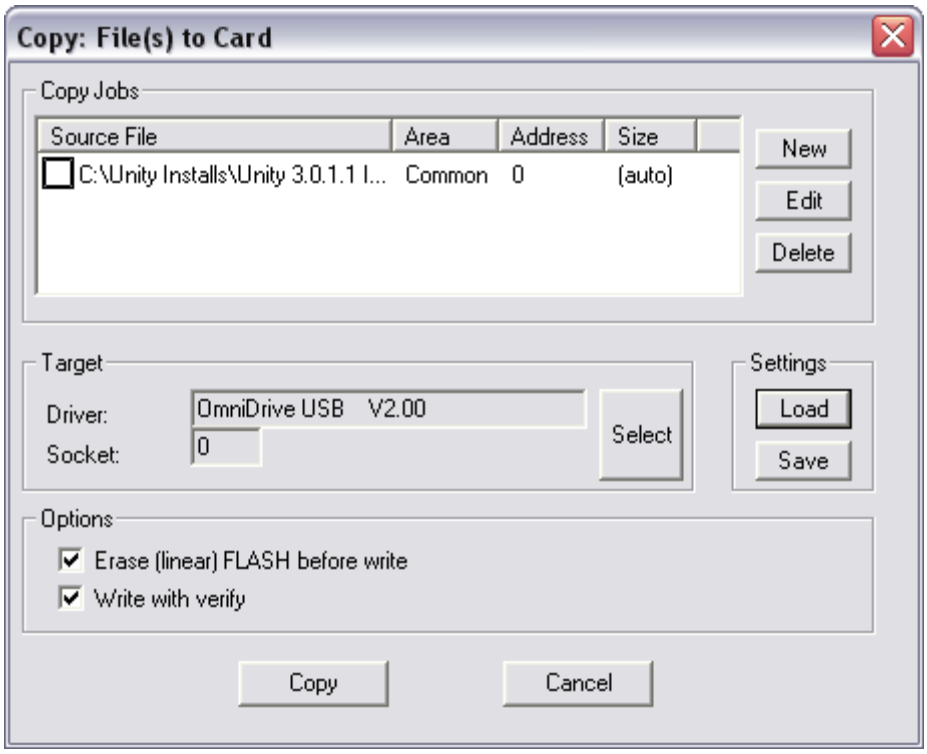
4. Select **New** to browse for firmware file (pbc_ *x*_*x*_*x*_*x*_ITA.pcm)



5. Select the firmware and click **Open**. The following window appears.



6. Click **OK**. The following window appears.



7. Select both the **Erase (linear) FLASH before write** and **Write with verify** checkboxes.
8. Click **Copy**.
9. After the card is written, click **Cancel**.
10. Remove the card from the Omni drive.
11. Insert the card into the Model 100 precinct scanner.

12. Turn the key on the Model 100 to OPEN/CLOSE.
13. The Model 100 will display a screen prompting you to reprogram flash memory with firmware version number ID pbc*x_x_x_x*_ITA.
14. Select **Yes**.
15. The message “reprogramming flash memory” will appear on the Model 100 screen.
16. Once the reprogramming is complete, the following message will appear on the Model 100 screen.

    ”New program successfully loaded, Power down and remove card.”

17. To complete the firmware load process, power down the Model 100 and remove the firmware PCMCIA card.

Install Model 650 Firmware

You can install new firmware on the Model 650 using a firmware update zip disk. The automatic update process only works on a Model 650 that has already had version 1.2 or greater firmware loaded at least once. The scanner also must have had all subsequent firmware loaded automatically with a firmware update disk.

Note: Do not use a firmware update zip disk to revert a machine back to an earlier version. Contact an ES&S service technician for instructions to return your scanner to an earlier firmware version.

Caution: The firmware update to version 1.1.9.1 modifies the underlying structure of the internal flash drive, while the firmware itself is stored on the CPU board. Therefore, do NOT swap CPU boards OR flash drives between machines, unless you have the EXACT SAME firmware version on both boards.

1. Use a firmware update zip disk. Obtain this disk from the California Secretary of State’s office or the Independent Testing Authority (ITA). This disk should contain a folder named after the version number, and a current version .etp file on the root directory. The folder name should start with a lowercase “v.”
2. Make sure the scanner is off and insert the firmware update zip disk. Turn the scanner on with the zip disk in the drive. The 650 updates the firmware automatically, then a message to put an election definition disk in the drive appears.
3. Insert a zip disk containing an election definition. If your firmware update disk contains an election definition, leave this disk in the scanner.
4. The scanner automatically loads and initializes the election. The machine readiness report prints and the scanner is ready for ballots.

Install AutoMARK Firmware

The firmware release is provided on a CD-ROM. Obtain this disk from the California Secretary of State's office or the Independent Testing Authority (ITA).

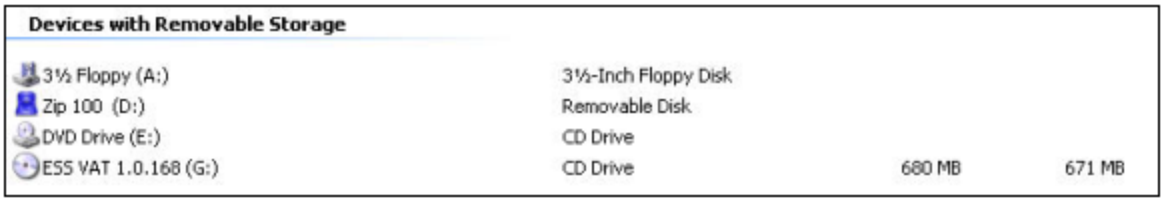
NOTE: The elections official or system administrator/designee is responsible for installing this firmware release. General computer skills are required.

Install the ES&S AutoMARK VAT 1.0.168 Firmware Release

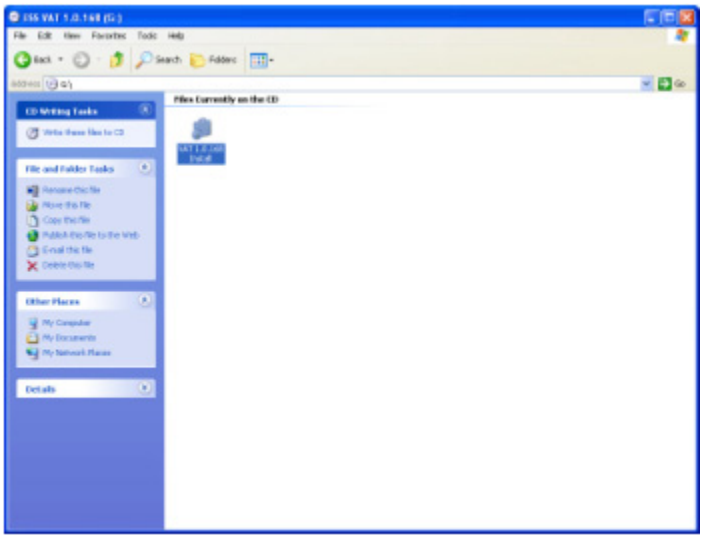
Take the following steps to install the ES&S AutoMARK VAT 1.0.168 Firmware Release.

1. Insert the CD-ROM into your PC. Depending on your configuration, the CD-ROM may automatically open. If not, use Windows Explorer to view the contents of the CD-ROM.

NOTE: Your Windows Explorer view may differ from the following example because of your PC configuration.



2. Double click the ESS VAT 1.0.168 CD-ROM icon. The following screen appears.



3. Copy the VAT Build 168 Install CABs file onto your local hard drive.
4. From your local hard drive, double click the VAT 1.0.168 Install icon. The following screen appears.

5. Click **Browse** to the destination directory.
6. Click **Hide Typing** if you do not want to see your passphrase as you type it.
7. Type your provided passphrase. The PGP*** folder is extracted in the same location as the original file.

NOTE: Pay attention to where the self decrypting folder is placed. You will need that information when you copy this folder to the compact flash card.

8. Click **OK** to start the decrypting process to the designated directory. The PGP*** folder extracts two .zip files into the designated directory.

- Build 168 Final CABs.ZIP
- Build 168 Final Upgrade Package.ZIP

9. Insert a compact flash card, with an AIMS election already on the card, into the compact flash card reader on your PC. Use Windows Explorer to verify that your PC recognizes the compact flash card.
10. Extract the Build 168 Final Upgrade Package.ZIP file to the firmware folder on the compact flash card.
11. When the extract process is completed, remove the compact flash card from the PC and insert it into the AutoMARK VAT compact flash card slot.
12. Place the AutoMARK in TEST mode.
13. Select **System Maintenance**.
14. Enter your system password to access the system maintenance menu.
15. From the system maintenance menu, press **Upload new firmware**.

    This checks the compact flash card for new firmware updates and verifies that these updates are properly encrypted. It launches an installation program, that updates the necessary firmware.

16. Press the white rectangle next to **Touch white field to enter unlock code**. A numerical keypad appears on the screen.
17. Press the numbers for the encryption code from AIMS and press **DONE**.
18. Select **Unlock**. The unlock process can take a few minutes.
19. When the unlock process is complete, select **Upload Firmware**.

    The upload process lasts approximately three to four minutes.

20. Once the upload process is complete, place the AutoMARK in ON mode.

Factory Calibration of Scanners

The AutoMARK VAT requires a factory calibration of the scanners starting with firmware version 1.1. The calibration should be done at the factory or by qualified service personnel.

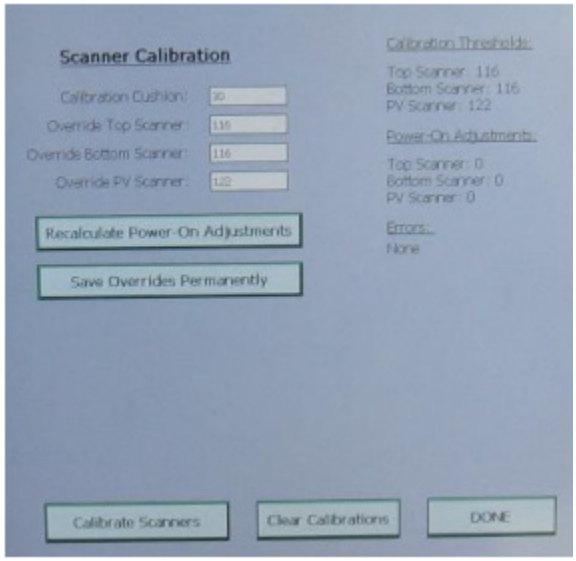
Items needed for calibration.

- 9.75” input tray
- Completely blank white ballot stock. The ballot should be 9.75” wide and at least 15” long.
- Completely blank blue ballot stock. The ballot should be 9.75” wide and at least 15” long.

- Compact flash card inserted into VAT with any valid election data on it.

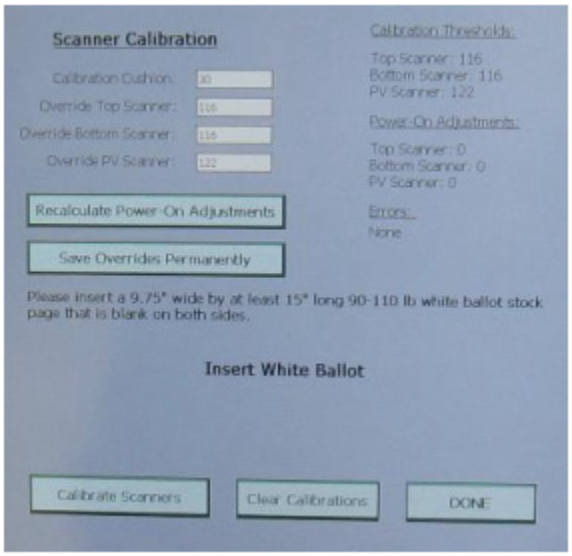
Take the following steps to calibrate scanners.

1. Install 9.75” input tray into VAT. See Section 16.F.
2. Turn AutoMARK VAT on by turning key to Test Mode.
3. Select the **System Maintenance** button and enter the password.
4. Select the **Scanner Calibration** button. The Scanner Calibration screen will appear.

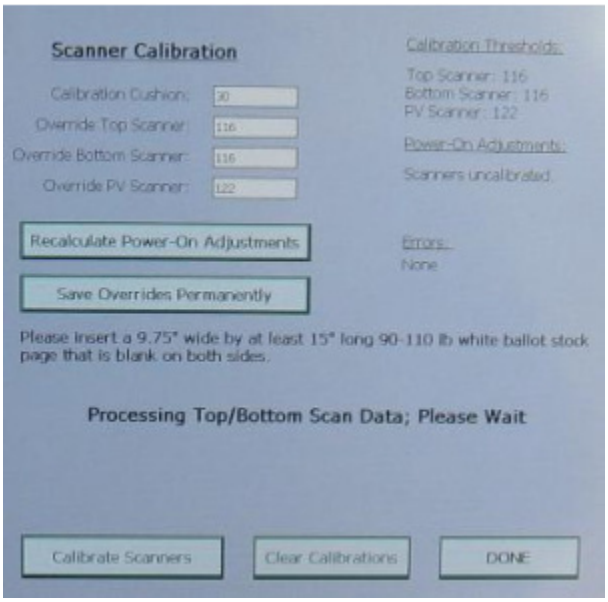


5. Press **Recalculate Power-On Adjustments** to rerun the power on tests that are conducted to counter variations in temperature. Those values are shown on the right side of the screen.
6. Press **Save Overrides Permanently** to save any manual entries entered into the text boxes. The text boxes can be adjusted by touching the textbox directly using the touch-screen. These values should not be adjusted unless there are problems with the automatic calibration process.
7. Press **Calibrate Scanners**.

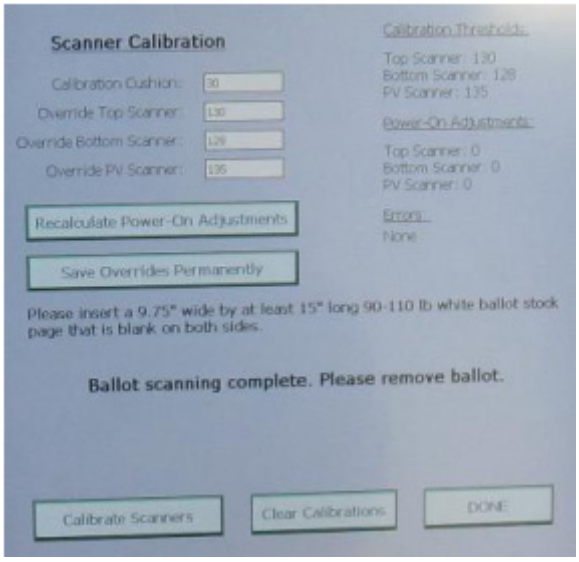
8. The message “Insert White Ballot” will appear on the screen.



9. Feed the completely blank white ballot into the input tray. If the ballot is scanned correctly, the following messages will appear.



The ballot will be returned to you.



10. The message “Insert Blue Ballot” will appear. Repeat step 9 using the completely blank blue ballot.
11. Press **DONE** after scanner calibration is complete.
12. If the AutoMARK terminal has problems feeding, scanning or recognizing either the white or blue ballot, manually adjust the **Override Top Scanner**, **Override Bottom Scanner**, and **Override PV Scanner** text fields to the value 110.
13. Press the **Save Overrides Permanently** button.

14. Redo this scanner calibration procedure.

Format Media

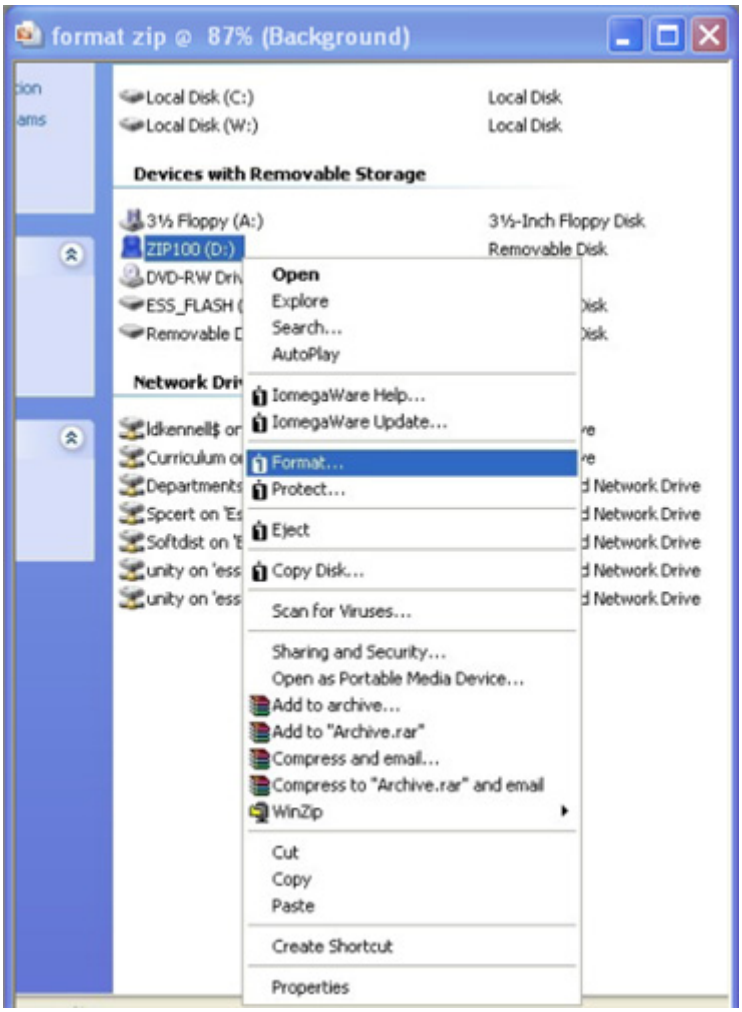
The following paragraphs describe how to format zip disks for Model 650 scanners and compact flash cards for AutoMARK terminals.

PCMCIA, cards for Model 100 scanners do not need to be formatted because when an image is written to the card, the entire card is overwritten. The binary drivers access the card as a memory location.

Format Zip Disk

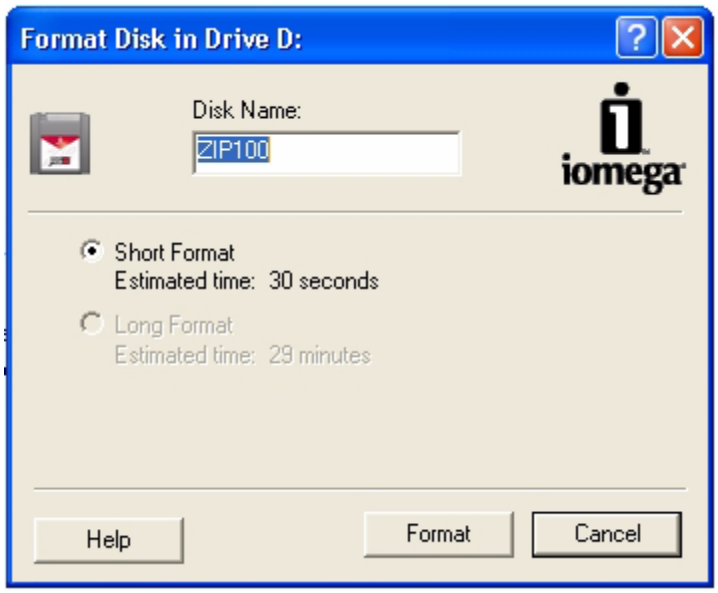
Take the following steps to format zip disks for your Model 650 scanners.

1. Insert a zip disk to be formatted into the Zip drive.
2. Double click the **My Computer** icon on the desktop.



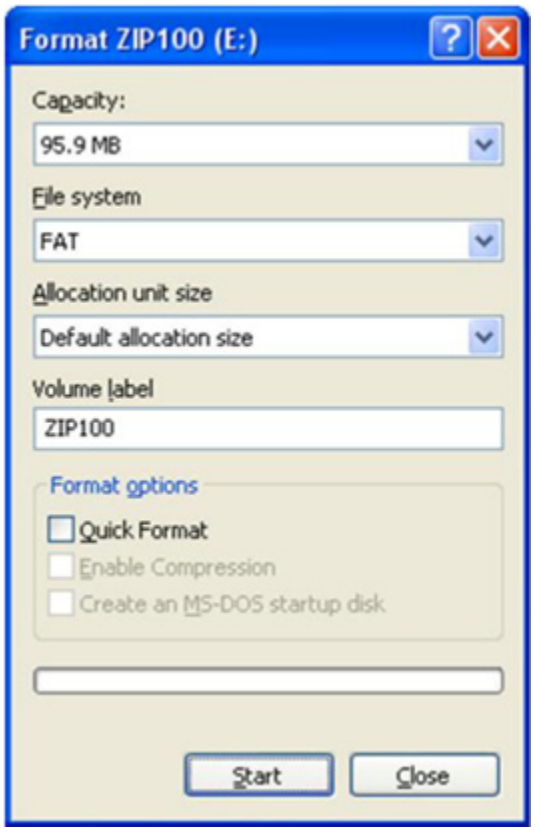
3. Right click the zip drive, and select **Format** from the list.

If you have Iomega drivers loaded for your zip drive, the following window will appear.



Click **Short Format** and then click **Format**.

If you do not have Iomega drivers loaded, the following window will appear.

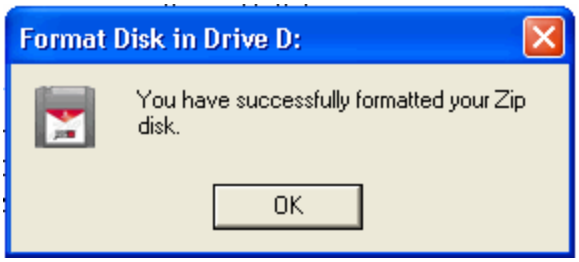


Select **FAT** from the **File System** list, and click **Start**.

4. The following window will appear warning you that all data will be erased. Click **OK**.

While the zip disk is being formatted, the following window will show its progress.

5. Click **OK** when the following message appears.



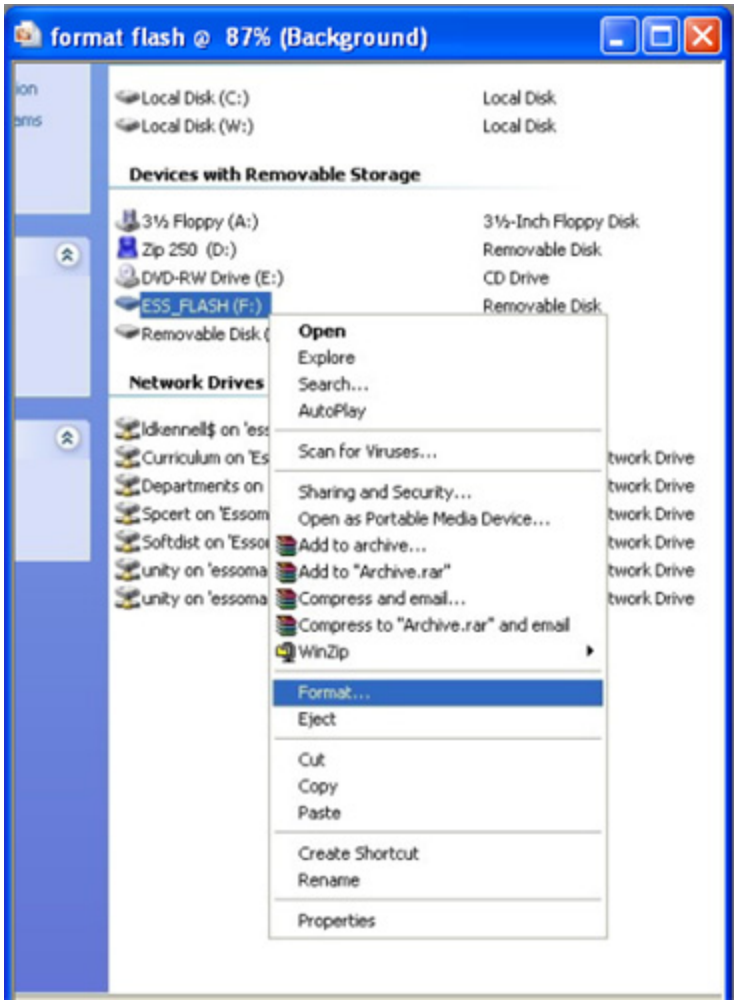
6. Remove the zip disk, and repeat the steps for each disk requiring a format. Format ALL disks before each election, including NEW disks right out of the box.

Format ES&S Compact Flash Card

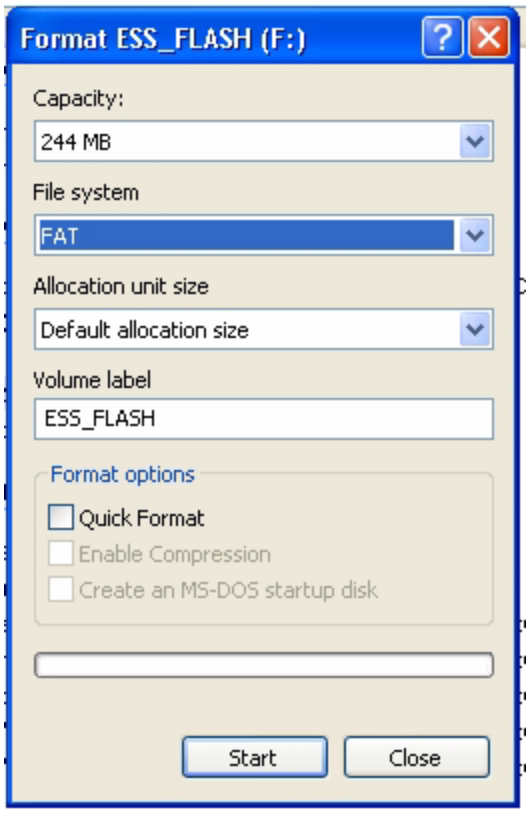
Take the following steps to format compact flash cards for your AutoMARK terminals.

1. Insert a compact flash card to be formatted into the flash card drive.

2. Double click the **My Computer** icon on the desktop.



3. Right click the compact flash card drive, and click **Format** from the list. The following window will appear.



4. From the **File system** list, select **FAT**.
5. Click **Start**. The following window will appear.

6. Click **OK**.

Formatting will take a few seconds, then the following window will appear.

7. Click **OK**.
8. Remove the compact flash card, and repeat the steps for each card requiring a format.

Scan for Virus

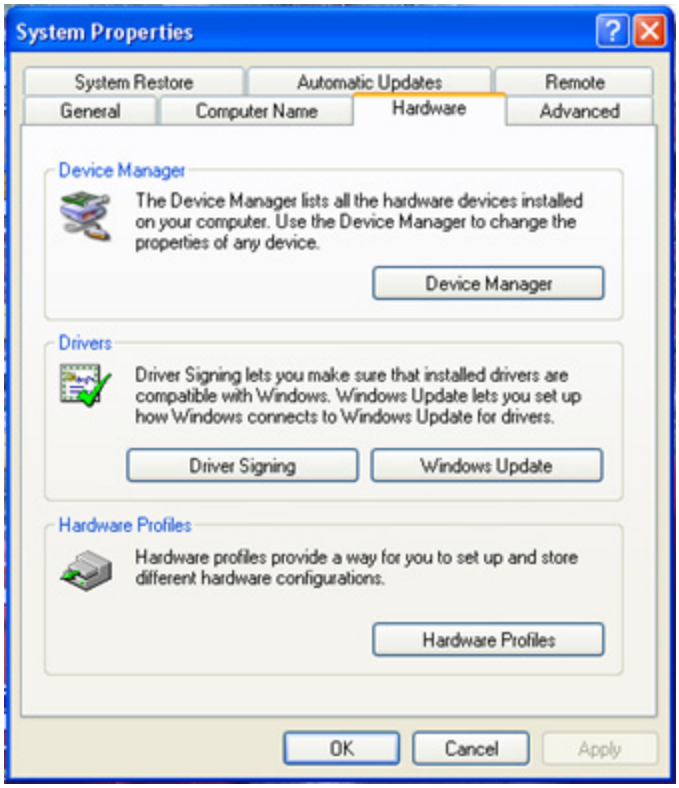
The following paragraphs describe how to scan PCMCIA cards for Model 100 scanners, zip disks for Model 650 scanners and compact flash cards for AutoMARK terminals for viruses.

Scan PCMCIA Cards for Viruses

NOTE: You must enable your Omni drive in order to scan a PCMCIA card for viruses.

1. Browse to the My Computer icon.
2. Right-click on the icon.
3. Select **Properties**.

4. Select the **Hardware** tab.

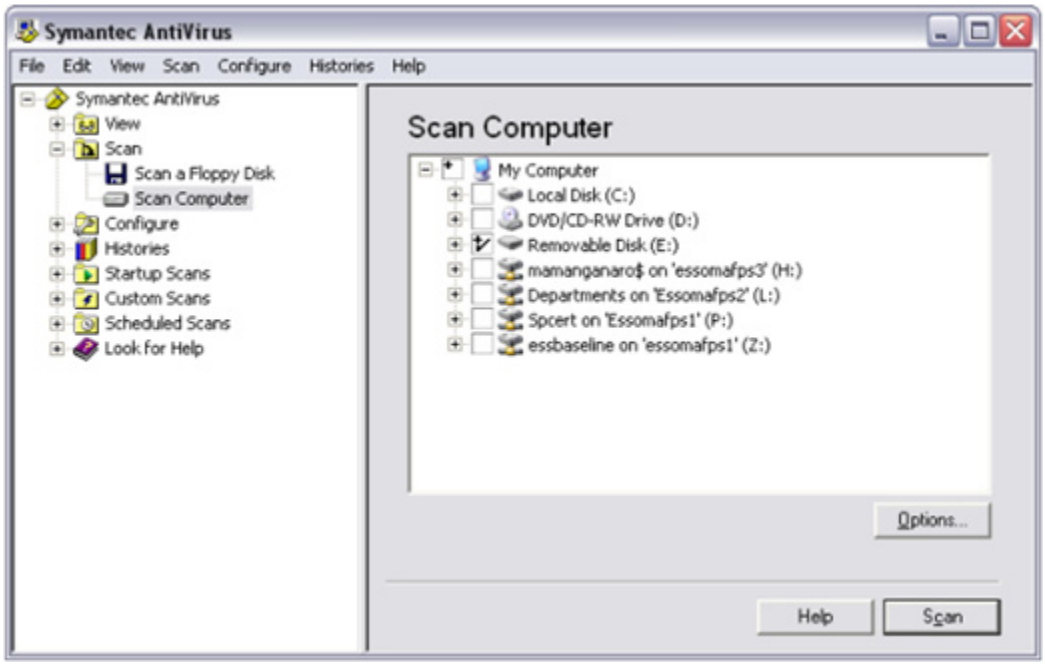


5. Click **Device Manager**.
6. Click the **Disk Drives** icon to expand it.
7. Right-click **CSM GmbH OmniDrive USB Device**.
8. Click **Enable** (if disabled)
9. Close the window.

Take the following steps to scan PCMCIA cards for your Model 100 scanners for viruses

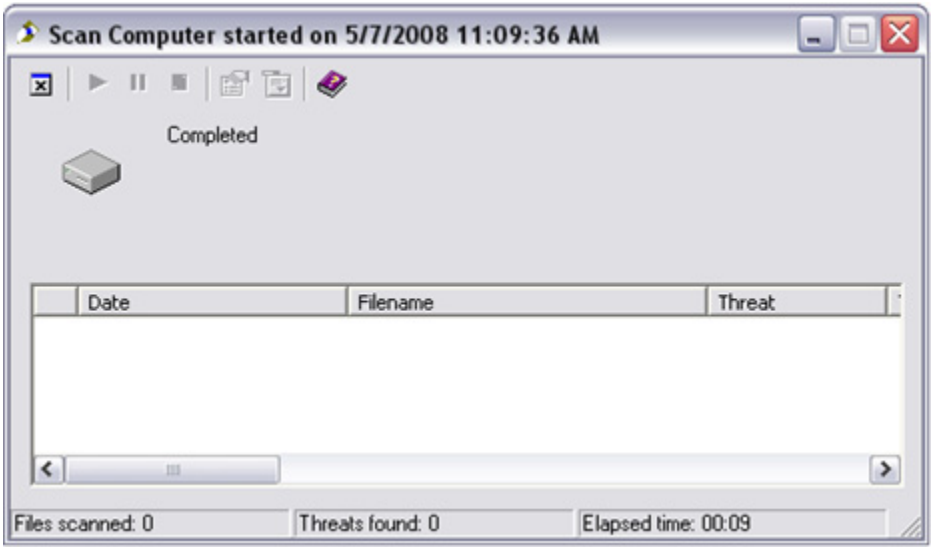
1. Insert a PCMCIA card in your Omni Drive.
2. Note the drive letter to which the drive is assigned.
3. Start your virus scan software.

4. Select **Scan Computer** and a list of devices will appear.



5. Select the Omni Drive (E in this example)
6. Click **Scan**.

   When the scan is complete, a window will appear that lists the status and any threats found.

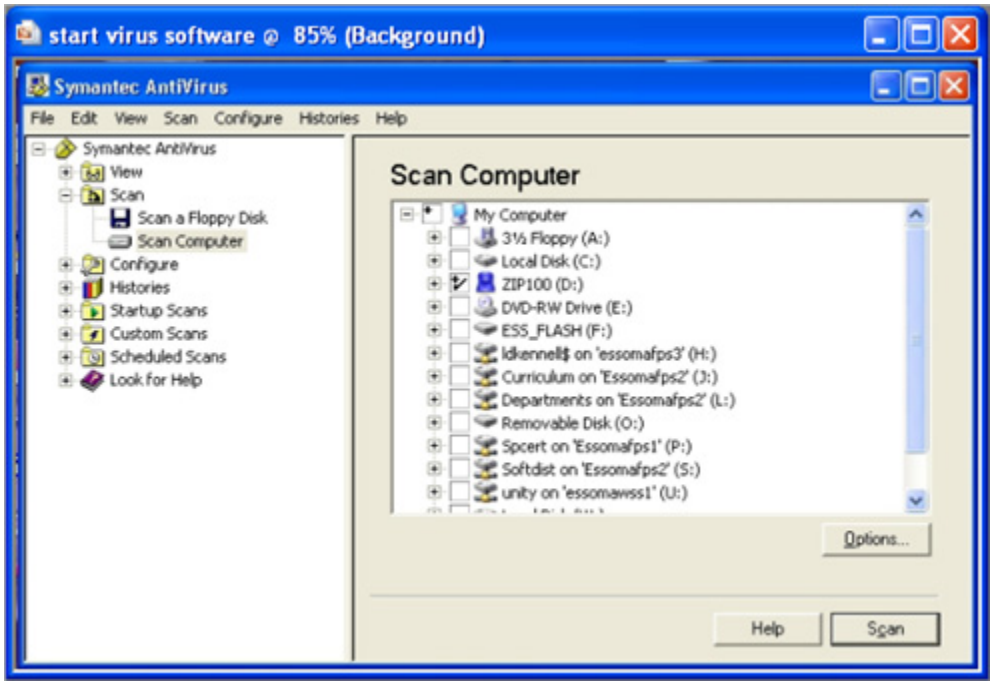


7. Take appropriate actions to clean any threats from the card.

Scan Zip Disk for Viruses

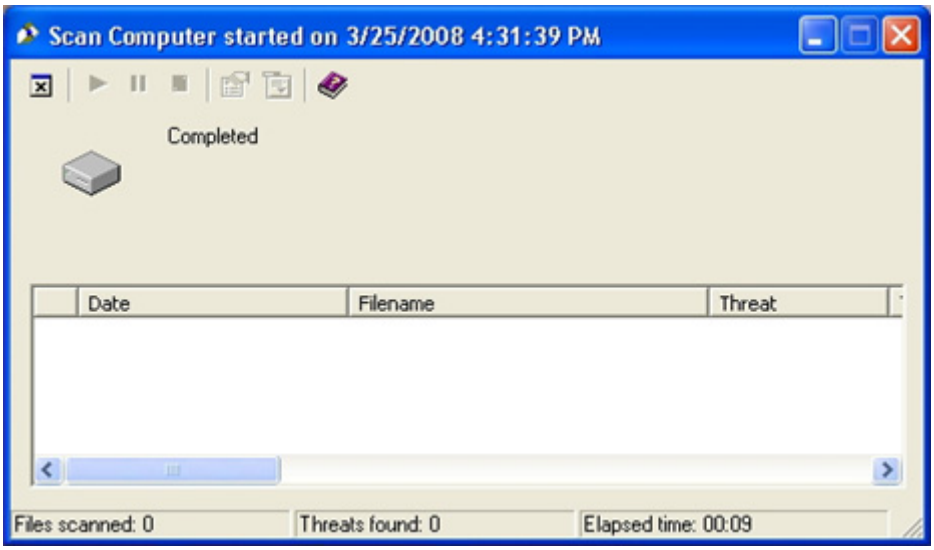
Take the following steps to scan zip disks for your Model 650 scanners for viruses.

1. Insert a zip disk to be scanned in your zip drive.
2. Start your virus scan software.
3. Select **Scan Computer** and a list of devices will appear.



4. Select the zip drive and click **Scan**.

   When the scan is complete, a window will appear that lists the status and any threats found.

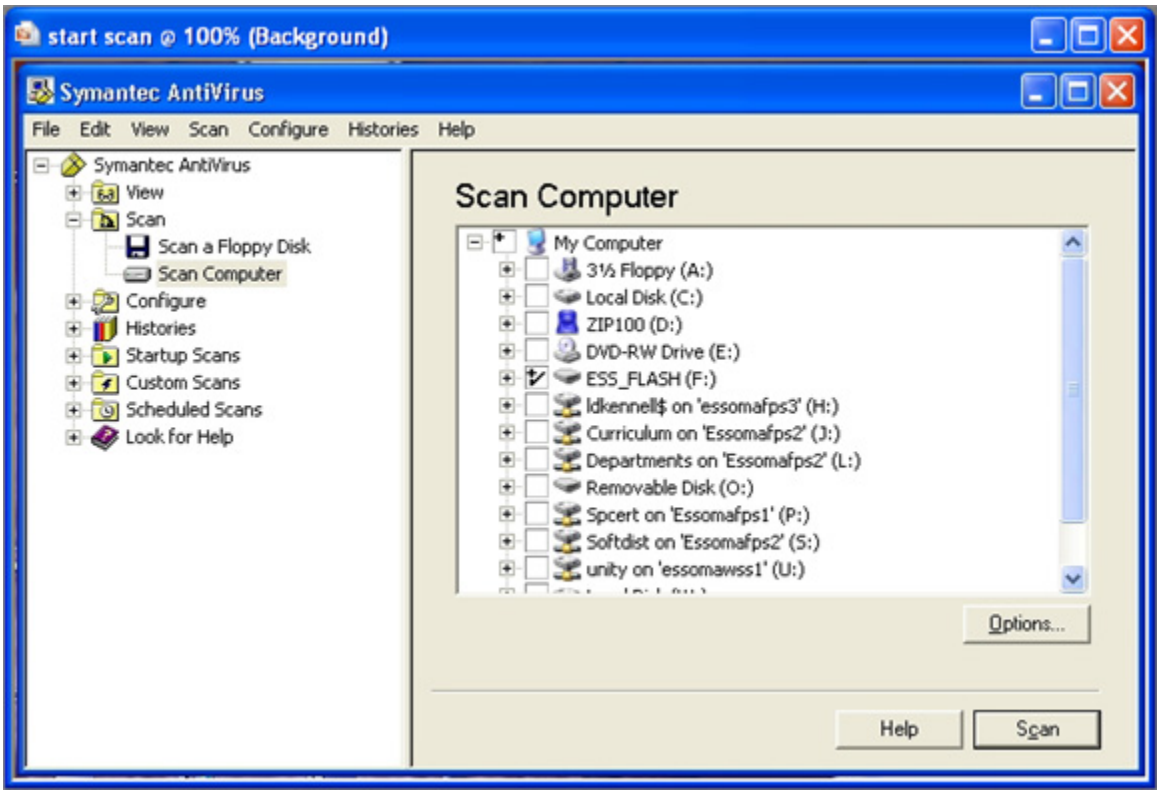


5. Take appropriate actions to clean any threats from the disk.

Scan a Compact Flash Card for Viruses

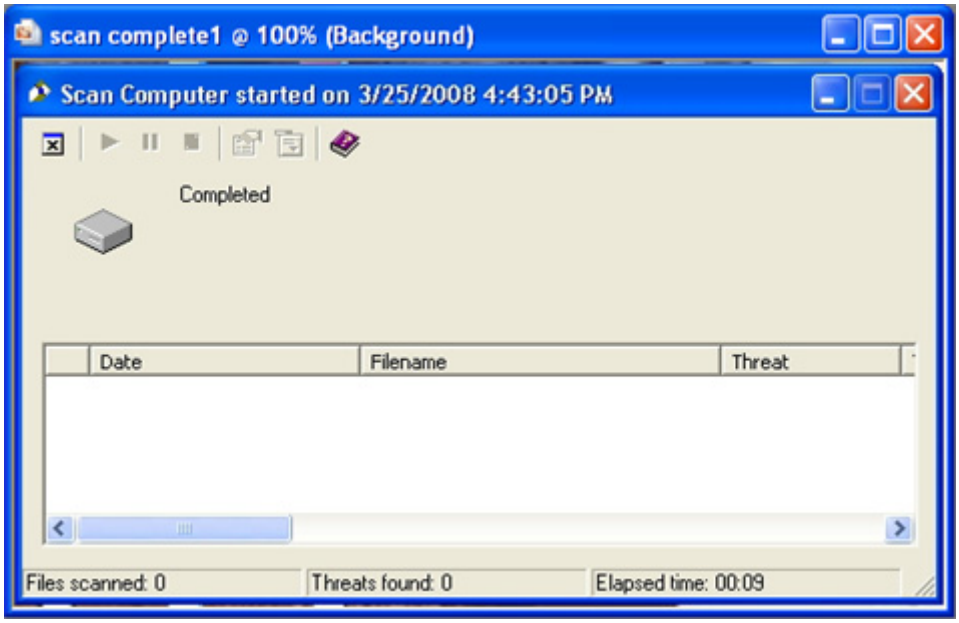
Take the following steps to scan compact flash cards for AutoMARK terminals for viruses.

1. Insert a compact flash card to be scanned in your flash card drive.
2. Start your virus scan software.
3. Select **Scan Computer** and a list of devices will appear.



4. Select the flash drive and click **Scan**.

   When the scan is complete, a window will appear that lists the status and any threats found.



5. Take appropriate actions to clean any threats from the disk.

3.3 Software Installation and Configuration

Warning: The California Elections Code prohibits jurisdictions from installing any software applications or utilities on any component of the voting system that have not been identified by the vendor and approved by the Secretary of State.

Warning: It is the responsibility of the jurisdiction to review and accept all applicable license agreements and to ensure that all software used is licensed and installed legally.

Refer to Part 10: Security for information about maintaining the security of your election software before you install, upgrade, or use your election software.

The recommended order of installation for the Unity Election Management Software with the AutoMARK is as follows.

Operating System

1. Windows XP SP 2 Operating System – Required operating system for Unity 3.0.1.1 and Unity 2.4.3.1.

COTS

2. Adobe Acrobat v. 7.0
3. Adobe Type Manager 4.1 (Lite)
4. Adobe Type Basics
5. Norton Anti-Virus 2005 – Required anti-virus software for Unity 3.0.1.1. and Unity 2.4.3.1.
6. Excel 2003
7. Omni Driver
8. PC Card Manager 1.30, USB Professional Driver 1.72
9. RM Cobol 7.5.01
10. Cobol WOW 3.12

Unity Software

11. Audit Manager (AM)
12. Election Data Manager (EDM)

13. ES&S Image Manager (ESSIM)
14. Hardware Programming Manager (HPM)
15. Election Reporting Manager (ERM)

AIMS

16. AutoMARK Information Management System

COTS Software Configuration

The following paragraphs contain information about installing Commercial Off The Shelf (COTS) software.

Windows XP SP 2

Contact your jurisdiction's IT department for installation instructions and procedures.

NOTE: For Unity 3.0.1.1, the California Secretary of State requires a complete Windows® XP system install. Do not select any advanced options or attempt to modify services, applications, or programs.

Refer to Appendix F: Windows XP Hardening and Verification in Part 13: Appendix for information about updating and configuration of Windows XP.

Refer to Part 10: Security for more information about overall California Secretary of State security requirements.

Adobe Acrobat v. 7.0

1. Insert the install disk into your computer's CD-ROM drive. The Adobe Acrobat® setup window appears.
2. Click **Next**. The Adobe Acrobat Setup Wizard window appears.
3. Click **Next**. The Language Selection window appears.
4. If US English is not the default language, click **US English**.
5. Click **Next**. The End User License Agreement window appears.
6. Click **Accept**. The Customer Information window appears.
7. Enter the end user name and the name of your jurisdiction.

8. Enter product serial number, if it is not displayed by default. The Caching Installer window appears.
9. Click **Next**. The PDF Maker Installation and Information window appears.
10. Click **Next**. The Setup window appears.
11. Select **Complete Install**.
12. Click **Next**. The Destination Folder window appears.

    The wizard defaults the destination folder to the hard drive (example: C:\Programfiles\Adobe.

13. Click **Next**. The Ready to Install window appears.
14. Click **Next**. When complete, the Setup Complete window appears.
15. Click **Finish**.

Adobe Type Manager 4.1 (Lite)

1. Insert the install disk into your computer's CD-Rom drive. The Welcome window appears.
2. Click **Next**. The Select Country window appears.
3. Select United States, if it is not the default.
4. Click **Next**. The License Agreement window appears.
5. Enter your user name and the name of your jurisdiction.
6. Click **Next**. The Registration Information window appears.
7. If the registration information is correct, click **Yes.** If the information is incorrect, click **No** and re-enter the user name and jurisdiction. The Select Components window appears.
8. Select the Program Files check boxes of the programs you want to install.
9. Verify destination directory to the hard drive.
10. Click **Next**. The Select Program Folder window appears.

    The selection defaults to **Accessories**.

11. Click **Next**. The Start Copying File window appears.
12. Click **Next**. The installation process starts.
13. When the installation is complete, the Setup window appears. Click **Finish.**

Adobe Type Basics

1. Insert the Adobe® type basics CD in your CD-ROM drive.
2. Browse to Program files\Adobe\Adobe Type Manager\Adobe Type Manager 4.1. A welcome window will appear the first time you open Type Manager.
3. Click **OK**. The Type Manager window appears.
4. From **Source** list, select **Browse for Fonts**.
5. Browse from the hard drive to the CD-Rom drive via the drop down box.
6. Open Type Basic folder from the CD. The Font list will contain all the fonts from the CD.
7. Scroll down to **Helvetica**.
8. Hold the Shift key and select all eight Helvetica font styles (italic, bold, bold italic, etc.)
9. Click **Add**. The fonts that you select are added and displayed.
10. Exit Type Manager.

Norton Anti-Virus 2005

1. Insert the installation disk into the CD-ROM drive. The Norton install window appears.
2. Click **Install**. The Install wizard window appears.
3. Click **Next**. The License Agreement window appears.
4. Click **I accept License Agreement.**
5. Click **Next**. The Pre Install Scanner window appears.
6. Click **Start.**
7. When the scan completes, click **Next**. The Destination Folder window appears.
8. Browse to the hard drive if it is not the default.
9. Click **Next**. The Installation in Progress window appears.
10. When the installation is complete, the Installation Complete window appears. Click **Restart Windows**, if it is not selected by default.
11. Click **Finish**. Windows reboots itself and the Norton welcome screen appears.
12. Click **Next**. The Product Activation window appears.
13. Select **Activation and Register Product**.
14. Click **Next**.

15. Fill in the required fields.
16. Click **Next**. The Registration window appears.
17. Fill in required fields
18. Click **Next**. The Activation window appears.

NOTE: No part of the voting system or any network to which the voting system is connected may be connected to the Internet for anti-virus updates.

Refer to section 10.2.4.2 Installation Procedures for Those Updates Which Would Normally be Installed Using an Internet Connection for instructions about how to install anti-virus protection.

19. Leave all options checked, by default.
20. Click **Next**. the Configuring window appears.
21. Once configuration is complete, the Thank You screen appears.

Excel 2003

AIMS requires Excel® 2003 for exporting required translations.

Contact your jurisdiction's IT department for installation instructions and procedures.

Omni Driver

1. Insert the install disk into CD-ROM drive. The Omni Drive USB setup window appears.
2. Select USB\USB2 Professional. The Omni Drive USB Professional seTup window appears.
3. Select the **Driver Setup** box, located in the left corner of the window. The Language Selection window appears.
4. Select **English**, if it is not the default.
5. Click **OK**. The Driver setup window appears.
6. Click **Next**. The License Agreement window appears.
7. Review the agreement

8. Click **Yes**. The Documentation window appears.
9. Click **Yes**, if it is not the default. The Documentation for the Omni drive appears in a separate window.
10. After reviewing the documentation, close this window. The Destination Folder window is in the original window.
11. Browse to hard drive, if it is not the default.
12. Click **Next**. The Select Program folder appears.
13. Select the Accessories folder, if it is not the default.
14. Click **Next**. The Setup window opens, and the driver installs.
15. When installation is completed, click **Finish**.
16. Close the window.

You must take the following steps to configure the Omni drive in Windows as a read device.

NOTE: Do not uninstall the drive because Windows will attempt to reinstall and enable it the next time the computer is restarted.

1. Browse to the My Computer icon.
2. Right-click on the icon.
3. Select **Properties**.
4. Select the **Hardware** tab.
5. Click **Device Manager**.
6. Click the **Disk Drive** icon to expand it.
7. Right-click **CSM GmbH OmniDrive USB USB Device**.
8. Click **Disable**.
9. The message “Disabling this device will cause it to stop functioning. Do you really want to disable it?” will appear.
10. Click **Yes.** A red **X** appears on the Omni drive icon.

Warning: If the Omni Drive is unplugged from the USB port from which it was initially configured, repeat steps 1-10. Always connect the Omni Drive to the same USB port to prevent the need to reinstall.

PC Card Manager

1. Browse to the CD drive.
2. Click the CD drive. The Setup window for Omni Drive appears.
3. Select **USB\USB2 Professional**. The Omni Drive USB Professional setup window appears.
4. Select the **PCM-Setup** box, located in the upper right corner of the window. The Setup PC card Manager window appears.
5. Click **Next**. The License agreement window appears.
6. Review the agreement
7. Select **Accept**.
8. Click **Next**. The Select Destination Folder window appears.
9. Browse to hard drive, if it is not the default.
10. Click **Next**. The Select Start Menu Folder window appears.
11. Enter PCM, if it is not the default. The Ready to Install window appears.
12. Verify the destination location and start menu folder.
13. Click **Install**. The Install window appears, and PC Card Manager installs.
14. When the installation is complete, the Install Complete window appears. Click **Finish**.

RM Cobol

1. Insert the install disk into CD ROM drive.
2. Browse to the CD drive and open the install folder.
3. Click the Setup icon. The RM\Cobol setup window appears.
4. Click **Next**. The Setup Wizard runs and the install window appears.
5. Click **Next**. The Software License agreement window appears.
6. Review the license agreement and click **Yes.** The User Information window appears.
7. Enter your user name and the name of your jurisdiction.
8. Click **Next**. The Select Destination Directory window appears.
9. Browse to hard drive, if it is not the default.
10. Click **Next**. The Setup Type window appears.
11. Select **Full**, if it is not the default.

12. Click **Next**. The Select Program Folder window appears.
13. Select **Accessories**, if it is not the default.
14. Click **Next**. The Liant License File window appears.
15. Browse back to the CD drive.
16. Open the Install folder.
17. Double click the **liant.lic** file. The Liant License File window closes.
18. Click **Next**. The Setup is Ready dialog box appears.
19. Click **Yes**. The Question window box appears.

    This window displays information about your system configuration and parameters that are enabled. The RM\Cobol setup routine will make any required changes.

20. Click **Yes**. The Setup Complete window appears.
21. Click **Finish**. A Read me file window appears.
22. Review the Read me file and close the window.

Cobol WOW

1. Insert the install disk into CD-ROM drive
2. Open the install folder.
3. Note the path to liant.lic file. You will need the path information later.
4. Click the Setup icon. The Installation Wizard window appears.
5. Click **Next**.
6. Setup wizard runs and welcome window opens
7. Click **Next**. The Software License Agreement window appears.
8. Review the license agreement.
9. Click **Yes**. The Liant License File window appears.
10. Enter the path to the license file (liant.lic file located on the install disk)
11. Click **Next**. the User Information window appears.
12. Enter the user name and jurisdiction.
13. Click **Next**. The Choose a Destination folder window appears.
14. Browse to the hard drive, if it is not the default.
15. Click **Next**. The Select Program Folder window appears.
16. Select **Accessories**, if it is not the default.

17. Click **Next**. The Wizard runs the installation process. When the installation is complete, the Setup Complete window appears.
18. Click **Finish**. A Read me file window appears.
19. Review the Read me file and click **Close**.

Unity Software Configuration

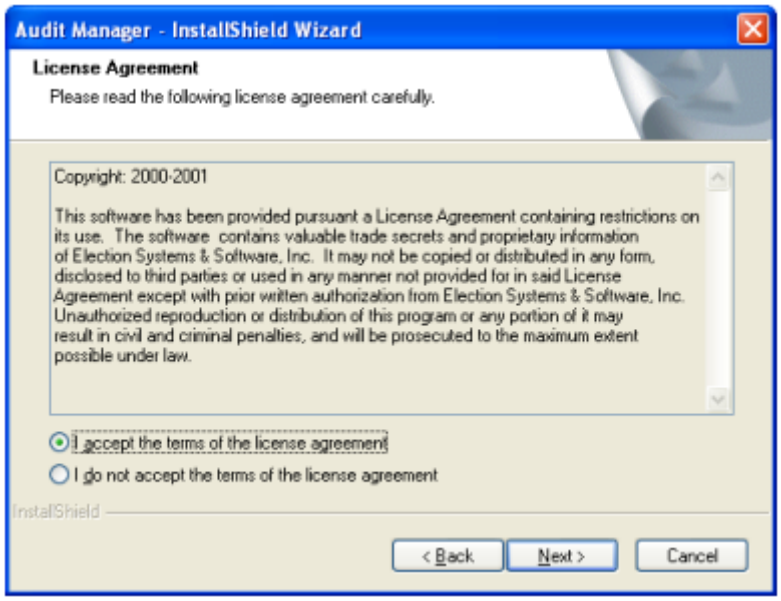
The following paragraphs describe how to install Unity® software. Install the software in the order in which it is listed.

A utility for verifying that only certified versions of the Unity programs are installed is required by the California Secretary of State and available from ES&S. Instructions for use of this utility are in Appendix G: ES&S Software Validation Phase II and ES&S Software Validation Phase III.

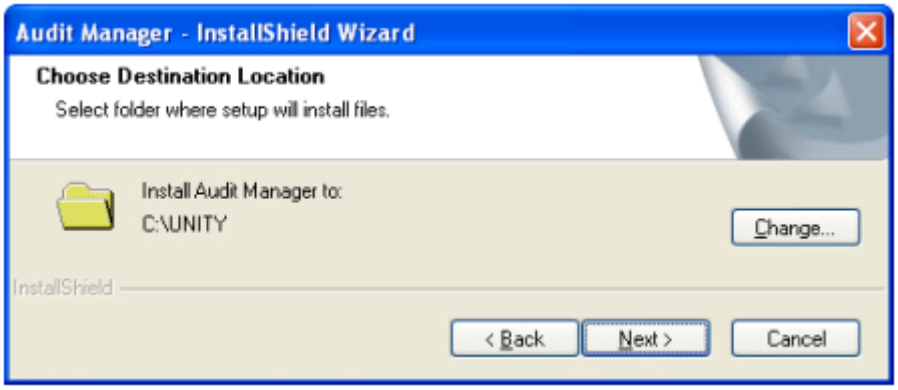
Audit Manager (AM)

1. Insert the install disk into the CD ROM drive.
2. Open the folder and click the Setup icon. The Installation Wizard window appears.

3. Click **Next**. The License Agreement window appears.

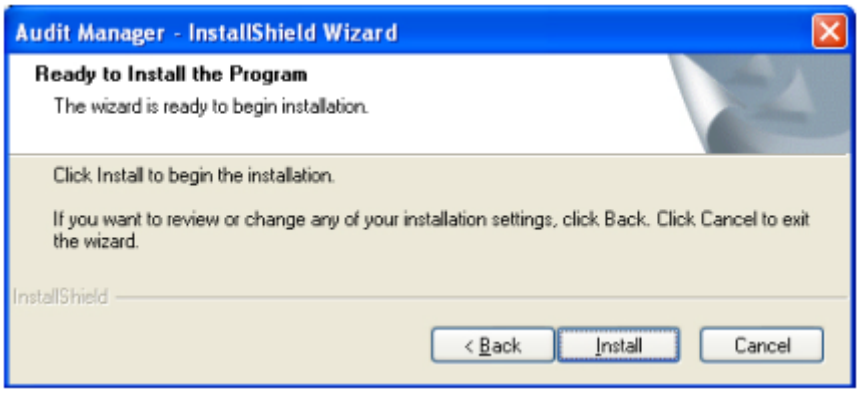


4. Review the agreement. Click **I accept the terms of the license agreement**.
5. Click **Next**. The Choose Destination Location window appears.

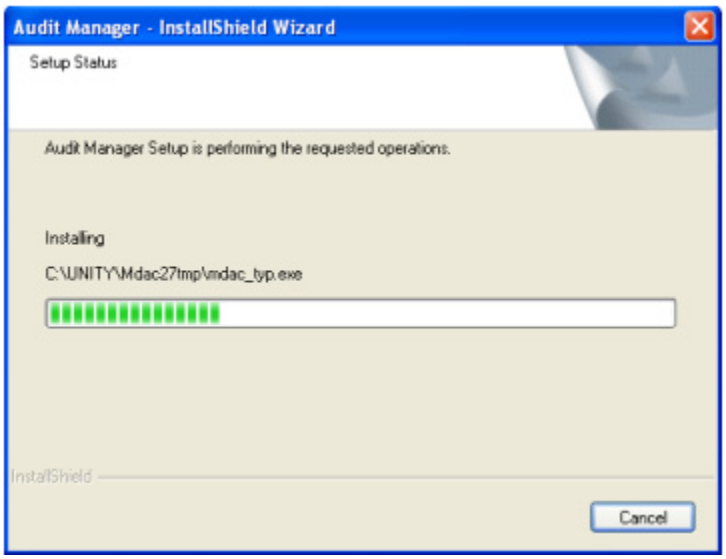


By default AM will install to C:\UNITY. Do not change path.

6. Click next. The Ready to Install the Program window appears.



7. Click **Install**. The Install wizard opens and installs the program. The Setup Status window appears, showing the status of the installation.

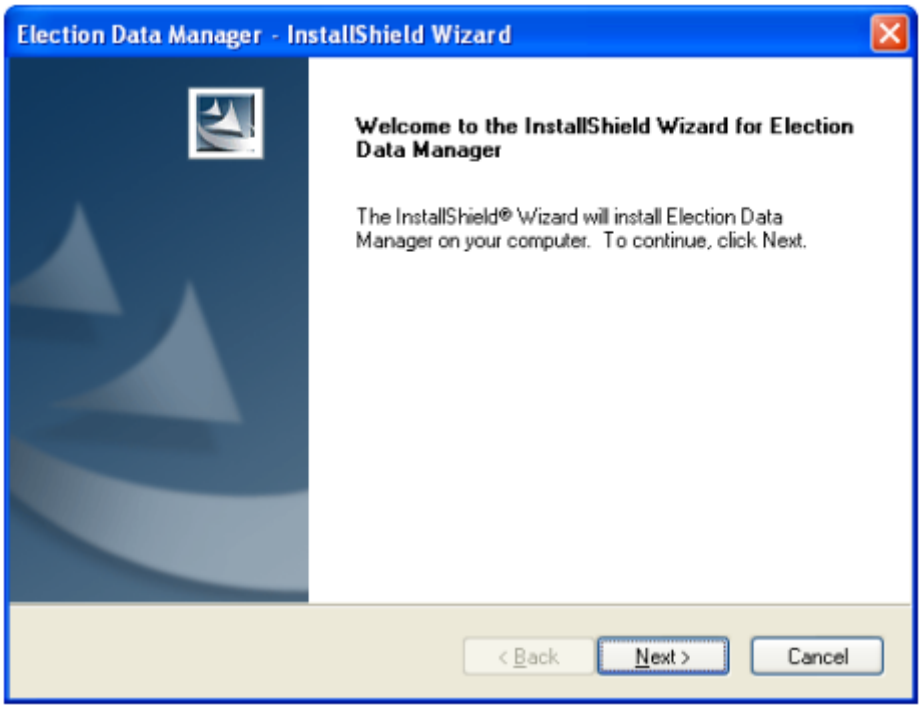


8. When the installation is complete, Install Wizard Complete window appears. Click **Finish**.

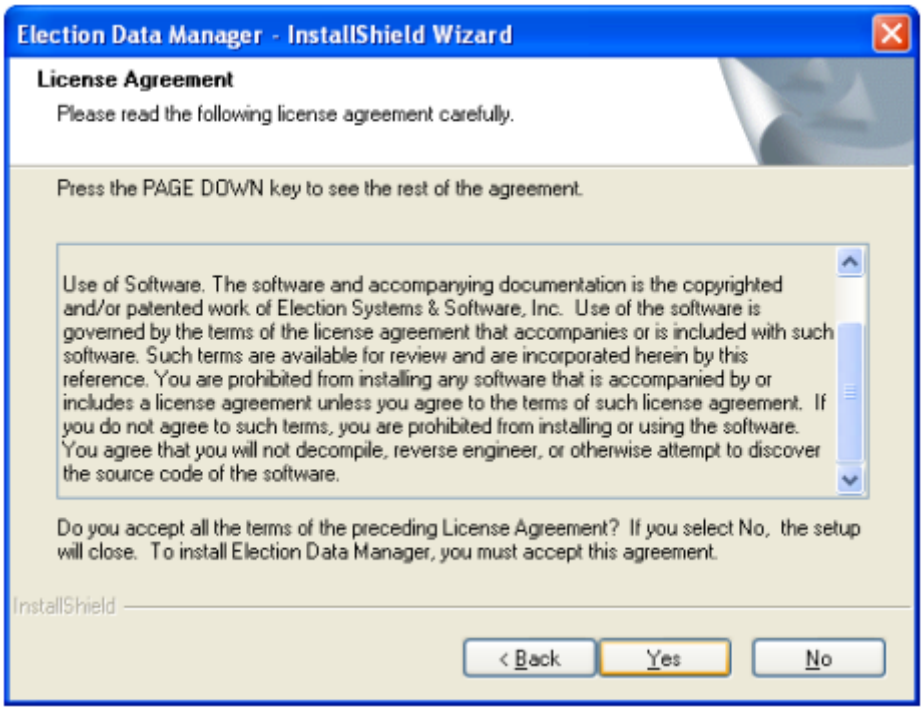
Election Data Manager (EDM)

1. Insert the install disk into the CD ROM drive.

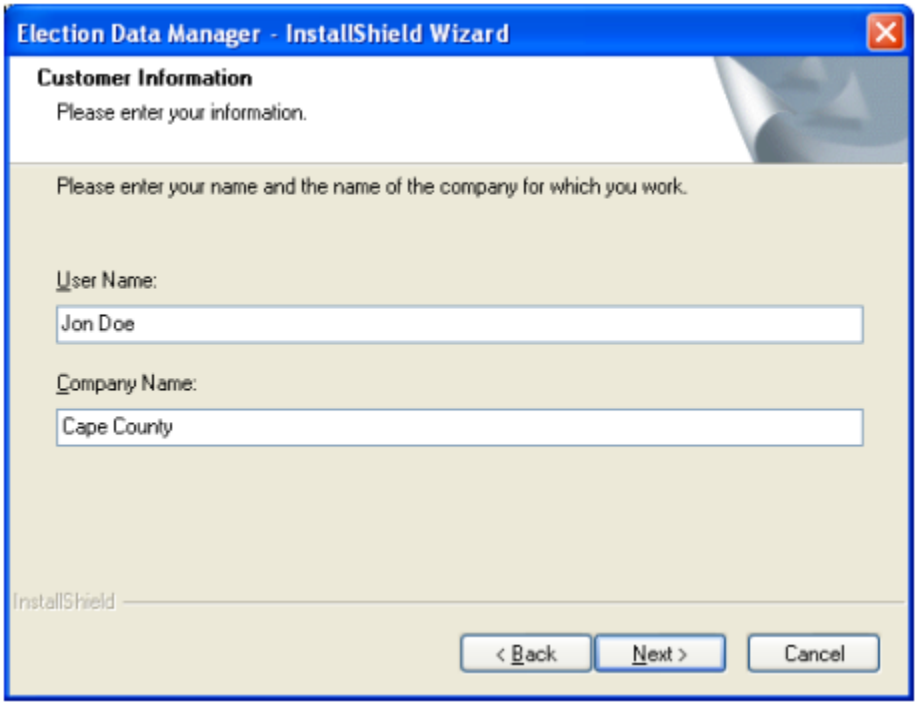
2. Open the folder and click the Setup icon. The Installation Wizard window appears.



3. Click **Next**. The License Agreement window appears.

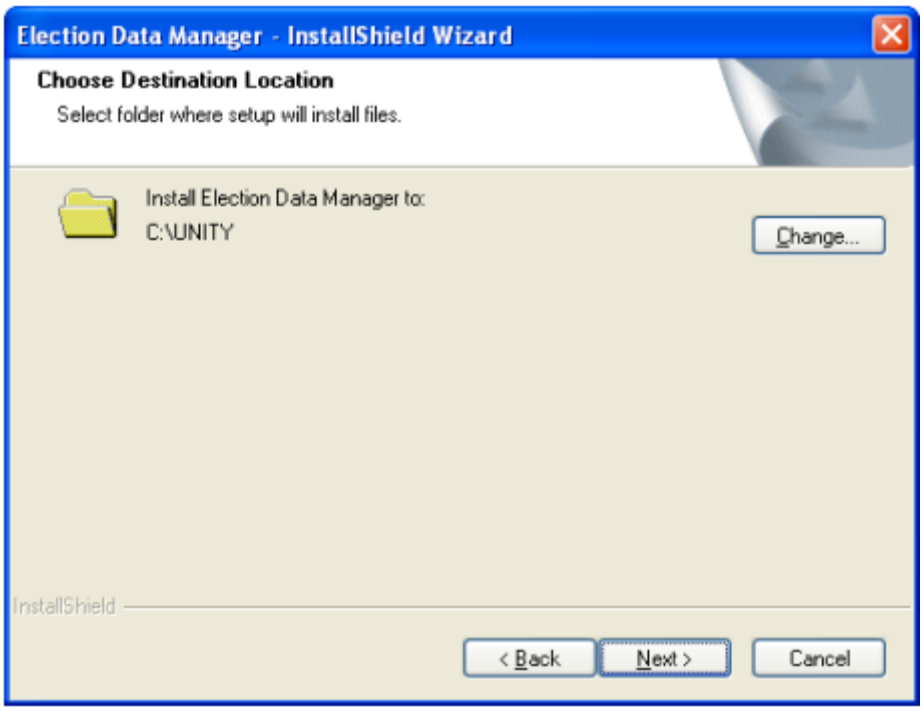


4. Review the license agreement.
5. Click **Yes**. The Customer Information window appears.



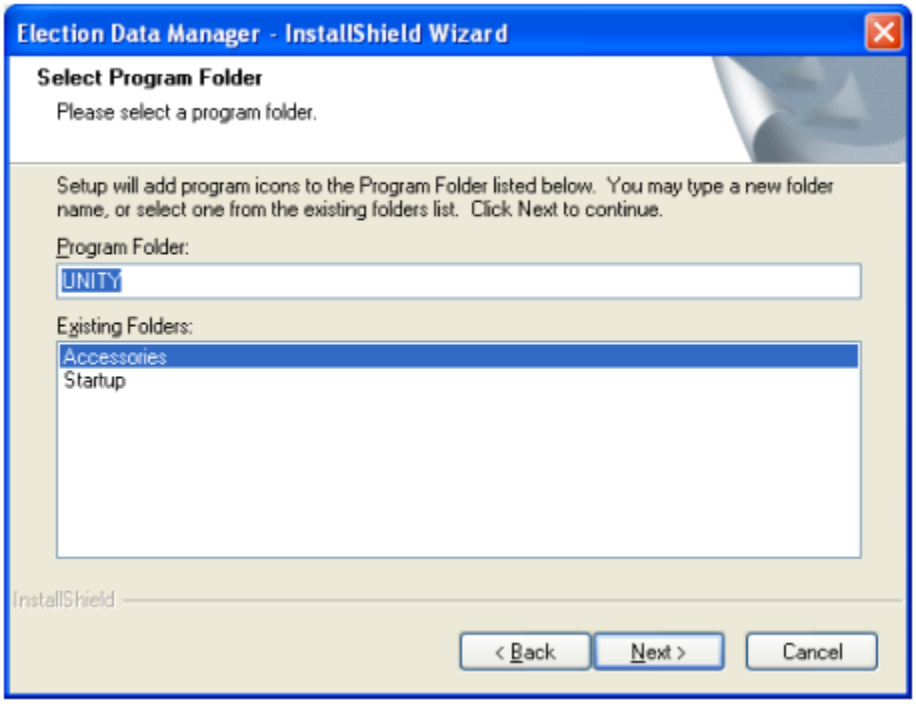
6. Enter your user name in the **User Name** field and the name of your jurisdiction in the **Company Name** field.

7. Click **Next**. The Choose Destination Location window appears.

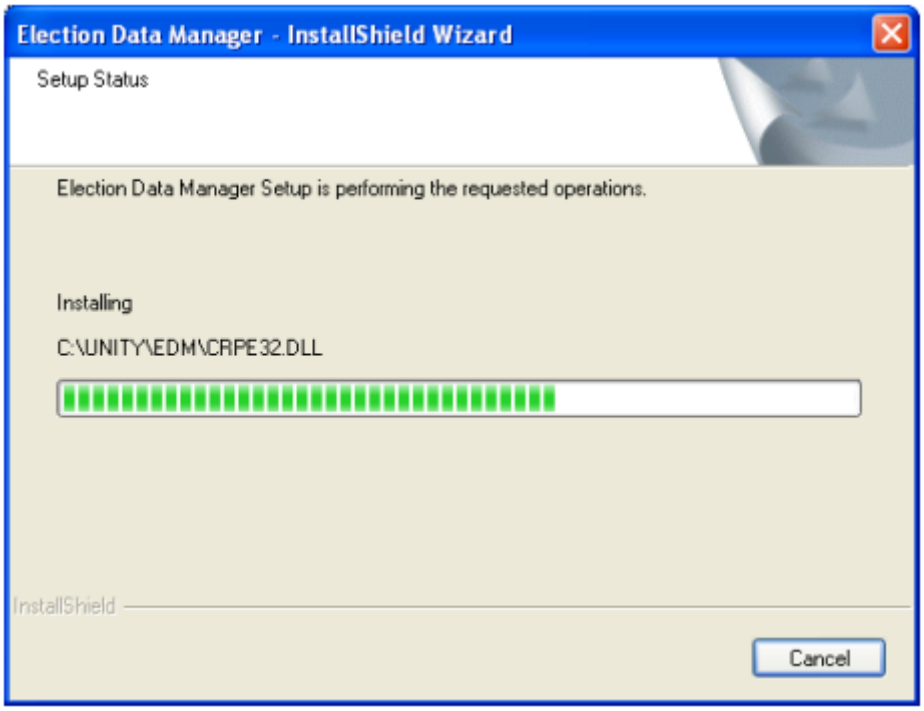


By default EDM will install to C:\Unity. Do not change the path.

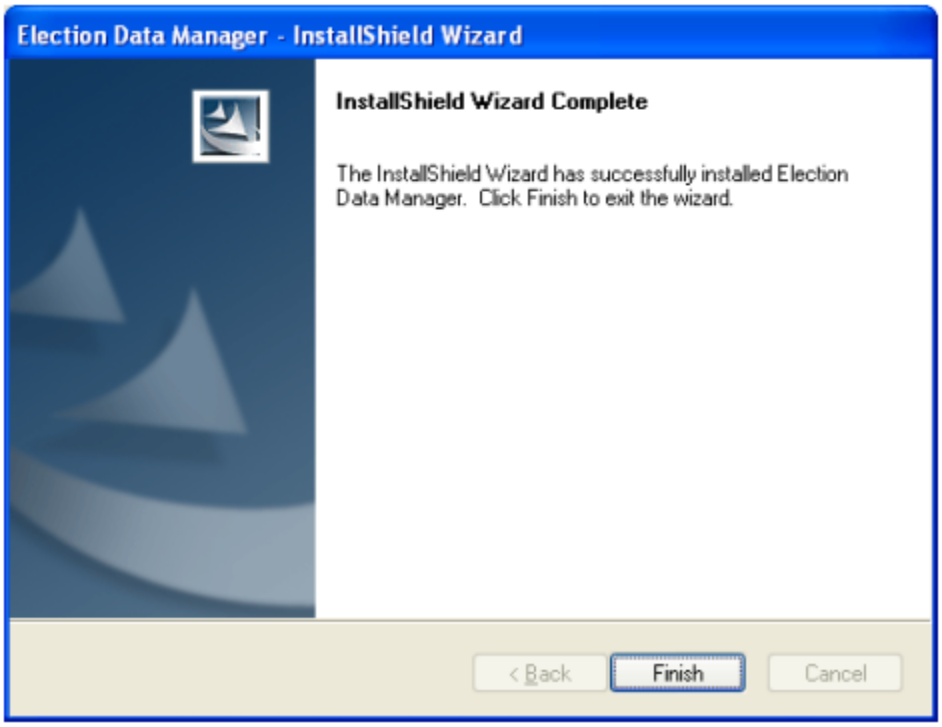
8. Click **Next.** The Select Program Folder window appears.



9. Click **Next**. Install wizard opens and installs program. The Setup Status window appears showing the status of the installation.



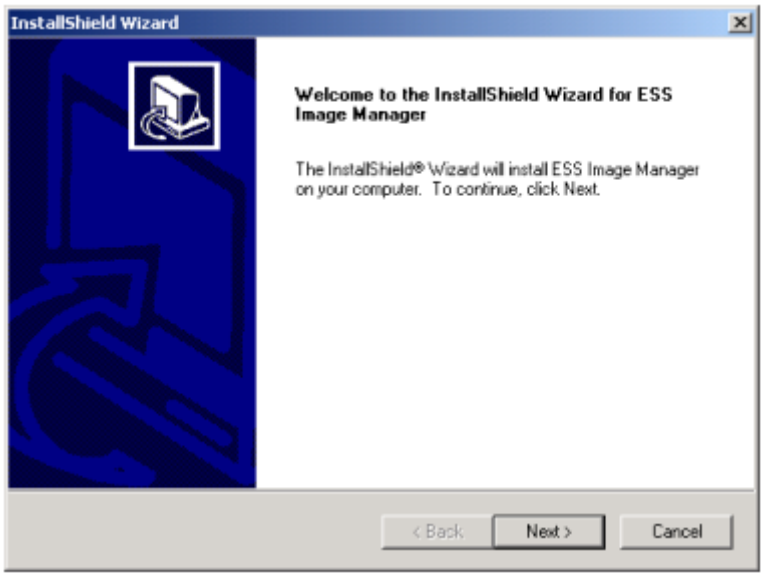
10. After the installation is complete, the InstallShield Wizard Complete window appears. Click **Finish**.



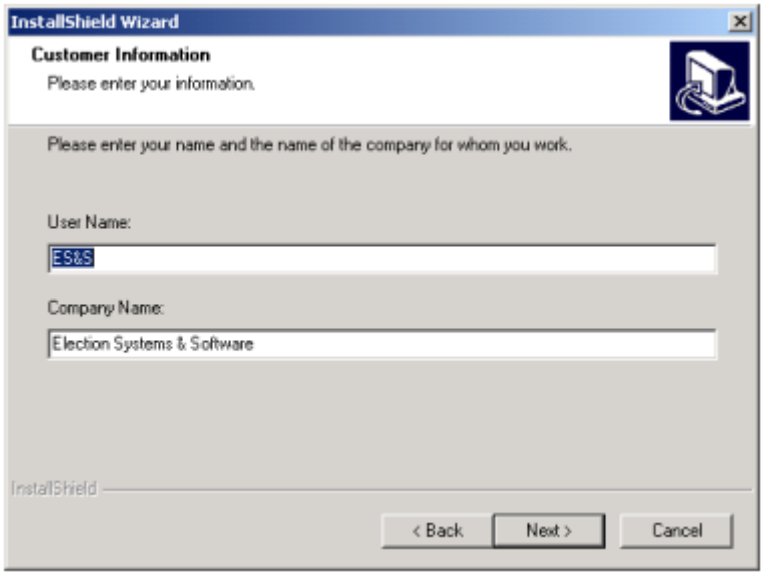
ES&S Image Manager (ESSIM)

1. Insert the install disk into your CD ROM drive.

2. Open the folder and click the Setup icon. The Installation window appears.

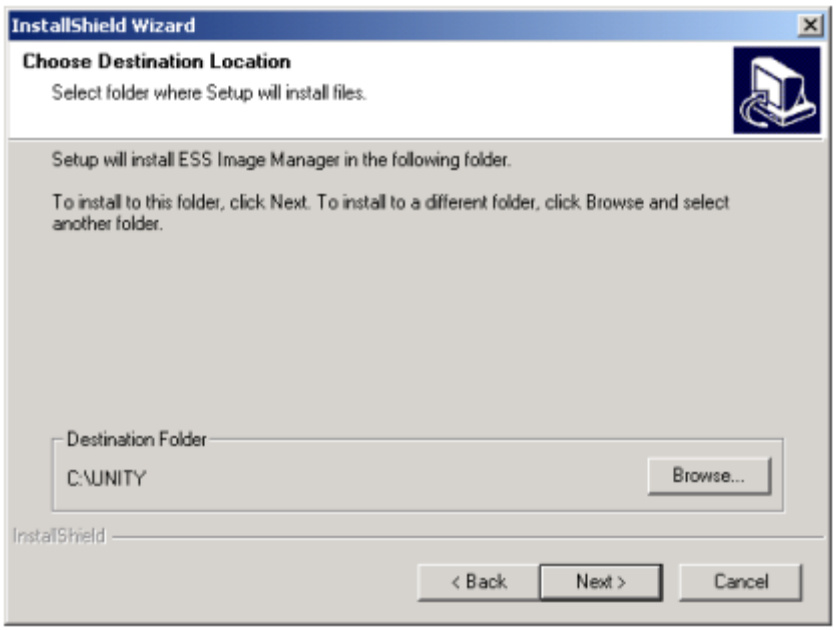


3. Click **Next**. The License Agreement window appears.
4. Review the agreement, and click **Next**. The Customer information window appears.



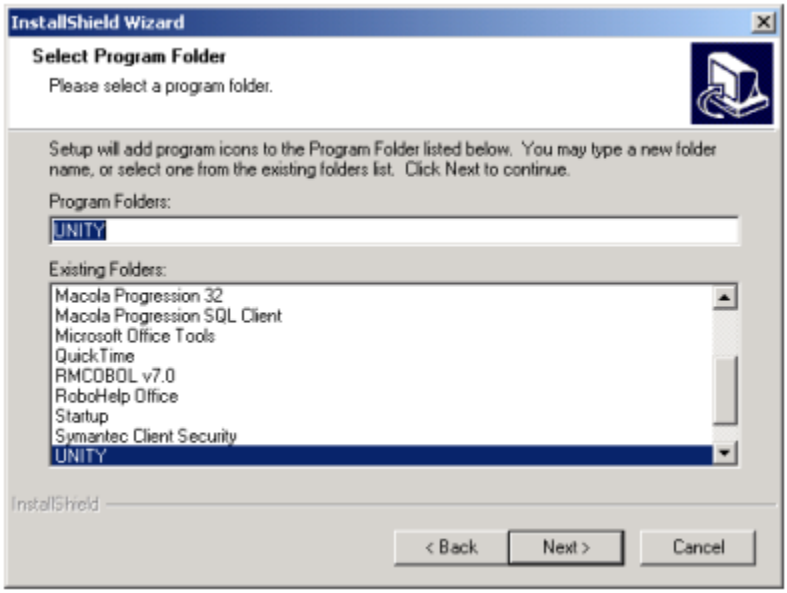
5. Enter your user name in the **User Name** field and the name of your jurisdiction in the **Company Name** field.

6. Click **Next**. The Choose Destination Location window appears.



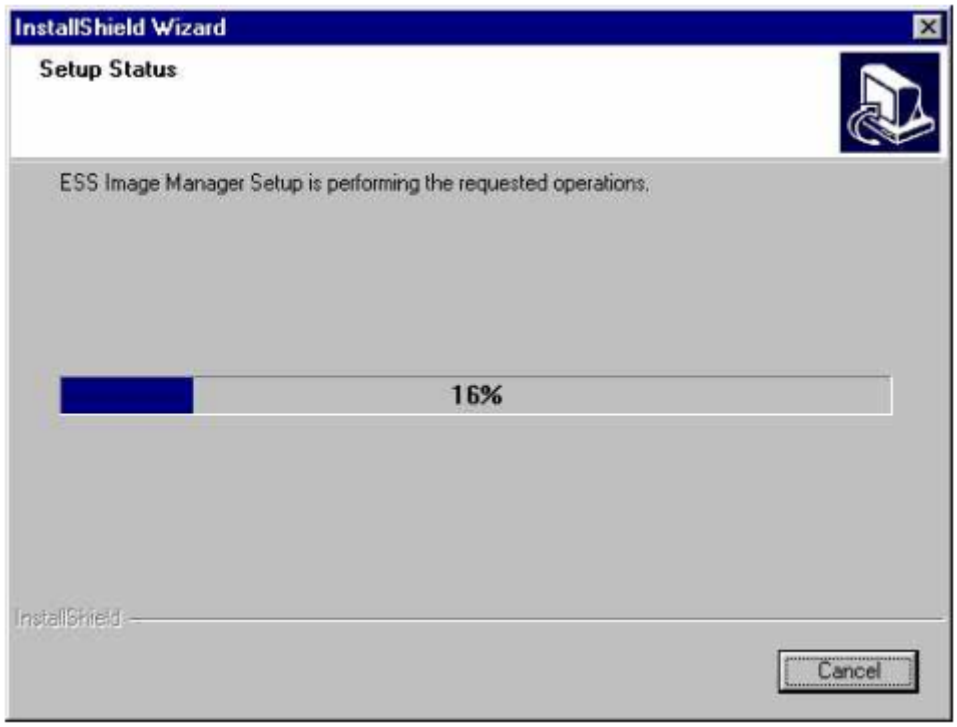
By default ESSIM is installed to C:\UNITY. Do not change the path.

7. Click **Next.** The Select Program Folder window appears.

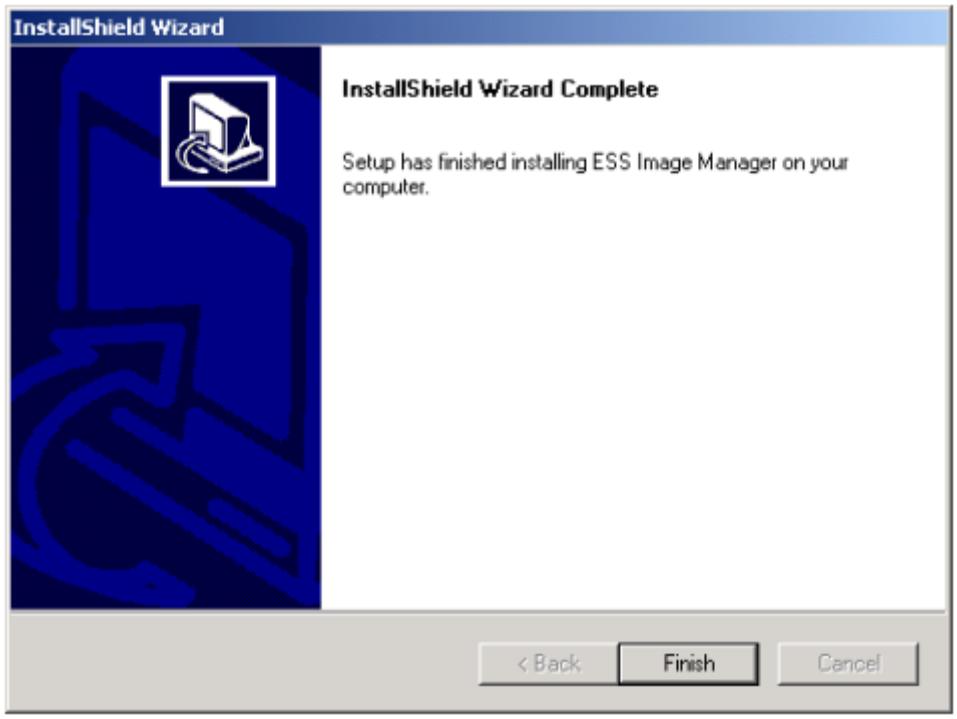


By default, ESSIM will be added to the Unity folder.

8. Click **Next**. The Install wizard opens and installs ESSIM. The following window will appearing showing the status of the installation.



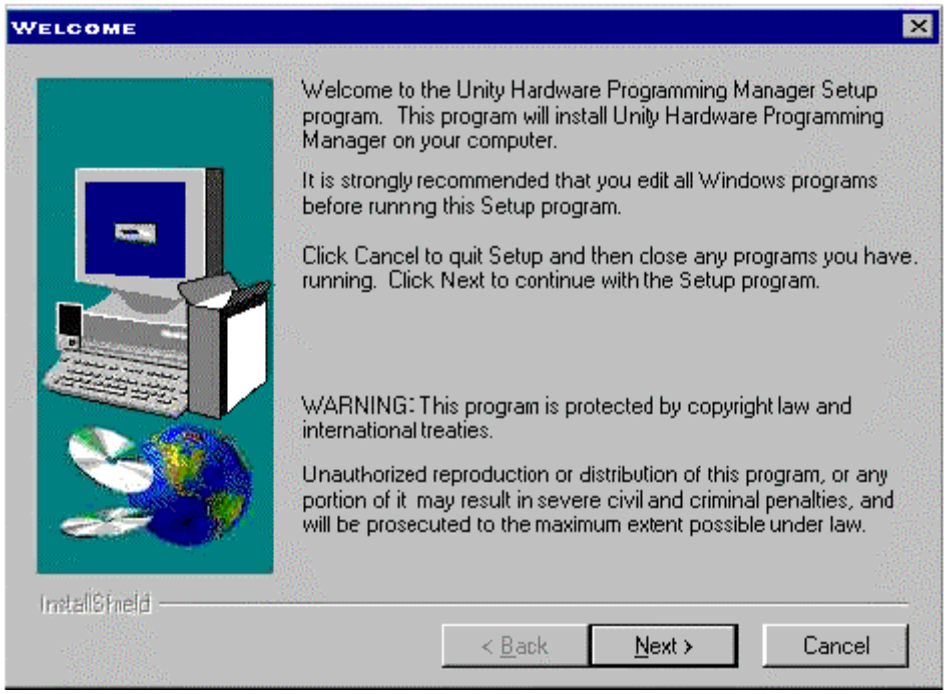
9. The InstallShield Wizard Complete window appears after the installation of ES&S Image Manager is complete. Click **Finish**.



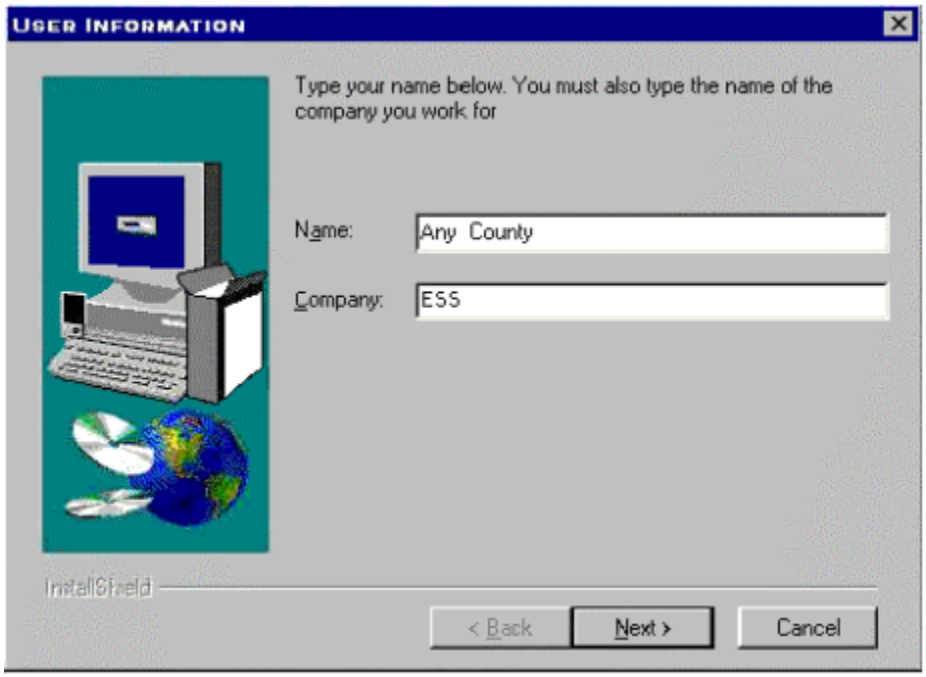
Hardware Programming Manager (HPM)

1. Insert install disk into CD ROM drive.

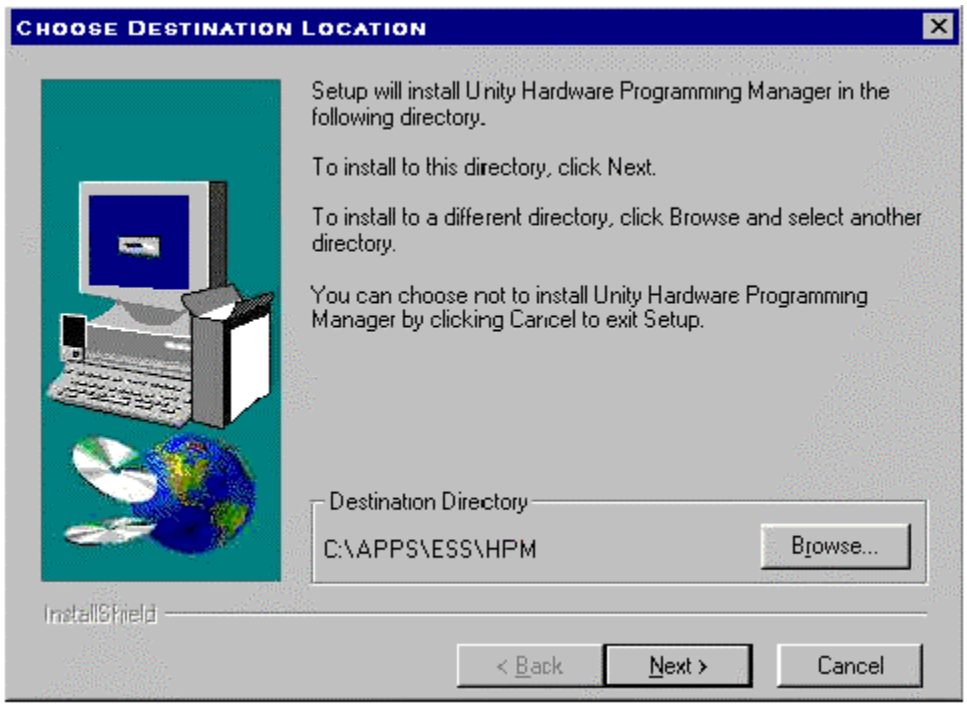
2. Open the folder and click the Setup icon. The Welcome window appears.



3. Click **Next**. The Software License Agreement window appears.
4. Review the agreement and click **Next**. The User Information window appears.

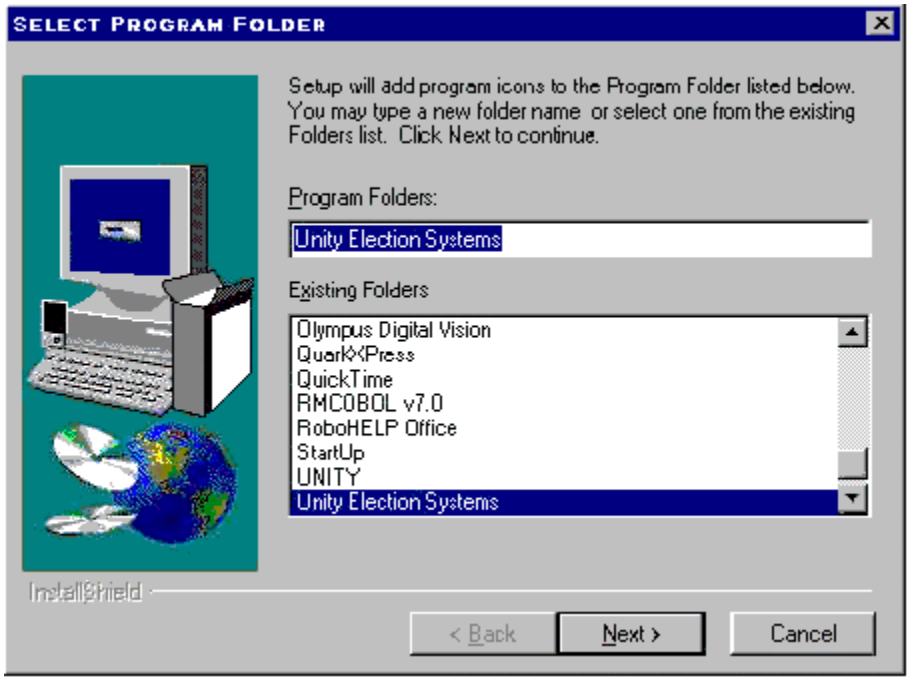


5. Enter your user name in the **Name** field and the name of your jurisdiction in the **Company** field.
6. Click **Next**. The Choose Destination Location window appears.



By default HPM is installed to c:apps\ess\hpm. Do not change the path.

7. Click **Next**. The Select Program Folder window appears.

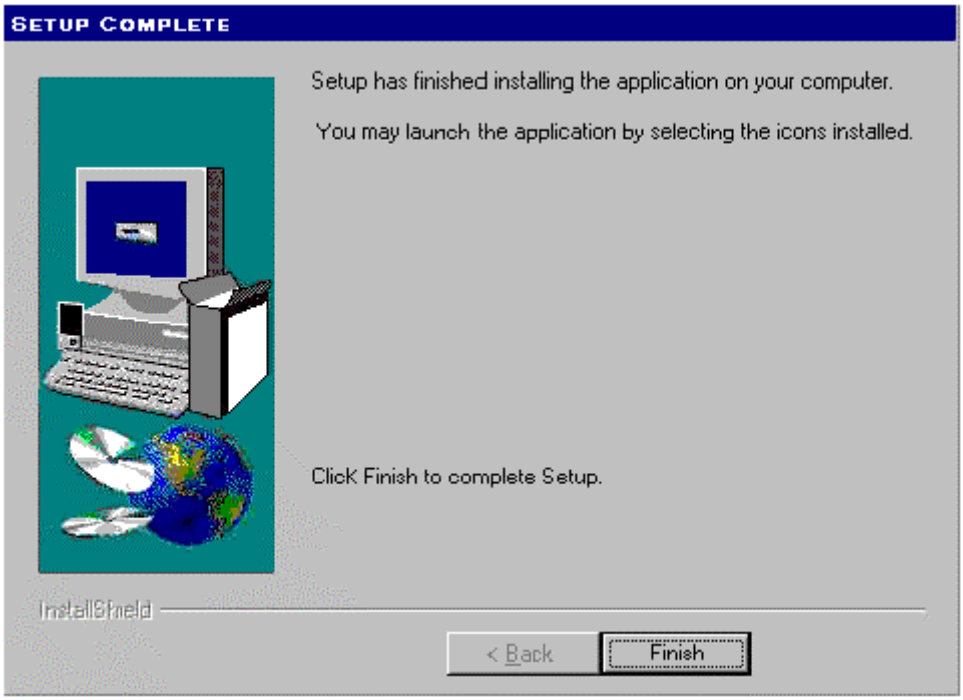


By default HPM is installed to Unity Election Systems folder

8. Click **Next**. The Start Copying Files window appears.

9. Click **Next** to install HPM. The Unity Election Systems folder automatically opens in a separate window after HPM has finished installing.

10. Close the Unity Election Systems folder window. The Setup Complete window appears.

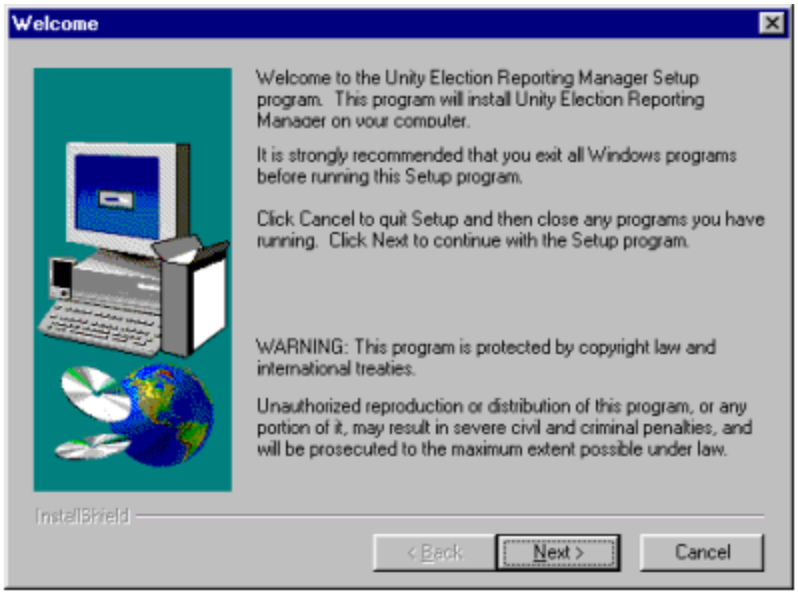


11. Click **Finish**.

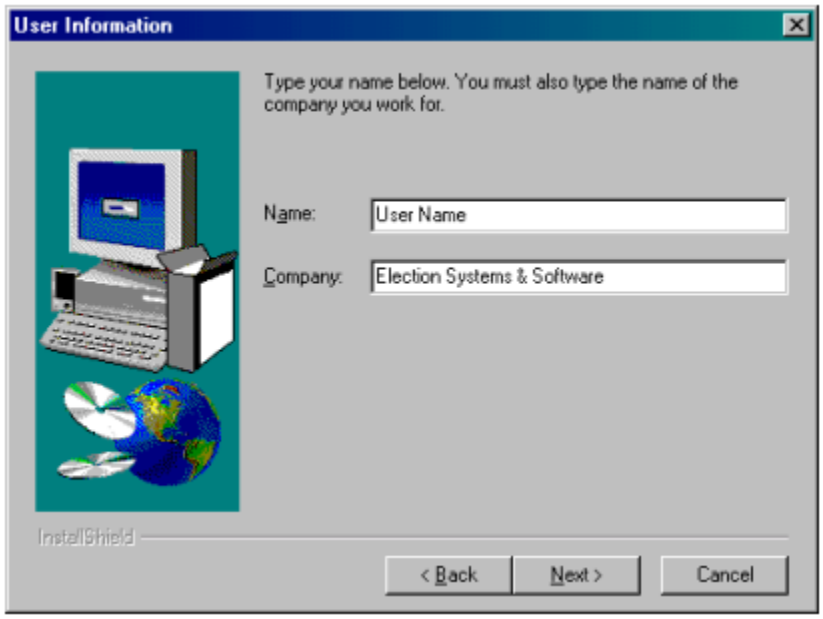
Election Reporting Manager (ERM)

1. Insert the install disk into CD ROM drive.

2. Open the folder and click the **Setup** icon. The Welcome window appears.

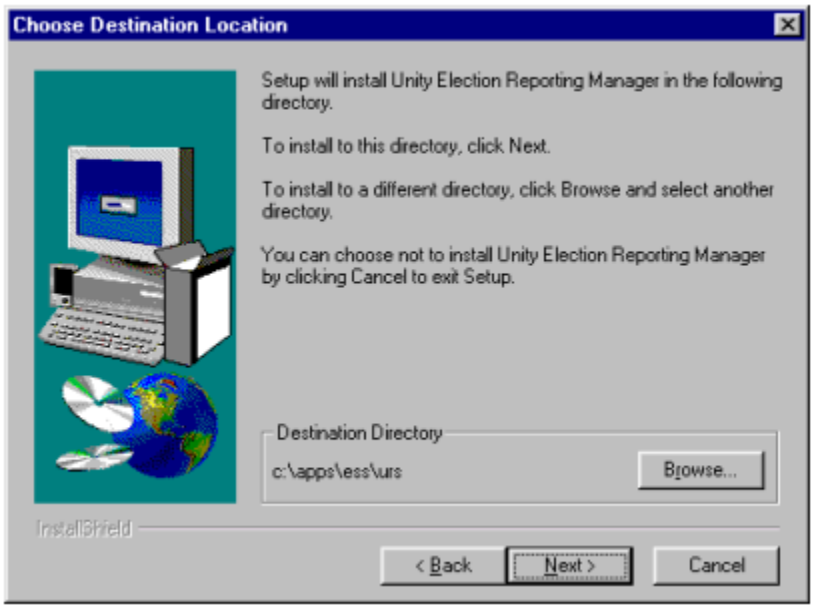


3. Click **Next** to open the Software License Agreement window.
4. Read the agreement and click **Next** to continue to the User Information window.



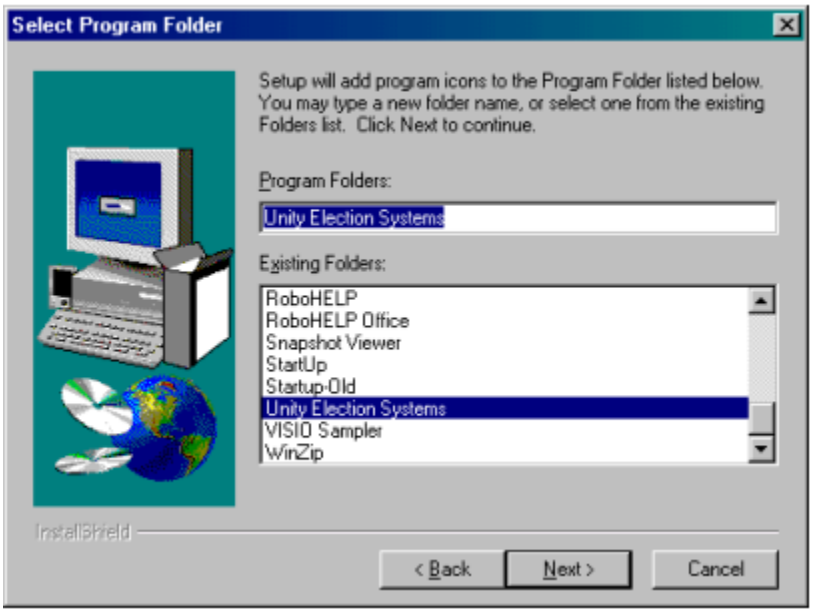
5. Enter your user name in the **Name** field and the name of your jurisdiction in the **Company** field.

6. Click **Next**. The Choose Destination Location window appears.



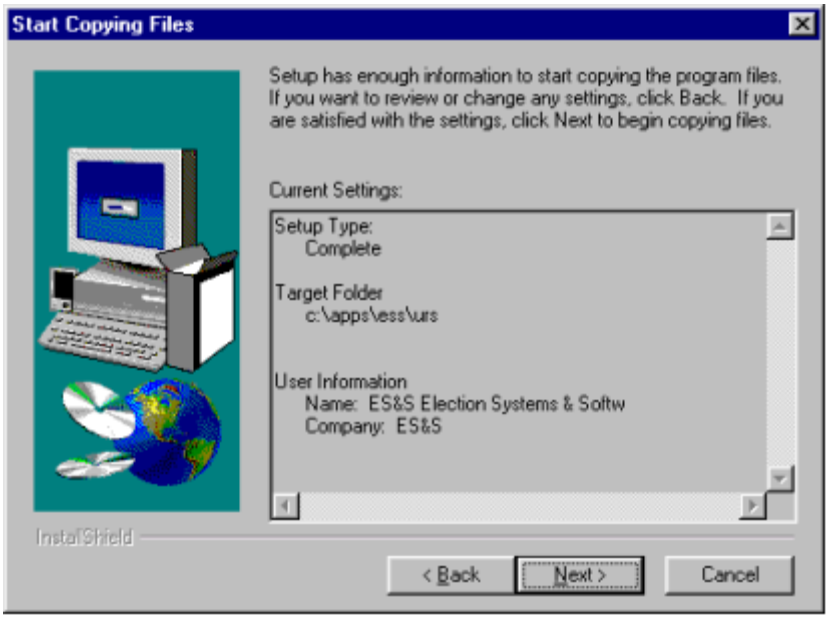
By default ERM is installed to c:\apps\ess\urs. Do not change this path.

7. Click **Next**. The Select Program Folder window appears.

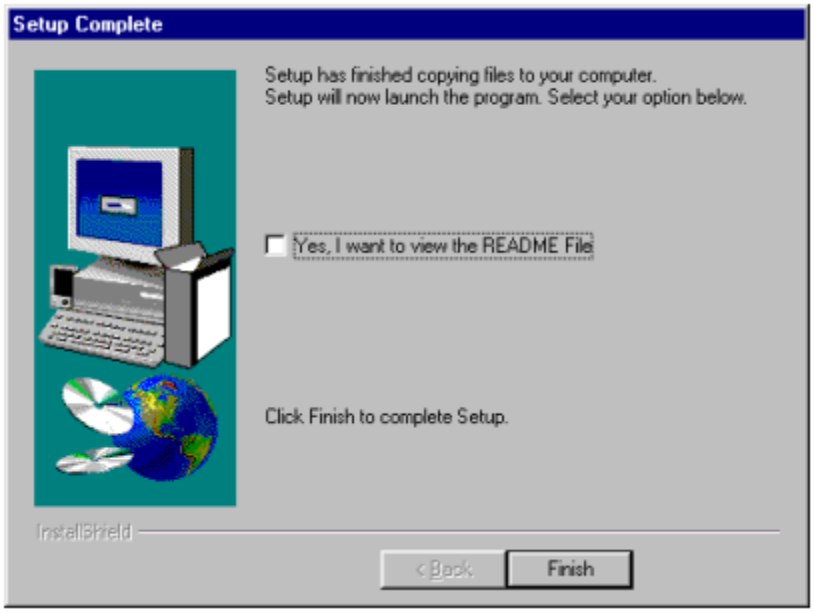


By default ERM is installed to Unity Election Systems folder.

8. Click **Next**. The Start Copying Files window appears.



9. Click **Next**. Setup installs ERM. The Setup Complete window appears.



Select the **Yes, I want to view the README fil**e if you want to view the README file included with the program. The README file contains valuable information about this version of ERM.

10. Click **Finish**.

AIMS Installation and Configuration

The physical characteristics of the AIMS hardware are consistent with its intended use. The personal computer used for AIMS must be designated for the sole purpose of collecting, editing, and storing ballot definition data onto a flash memory card required by the AutoMARK Vote Assist Terminal (VAT). The application is designed as a single user system; the system must not be networked. Between elections, the elections official is responsible for storing the PC in a secure storage area so as to safeguard the application software and the election database for future elections.

AutoMARK Information Management Minimum System Requirements

The AutoMARK Information Management System (AIMS) requires a personal computer (COTS) with the following minimum specifications:

- Windows® XP Service Pack 2 or above
- 2.2 GHz Pentium 4 minimum
- 256 MB memory minimum
- 20 GB hard drive minimum
- CD-ROM
- USB port
- Monitor with 1024 x 768 minimum screen resolution
- Speakers
- Microphone
- Flash Memory Cartridge drive
- Blank formatted compact Flash Memory Card (FMC)

Flash Memory Cartridge Drive

The memory cartridge drive writes all of the information necessary to configure the system to an individual precinct and where practical, an entire jurisdiction. It includes the formats of the various ballots and the settings for the touch screen menus. For languages supported by synthesized speech, the memory cartridge includes ASCII text representing the phonetic elements that are pronounced to generate the audio stream. For certain alternate languages, the memory cartridge includes recorded voice in WAV format.

Once programmed, the memory cartridge is installable into the AutoMARK VAT by an elections official or designee. The cartridge is based on re-programmable flash memory.

Refer to *AutoMARK Flash Memory Card Design Specifications* AQS-5001-008-R for a detailed description the FMC of AIMS.

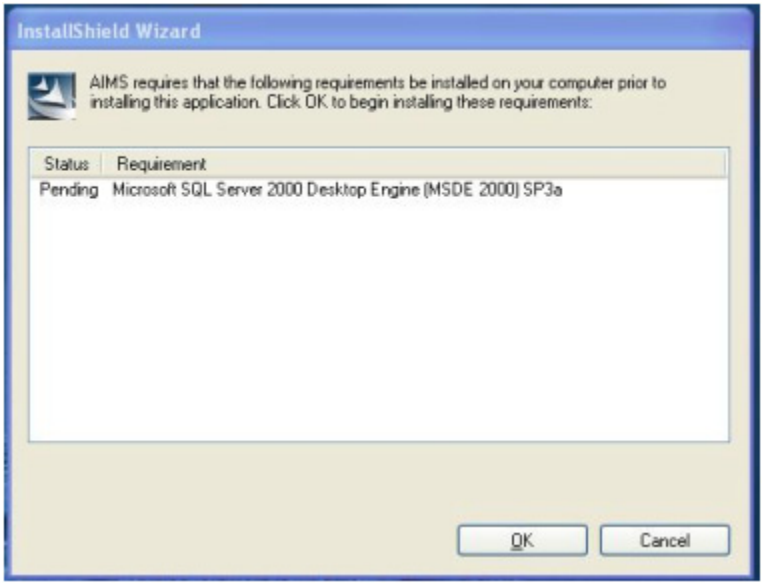
Flash Memory Cartridge Capacity

A single 256-megabyte flash memory cartridge should be able to hold all ballot styles, audio text files, language translations, and audio wav files used in a single jurisdiction. Jurisdictions can use a larger-memory card of the same format if needed.

Installing AIMS for the First Time

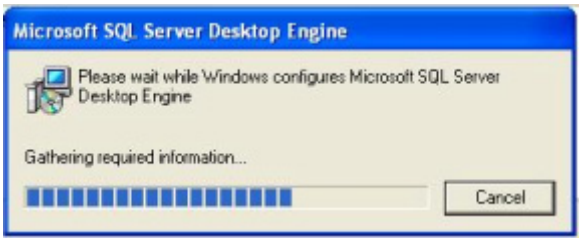
1. To begin the AIMS installation, place the AIMS CD in your CD-ROM drive. The InstallShield Wizard will step you through the entire installation process.

   The first time you install AIMS, the wizard will begin by installing the Microsoft SQL Server Desktop Engine on your computer. If you do not have the Microsoft .NET Framework already installed, you will be prompted to agree to the Microsoft License agreement for it, and will be led through the installation.

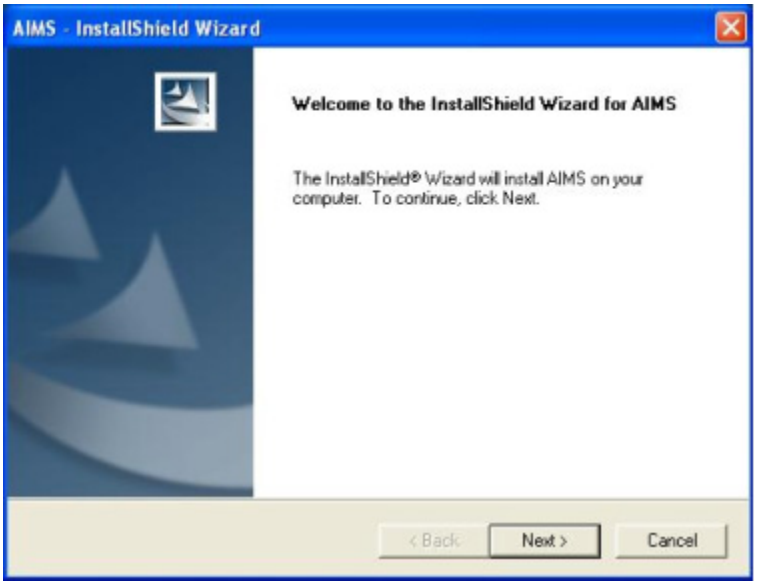


NOTE: If you install *again* at a later time, you will not see this step.

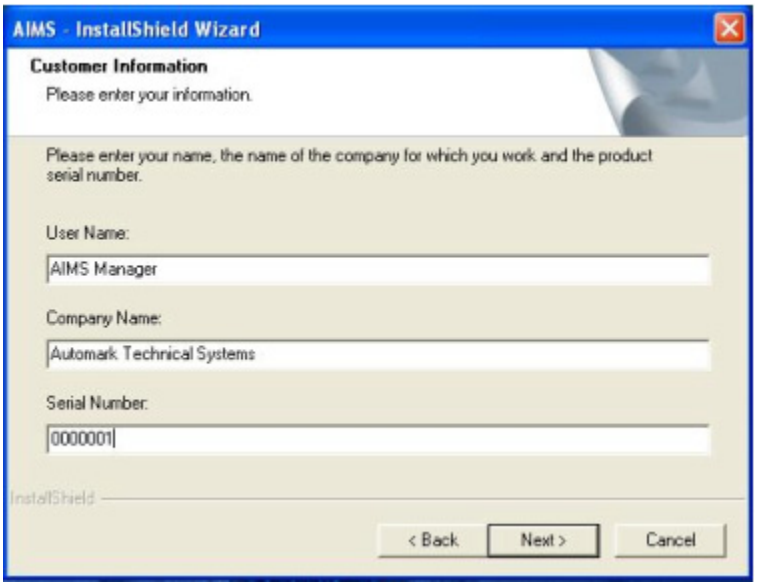
2. Click **OK**. The installer will display a status bar to indicate its progress.



After the Microsoft SQL Server Desktop Engine has been configured, the system is ready to install AIMS.



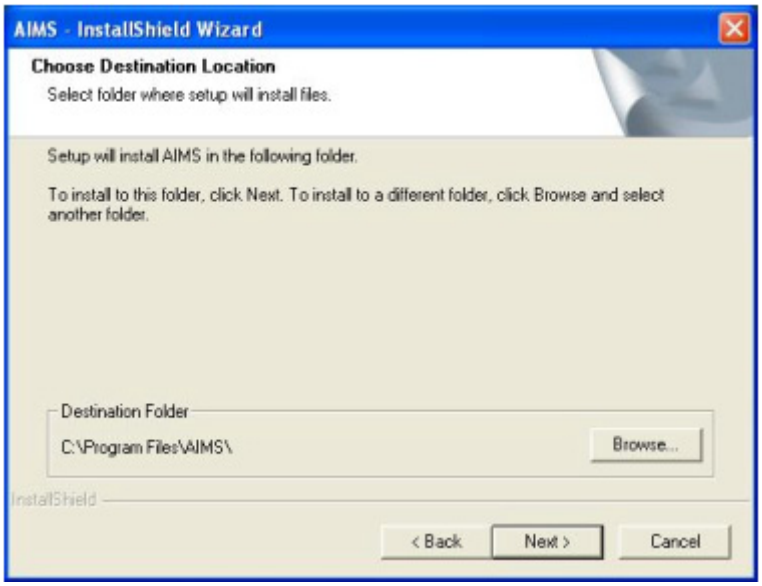
3. Click **Next** to continue the installation. Click **Cancel** if you want to postpone the installation until a later time.



4. Enter the User Name, Company Name, and the product serial number (exactly as have been provided to you) in the fields indicated.

NOTE: Serial Number and License Key are used interchangeably – they refer to the same thing.

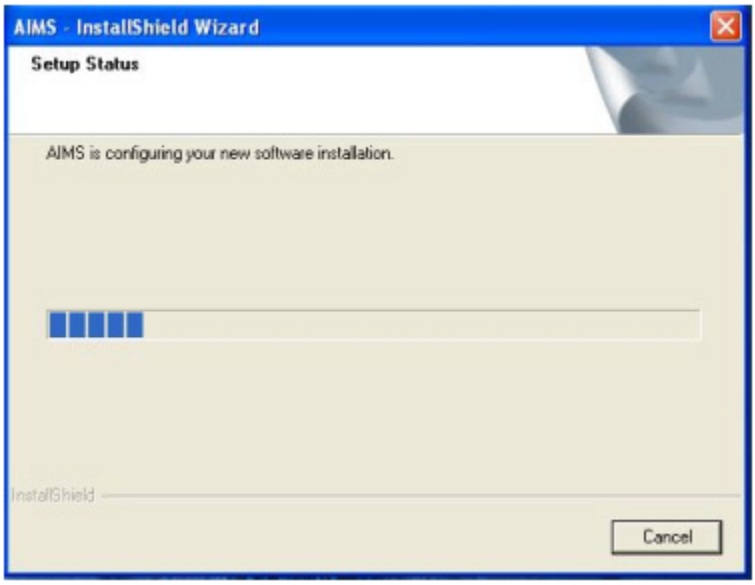
AIMS will select a folder to where the files will be installed.



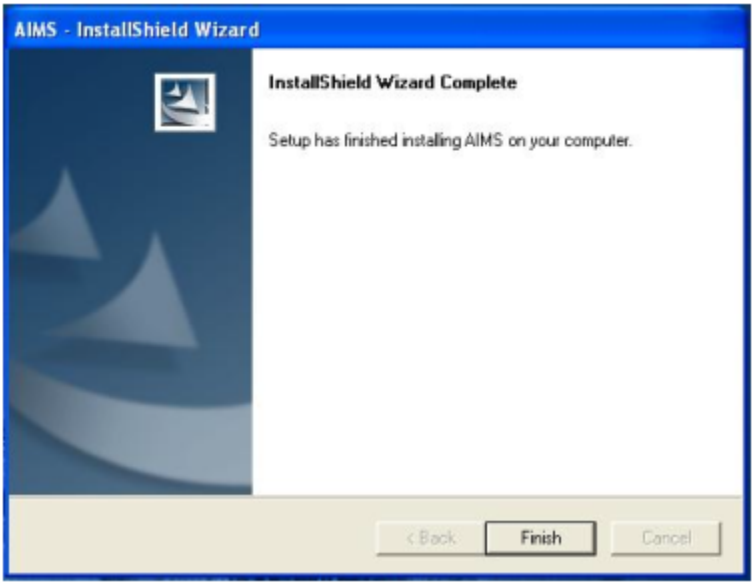
5. To keep this selection, click **Next**. (To select a different location, click **Browse** and change the destination folder).
6. If you are satisfied with the settings you have selected so far, Click **Next** to continue with the installation. (Otherwise, to change a setting, click **Back** to go back to any previous screen).

NOTE: In the following screen, the **License key** value will be the same as you entered as the **Serial Number** previously.

The Installer will display a status bar to indicate the progress of the AIMS installation.



When the installation is complete, the message, “Setup has finished installing AIMS on your computer” will appear.



7. Click **Finish**.

AIMS is now installed on your computer. Restart your computer before using AIMS for the first time.

Re-Installing AIMS

If you have previously installed AIMS, and you receive a new installation CD for a new version of AIMS, you should first create backups of the election databases you wish to keep, and un-install the current AIMS program file.

Create backups of your election data.

Uninstall AIMS

Take the following steps to Un-Install AIMS, so that you can reinstall it.

1. Click **Start**, then point to **Settings** and click **Control Panel**.
2. On the Control Panel window, double-click **Add or Remove Programs**.

3. On the Add or Remove Programs window, select **AIMS**.
4. Click **Change/Remove**.
5. Click **Remove**.

You can now install a new version of AIMS from the CD.

Refer to the Installing AIMS for the First Time heading in this chapter for directions for installing AIMS.

Upgrade AIMS Template

When installing a new version of AIMS over an existing copy without doing a Partial Machine Install, AIMS may require an upgraded template file. When you launch AIMS for the first time after the install, AIMS may ask for the location of the new AIMSTemplate.bak file. The file is located at C:/AIMS/SQLS/Backups/AIMSTemplate.bak.

Partial Machine Install

If you are experiencing problems after un-installing AIMS and re-installing AIMS, it is sometimes necessary to perform a partial reinstallation of the software. This makes your PC as it was before AIMS was installed the first time. In that case, take the following steps.

- Uninstall AIMS
- Uninstall the SQL Server Desktop Engine
- Remove Existing AIMS Folders and Files
- Remove Existing AutoMARK Folders and Files

After you have performed a partial reinstallation of the software, install AIMS using the instructions under the Installing AIMS for the First Time heading.

1. Create backups of your election data.

NOTE: Make sure you do not save the backup files to the AIMS folder. Save the backup files to a different location. The AIMS folder will be deleted.

Uninstall AIMS

2. Click **Start**, then point to **Settings** and click **Control Panel**.
3. On the Control Panel window, double-click **Add or Remove Programs**.

4. On the Add or Remove Programs window, select **AIMS**.
5. Click **Change/Remove**.
6. Click **Remove**.

Uninstall the SQL Server Desktop Engine

7. Click **Start**, then point to **Settings** and click **Control Panel**.

8. On the Control Panel window, double-click **Add or Remove Programs**.

9. On the Add or Remove Programs window, select **Microsoft SQL Server Desktop Engine**.
10. Click **Change/Remove**.
11. Click **Remove**.

Remove Existing AIMS Folders and Files

The AIMS folder is located at C:/Program Files/AIMS. Select the AIMS folder and right-click, then click **Delete**.

Remove Existing AutoMARK Folders and Files

The AutoMARK folder is located at C:/Program Files/AutoMARKTS. Select the AutoMARKTS folder and right-click, then click **Delete**.

3.4 Acceptance Testing

Certification procedures require an election jurisdiction to perform acceptance testing whenever it acquires a new voting system or whenever the voting system is modified. The results of that acceptance testing are to be certified to the Secretary of State. Establish procedures for that testing in accordance with the requirements described in this Article.

Testing Ballots and Model 650 Equipment

Use the ballot test deck provided by ES&S to test your scanners and your election. A ballot test deck is a set of marked ballots used to check ballot scanners and tabulation software for accuracy. Test decks include sample ballots for every precinct, split and rotation in a jurisdiction. ES&S marks each voting position on the ballot and audits the test deck for elections coded at ES&S. Code your own test deck if you code your own elections. Prepare your test deck according to the California Elections Code sections 19320 to 19323.

NOTE: Clearly mark your test ballots so that you can distinguish test ballots from your official election ballots.

Follow sections 15000 to 15004 in the California Elections Code to test your ballots and equipment. The Elections Code requires you to adhere to the following testing guidelines.

- Test each of your central scanners no later than seven days prior to an election.
- Deposit a copy of the “computer vote count program” for a statewide election or a state special election to fill vacancies with the secretary of state no later than 5:00 p.m. seven days before the election. If the program changes in the seven days leading up to the election, submit a new copy of the program to the secretary of state no later than noon the day after the change. Read section 15001 of the Elections Code for additional rules regarding the count program.

Model 650 Acceptance List

Inspector: _____ Date: _____

Serial # _____ Firmware Version _____

Jurisdiction _____ Machine ID _____

Mechanical

- ☐ Transport secured to cabinet.
- ☐ Input hopper tension.
- ☐ Paper path clear and clean.
- ☐ Pinch roller tension set.
- ☐ Drive rollers set even with paper path.
- ☐ Read head closes smoothly and seats properly
- ☐ Read head gap set between .0014” and .0016” (2 1/2 sheets).
- ☐ Multi-sheet sensor below level of paper path.
- ☐ Pick roller height correct.
- ☐ Pick rollers level with main feed plate.
- ☐ Drive belt tension.
- ☐ Power supply terminals tight.
- ☐ Bolts and screws tightened.
- ☐ Cabinet door fit/door lock keys attached.
- ☐ Feed test.
- ☐ Paper guide set properly.
- ☐ Motor coupler tight.

Electronic

- ☐ Check fuses.
- ☐ Channel image dump values...
- ☐ All channels - Range = 100; Whitest = 200 (+/-5).
- ☐ Front panel LED indicators

- ☐ Dual Printer Option
  All switches operation (including motor swx and P/U defeat on PMS board).
- ☐ Zip drive/flash drive stores and adds to memory.
- ☐ Clock time and date set.
- ☐ Correct time zone.
- ☐ Sample rate set _____

Read Quality

- ☐ Blank sheet.
- ☐ Oval sheet.
- ☐ Shade sheet.
- ☐ Fold sheet.
- ☐ Fiber optics installation correct.

Final Checks

- ☐ Clean rollers & transport.
- ☐ Clean exterior.
- ☐ Inspect cables.
- ☐ Cover and outlet strip.
- ☐ Interlock plugs secure.
- ☐ Serial number stamped.

Model 100 Acceptance List

Inspector: _____ Date: _____

Serial # _____ Firmware Version _____

Jurisdiction _____ Machine ID _____

- ☐ Mechanical check. Visually inspect unit and case for damaged, loose, or missing parts.
- ☐ Inspect ballot box.
- ☐ Check fit of the Model 100 on the ballot box and diverter connection.
- ☐ Check diverter operation. Diverter should cycle from left to right.
- ☐ Inspect paper roll capacity.
- ☐ Power up unit in DC mode.
- ☐ Apply AC power source. (NO AC indicator deactivates.)
- ☐ Verify firmware version (configuration report).
- ☐ Check/Set Zone, Date, Time for state/county of ownership.
- ☐ Check multi-sheet 2 sheets rejected all orientations. If failure occurs, open case and adjust.
- ☐ Check DACs with .003 ballot. Channel readings no greater than 2 in any orientation.
- ☐ Save factory defaults.
- ☐ Comply with accuracy test: Blank Oval/All Fill ballots 5 times in **ALL** orientations.
- ☐ Confirm printout reads: Ballots: 40 and Columns should have 20s.
- ☐ Insure battery status is Bulk or Full. Circle one.
- ☐ Insure bottom rails are installed properly.
- ☐ Wipe unit clean.
- ☐ Insure power cord and keys are placed back in the case.
- ☐ Insure serial number on machine matches serial number on case.

AutoMARK® Acceptance List

Inspector: _____ Date: _____

Serial # _____ Invoice/Macola _____

Owner _____

Circle one: NEW DEMO REPAIR

- ☐ Inspect: plastic housing, touch screen, locks, for damage.
- ☐ Clean Out tray: wheels up wheels down
- ☐ Battery: # of bars
- ☐ AC power: LED turns from yellow to green
- ☐ Serial # Verify label and display numbers match
- ☐ Touch screen calibration
- ☐ Time/Date
- ☐ Firmware version: Match to certified firmware list
- ☐ Confirm print type: Visible Infrared
- ☐ Print calibration
- ☐ Audio:
- ☐ Keypad test
- ☐ ADA interface
- ☐ Vote test
- ☐ Labels: Serial number, hardware rev., warranty, NASED, maintenance.
- ☐ Final battery check: # of bars _____
- ☐ Keys
- ☐ Compact flash card
- ☐ Case
- ☐ Accessories: Power cord, headphones, paper trays, print cartridge, keys

Notes/Failure Code: _____

_____

_____

3.5 Software and Firmware Upgrades

The following paragraphs describe how to upgrade the firmware on the Model 100 and Model 650 scanners, and the AutoMARK VAT.

During the Software Maintenance Term and any renewal thereof, ES&S may provide new releases, upgrades or maintenance patches to the Software, along with appropriate documentation ("Updates"), on a schedule defined by ES&S. Only updates approved by the California Secretary of State may be installed.

NOTE: ES&S does not distribute updates within 90 days prior to a primary or general election.

Customer shall install Updates in accordance with ES&S' recommended instructions or may request that ES&S install the Updates for the customer at its then-current rates.

Customer shall pay ES&S for any Update which is required due to a change in state law.

Update Firmware on a Model 100 Scanner

Use a PCMCIA firmware update card to install new firmware on the Model 100.

NOTE: Before attempting to insert the Model 100 firmware card onto the Model 100, remove any cards currently in the scanner.

1. With the scanner off, insert the PCMCIA card containing the new Model 100 firmware into the scanner.
2. Turn the scanner on with the PCMCIA card inserted. The card version number appears on the screen.
3. The message "Reprogram flash memory. Load flash?" will appear.
4. Press **Yes** to load the flash memory. Press **No** if you do not wish to load firmware.

NOTE: Do not remove the PCMCIA card during this process.

5. After you have successfully loaded the firmware, you will receive a confirmation message.
6. Turn off the Model 100.
7. Remove the PCMCIA card.

Update Firmware on a Model 650 Scanner

You can install new firmware on the Model 650 scanner using a firmware update zip disk. The Model 650 scanner must have all subsequent firmware loaded automatically by using a firmware update disk.

Contact an ES&S service technician for instructions to return your 650 scanner to an earlier firmware version. Do not use a firmware update disk to revert a Model 650 firmware version back to an earlier version.

1. With the scanner off, insert the zip disk containing the firmware update into the zip drive on the 650.
2. Turn the scanner on with the zip disk in the drive. The 650 will update the firmware automatically. When the update is complete, a message will appear asking for an election definition.
3. Remove the disk.
4. Turn the scanner off. The firmware update is complete.

Warning: Firmware updates to version 1.1.9.1 and newer modify the underlying structure of the internal flash drive, while the firmware itself is stored on the CPU board. Therefore, do not swap CPU boards or flash drives between machines, unless you have exactly the same firmware version on both boards.

Upgrade AutoMARK Firmware

New software releases will be provided on a compact flash memory card. The elections official or system administrator/designee is responsible for installing new software releases. General computer skills are required.

Install a New Firmware Release

1. Place the system in TEST mode.
2. Access the system maintenance menu via password. On the system maintenance menu is an upload new firmware button. This feature will check the flash memory card for new software updates, will verify that these updates are properly encrypted and will then launch an installation program, which will update the necessary software.
3. Re-boot the unit when finished.

If the system firmware is being upgraded from version 1.0 to 1.1, then a factory calibration of the scanners must also be performed. This calibration should be done by qualified service personnel.

Refer to the Factory Calibration of Scanners heading in this chapter for information about factory calibration of scanners

Board-level software changes must be performed by ES&S personnel.

Factory Calibration of Scanners

The AutoMARK VAT requires a factory calibration of the scanners starting with firmware version 1.1. The calibration should be done at the factory or by qualified service personnel.

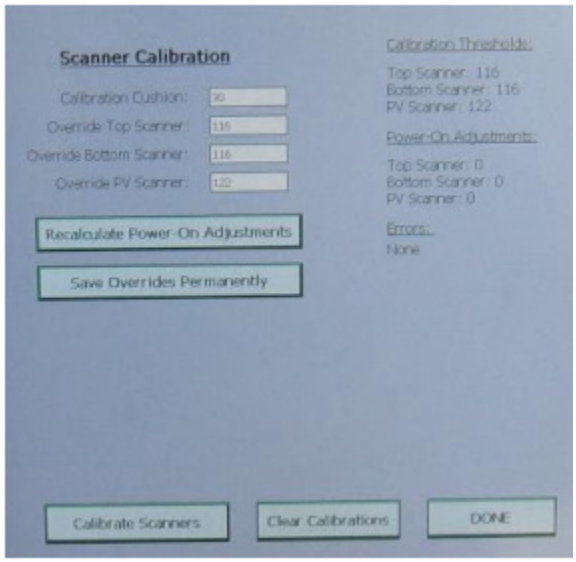
Items needed for calibration.

- 9.75” input tray
- Completely blank white ballot stock. The ballot should be 9.75” wide and at least 15” long.
- Completely blank blue ballot stock. The ballot should be 9.75” wide and at least 15” long.
- Compact flash card inserted into VAT with any valid election data on it.

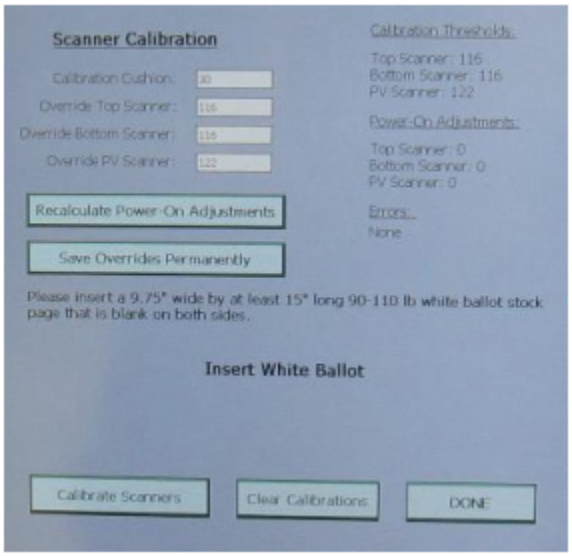
Take the following steps to calibrate scanners.

1. Install 9.75” input tray into VAT.
2. Turn AutoMARK VAT on by turning key to Test Mode.
3. Select the **System Maintenance** button and enter the password.

4. Select the **Scanner Calibration** button. The Scanner Calibration screen will appear.

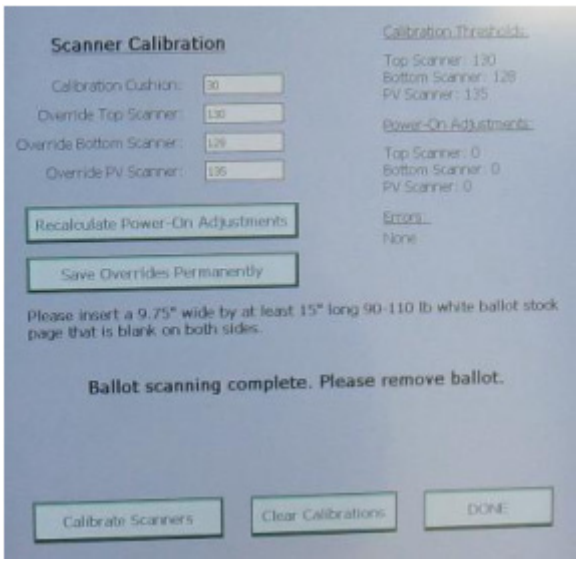


5. Press **Recalculate Power-On Adjustments** to rerun the power on tests that are conducted to counter variations in temperature. Those values are shown on the right side of the screen.
6. Press **Save Overrides Permanently** to save any manual entries entered into the text boxes. The text boxes can be adjusted by touching the textbox directly using the touch-screen. These values should not be adjusted unless there are problems with the automatic calibration process.
7. Press **Calibrate Scanners**.
8. The message “Insert White Ballot” will appear on the screen.



9. Feed the completely blank white ballot into the input tray. If the ballot is scanned correctly, the following messages will appear.

The ballot will be returned to you.



10. The message “Insert Blue Ballot” will appear. Repeat step 9 using the completely blank blue ballot.
11. Press **DONE** after scanner calibration is complete.
12. If the AutoMARK terminal has problems feeding, scanning or recognizing either the white or blue ballot, manually adjust the **Override Top Scanner**, **Override Bottom Scanner**, and **Override PV Scanner** text fields to the value 110.
13. Press the **Save Overrides Permanently** button.
14. Redo this scanner calibration procedure.

Part 4: Election Set Up and Definition

Part 4 contains information about the following topics.

- 4.1 Programming and Configuration of Election Management System/ Software, Including Audit Records to be Generated and Retained
- 4.2 Programming and Configuration of Vote Recording/Tabulation Devices Including Audit Records to be Generated and Retained
- 4.3 System Diagnostic Testing Procedures, Including Audit Records to be Generated and Retained
- 4.4 System Proofing
- 4.5 Logic and Accuracy Testing of System and Components
- 4.6 Ballot Tally Programs
- 4.7 Election Observer Panel
- 4.8 Hardware Maintenance and Preparation for Use

4.1 Programming and Configuration of Election Management System/Software, Including Audit Records to be Generated and Retained

Section 4.1 provides information about using ES&S Election Data Manager (EDM) and ES&S Image Manager (ESSIM) to create your county and election databases and to set up the appearance of your ballots. Setting up and using EDM and ESSIM consists of the following procedures.

- 4.1 Section A: Create a Unity File Structure
- 4.1 Section B: Create a County Database
- 4.1 Section C: Create an Election Database
- 4.1 Section D: Add Ballot Text and Questions
- 4.1 Section E: Set up Polling Places and Ballot Style Information
- 4.1 Section F: Create Election Files
- 4.1 Section G: Reports
- 4.1 Section H: Back Up EDM Files
- 4.1 Section I: ES&S Image Manager Introduction
- 4.1 Section J: ES&S Image Manager Menus
- 4.1 Section K: Ballot Layout File
- 4.1 Section L: Style Sheets
- 4.1 Section M: Ballot Frames
- 4.1 Section N: Interface Files
- 4.1 Section O: Generate a PDF File
- 4.1 Section P: Ballot On Demand
- 4.1 Section Q: Automatic Test Decks
- 4.1 Section R: Back Up ESSIM Files
- 4.1 Section S: Troubleshooting
- 4.1 Section T: System Messages
- 4.1 Section U: Reports
- 4.1 Section V: Importing Unity Data for AutoMARK

4.1 Section A: Create a Unity File Structure

ES&S recommends that you use a standard filing system to store election data for your jurisdiction. Follow the instructions in this chapter before you configure election database folders on your computer.

Election Data Manager File Structure

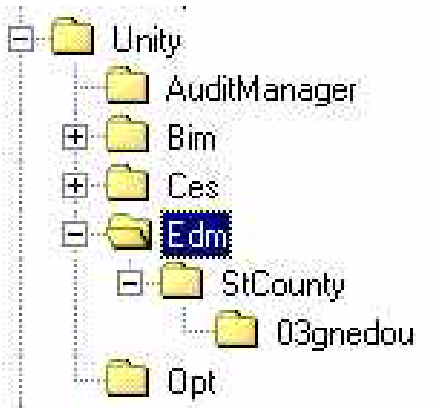
Store data for multiple elections in your Unity election database.

Election Data Manager automatically creates the file structure for your jurisdiction when you build a county database and create an election.

Refer to 4.1 Section B: Create a County Database for information about creating a new county.

Refer to 4.1 Section C: Create an Election Database for information about creating a new election.

Start Windows Explorer and locate the folder where you installed Election Data Manager. If you installed your program to the default location, open C:\Unity\EDM to view Election Data Manager files.



The county folder appears below the Election Data Manager folder. If you follow the instructions for creating a county in chapter two, the county folder name is an eight-character code that identifies the state and county of the election files that the folder contains. The first two characters of the folder name represent the state code for your jurisdiction (for example, “NE” for Nebraska) and the last six characters are the first six letters of the county name (for example, “Dougla” for Douglas County). The file structure for Election Data Manager should look like the example above (if “St” is the state postal code and “county” is the county abbreviation) when you view your files in Windows Explorer.

NOTE: The folder beneath the county folder is the election folder.

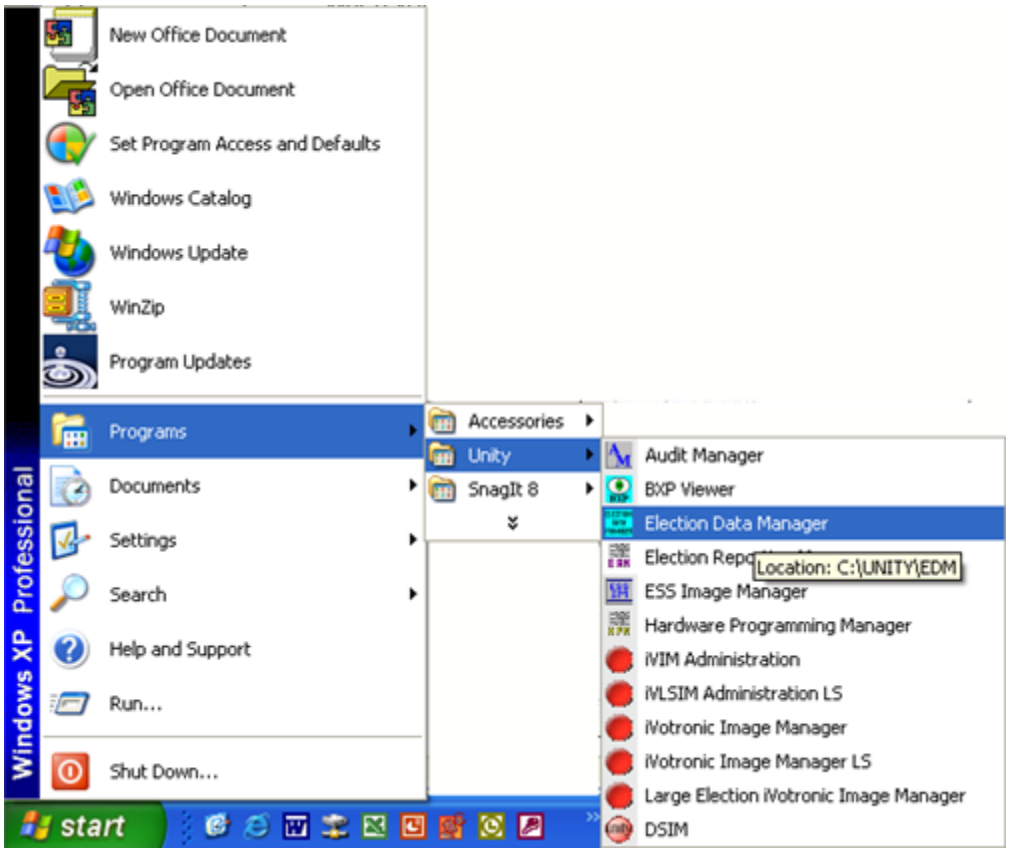
Refer to 4.1 Section C: Create an Election Database for instructions for creating an election folder.

Start Election Data Manager

You can use Audit Manager to assign passwords that limit access to your Unity programs. If you assign a password to Election Data Manager, you must enter the password before you can start the program.

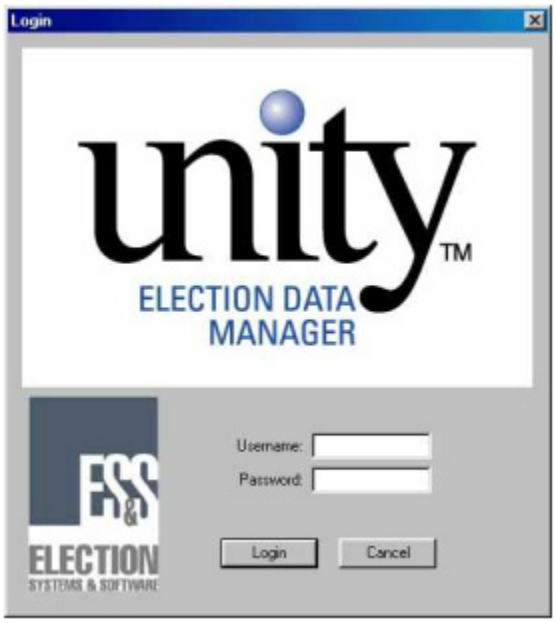
Election Security Requirement: The Audit Manager module provides security for your election. The California Secretary of State requires that you always use Audit Manager. Do not share user names or passwords, and change them frequently.

1. Click **Start** on your Windows task bar, point to **Programs** and point to **Unity**.



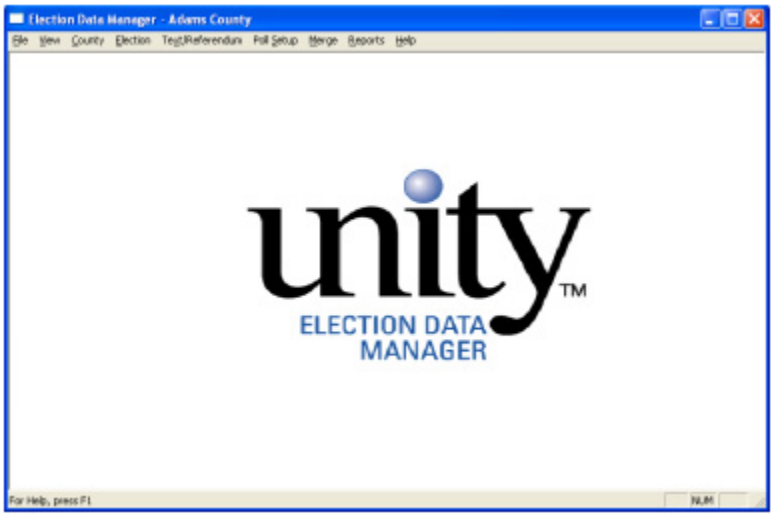
2. Click **Election Data Manager**.

If you activated Unity passwords in Audit Manager, a password entry screen appears.



3. Type your user name and password in the boxes and click **Login** to open the Election Data Manager information window.

4. Click **OK** to access the Election Data Manager main screen.



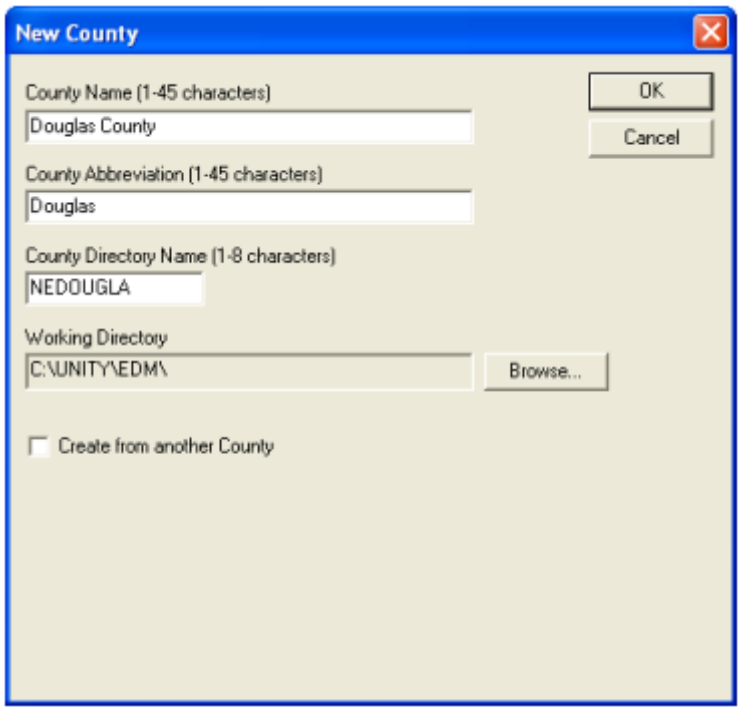
4.1 Section B: Create a County Database

Create a county database to store office, party and candidate information for your jurisdiction. You can reuse the jurisdiction and office information stored in your county database for all of your future elections. Enter all of the data for your jurisdiction's four-year election cycle to take full advantage of Election Data Manager's reusable data. The more information that you include when you initially enter information into Election Data Manager, the easier it will be to program future elections.

Create a County Database Folder

Election Data Manager automatically creates a folder for your jurisdiction in C:\Unity\EDM when you generate a new county in the program. Election Data Manager stores all of the data for your jurisdiction in the county folder.

1. Under the **File** menu, click **New County** to open the New County window.



2. In the **County Name** box, type the jurisdiction name that will appear on your election reports.
3. Type jurisdiction name will appear on your ballots in the **County Abbreviation** box (45-character maximum). Leave the **County Abbreviation** box blank if your jurisdiction does not place county names on ballots.

4. In the **County Directory Name** box, use all capital letters to type the name of the county folder that Election Data Manager creates in C:\Unity\EDM.

   Type your state's postal code as the first two letters of the eight-character County Directory Name. Use the first six letters of your county's name as the last six letters of the county code. For example, type "CAMARIN" in the **County Directory Name** box for Marin County, California. Use all capital letters when you type the code name so that Hardware Programming Manager recognizes the folder.

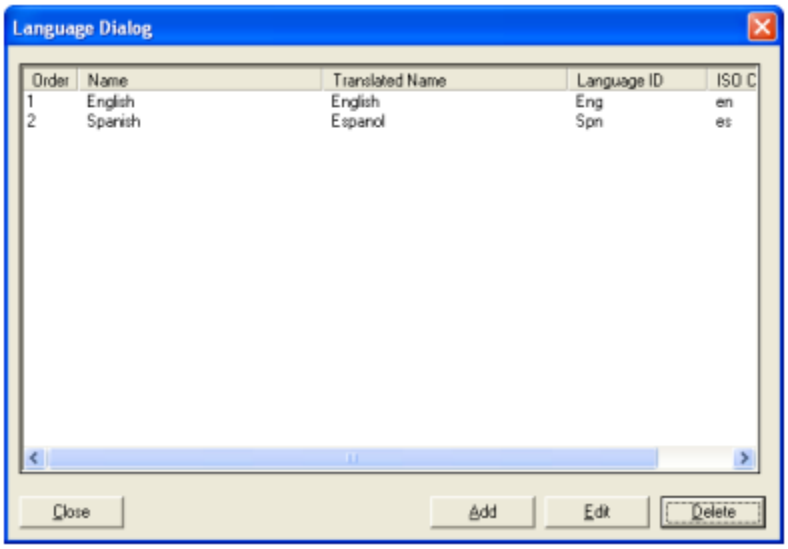
5. Click **Browse** next to the **Working Directory** box to set the location where Election Data Manager will create your county folder. ES&S recommends that you select the default folder location (C:\Unity\EDM).
6. Click **OK** to create your county database or click **Create from another County** to use election information from another county to create the database for your jurisdiction.

Use the commands under the **County** menu to customize your county database. Use the county database to store all of your jurisdiction's election information for future use.

Ballot Languages

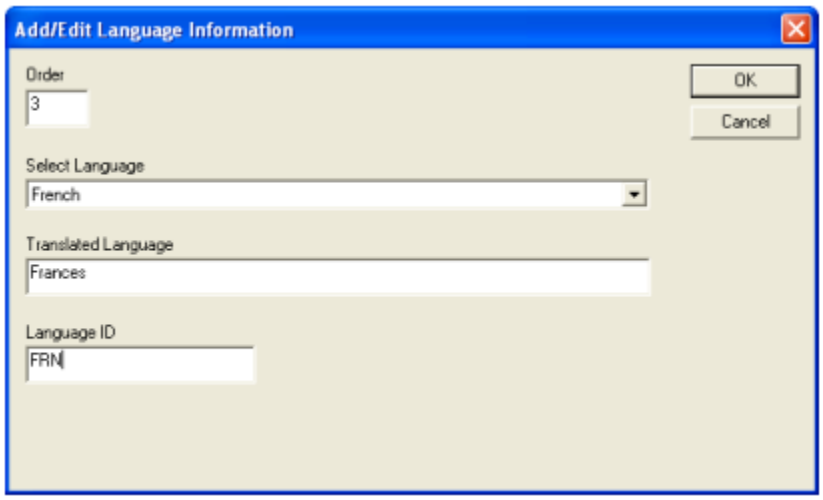
When you select **ESS Image Manager** as your **Ballot Type**, you can use the **Language** command under the **County** menu to include multiple languages on your ballot. Take the following steps to create or edit ballot languages

1. Under the **County** menu, select **Language** to open the Language Dialog window.



From left to right, the Language Dialog window displays information in the following lists: **Order**, language **Name**, **Translated Name**, **Language ID** and **ISO Code**.

2. Click **Close** to return to the main screen or click **Add** to add a ballot language to your election. Select an existing language and click **Edit** to change your language options or select a language and click **Delete** to remove a language form the list. Click **Add** or **Edit** to open the Add/Edit Language Information window.



3. In the **Order** box, type a number to set the position of the selected language relative to the other languages on your ballot. The lower the number, the higher the selected language appears on your ballots. Always set the **Order** for English at one.
4. Select a ballot language from the **Select Language** list. Election Data Manager supports the following ballot languages:

• English	• German	• Spanish
• Chinese	• Italian	• Tagalog
• Creole	• Japanese	• Vietnamese
• Dutch	• Korean	
• French	• Portuguese	

5. In the **Translated Language** box, type the name of your language as it appears in the selected language. For example, type “Espanol” in the **Translated Language** box if you selected **Spanish** from the **Select Language** list.

6. Type a three-character language code in the **Language ID** box. Ballot layout artists use the language code in ES&S Image Manager to place additional languages on the ballot.
7. Click **OK** to save the settings for your selected language and enter preferences for an additional language.
8. Click **Cancel** after you click **OK** to return to the Language Dialog window.

NOTE: Election Data Manager automatically enters the ISO code in the Language Dialog window based on the language that you select from the **Select Language** list.

Political Parties

Use the **Parties** command under the **County** menu to enter party information in your county database. Enter your party names and a party number in the order that you want the names to appear on the ballot.

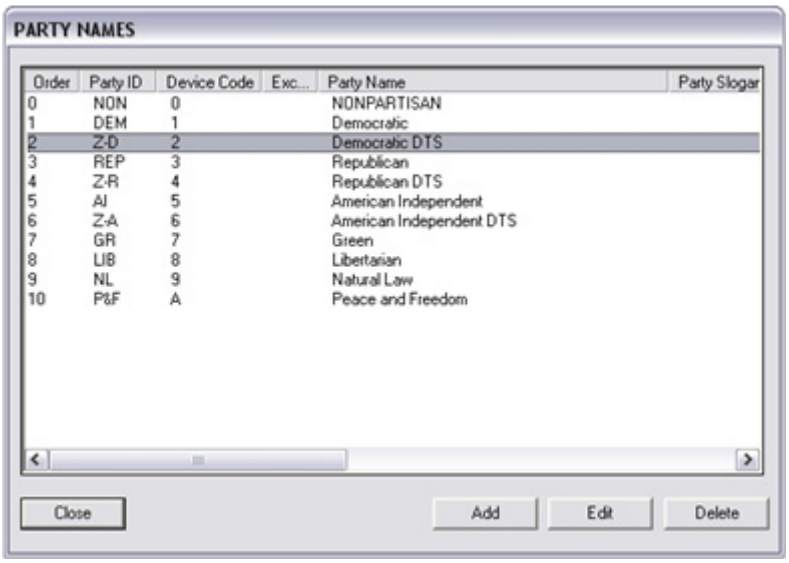
Refer to the Manage Offices in the Jurisdiction Database heading in this chapter for more information about candidate rotation

NOTE: Election Data Manager includes a pre programmed “NONPARTISAN (NON)” party in the party list, used to classify ballots for general elections and control the format of nonpartisan contests. The nonpartisan party name is uppercase by default, but you can change the name to lowercase if necessary.

Adding, Editing and Deleting Parties from your County Database

Use Election Data Manager’s political party options to add, edit and delete party information from your jurisdiction’s database. You cannot remove the pre-programmed nonpartisan party from the database.

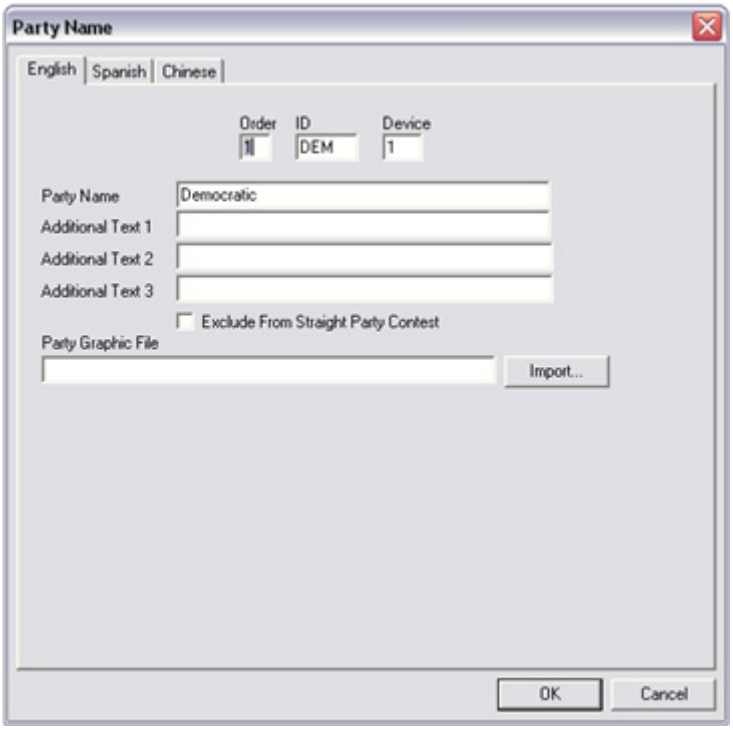
1. Under the **County** menu, select **Parties** to open the PARTY NAMES window.



From left to right, the PARTY NAMES window displays information in the following lists: **Order**, **Party ID**, **Device Code**, **Exclude from Straight Party**, **Party Name**, **Party Slogan**, **Text 2** and **Text 3**.

2. Click **Close** to return to the Election Data Manager main screen without updating your party file. Select a party and click **Delete** to remove a party from your jurisdiction's database.

Click **Add** or select a party name and click **Edit** to open the Party Name window.



Party Identification Data

Enter party identification information in the top portion of the Party Name window. Hardware Programming Manager and ES&S Image Manager use party identification data to recognize party information in your election database.

1. In the **Order** box, type a party sequence number. The sequence number determines the order that party names appear in the straight party list and the order that candidates appear in ballot contests when you use party order to position your candidates. For example, type “1” in the **Order** box to place the selected party first in the straight party list and assign candidates from the selected party the first position in each ballot contest. Assign sequence numbers if your jurisdiction uses paper ballots or optical scan ballots that do not require exact candidate positioning.
2. In the **ID** box, enter the three-letter party abbreviation that Hardware Programming Manager and ES&S Image Manager use to recognize the political parties in your election.
3. In the **Device Code** box, type a value that differentiates the ballots for each of your political parties in a primary election.

Device codes are restricted to one character in length, and only 20 device codes can be used in an election. Use characters 1-9 and then A-K.

NOTE: Assign the pre-programmed nonpartisan party the last political party sequence number and type 0 in the **Device Code** box to make sure that your nonpartisan contests appear on the correct ballots.

Additional Party Information

Enter the name of your political party and enter additional party text in the lower portion of the Party Name window.

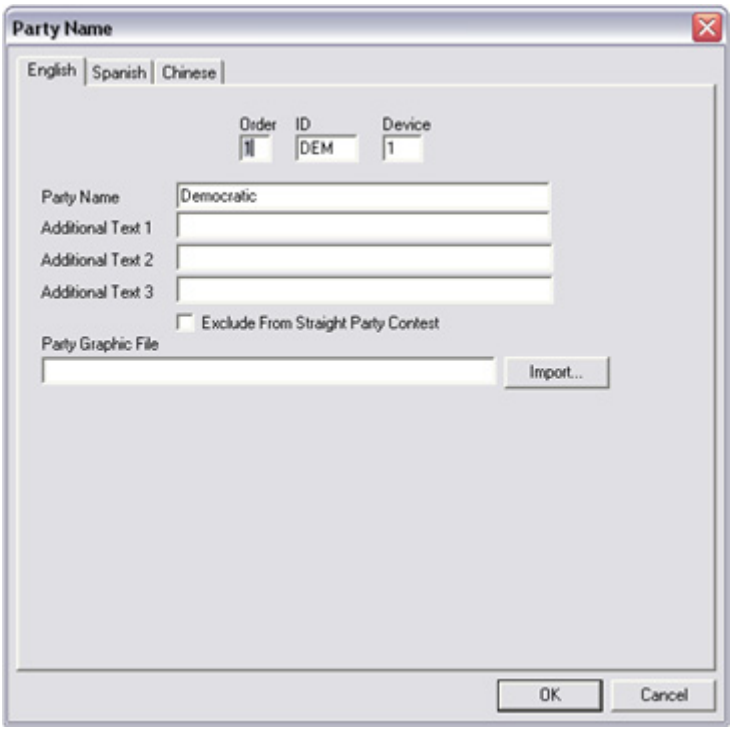
1. In the **Party Name** box, type the full name of your political party (Democratic, for example).
2. In the **Additional Text** boxes, enter additional party text such as abbreviations or party slogans.

The **Exclude from Straight Party** and **Party Graphic File** options are not used in California.

Party Data for Additional Ballot Languages

Use the language tabs at the top of the Party Name window to create party information for each of your ballot languages.

1. Select a tab for an additional ballot language to open a data entry window for your language.

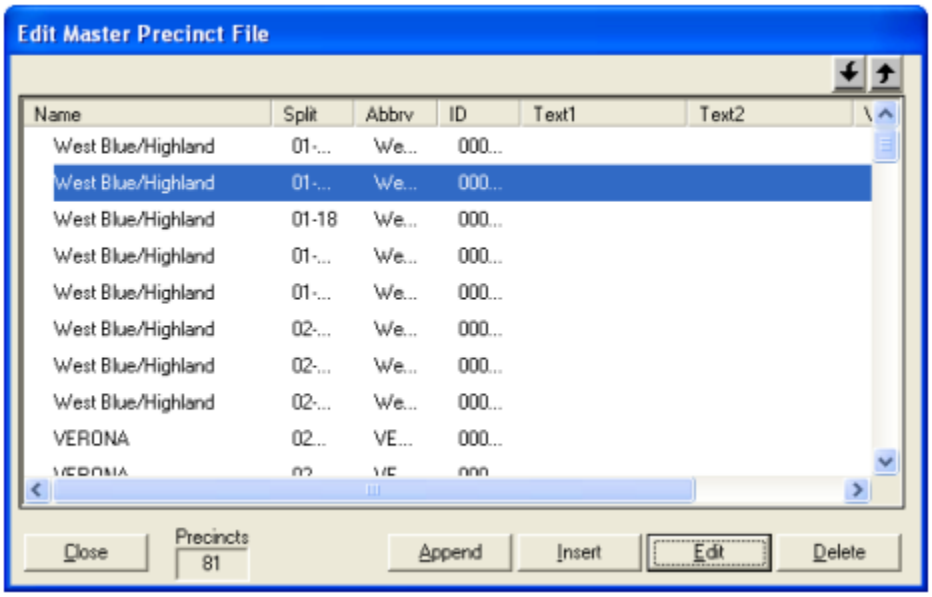


2. In the **Party Name** box, type the name of your selected party translated into your additional ballot language.
3. In the **Additional Text** boxes, type additional party text translated into the selected language.
4. Click **OK** to save your settings and return to the Party Names window.
5. Click **Close** in the Party Names window after you add the last party to your county database to return to the Election Data Manager main screen.

Precincts

ES&S uses the term “precinct” to describe the smallest political subdivision in a jurisdiction. Use the **Precincts** command under the **County** menu to identify the subdivisions in your jurisdiction. Take the following steps to add or edit a precinct.

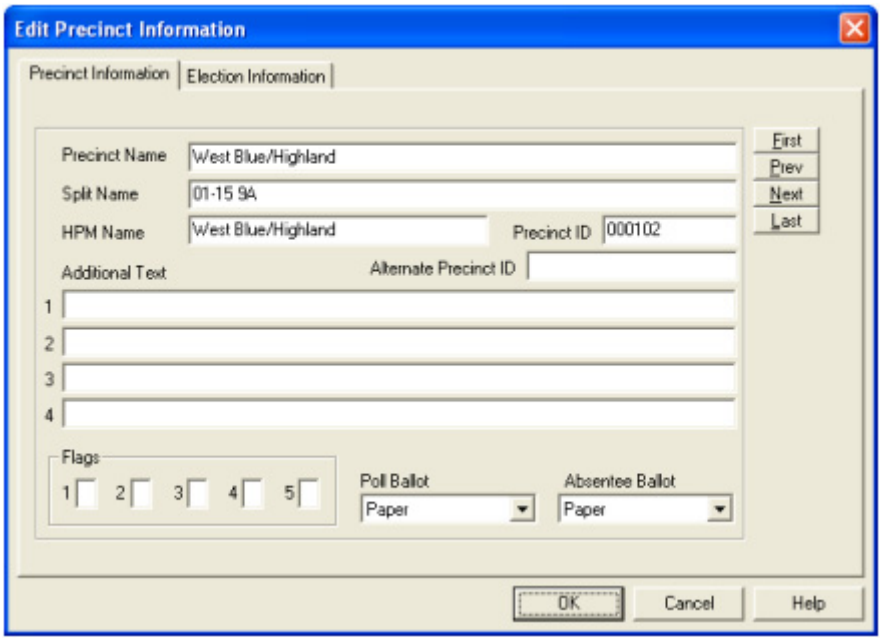
1. Under the **County** menu, select **Precincts** to open the Edit Master Precinct File window.



From left to right, the Edit Master Precinct file window displays precinct information in the following lists: **Precinct Name**, **Split Number**, **Precinct Abbreviation**, **Precinct ID Number**, **Additional Text 1**, **Additional Text 2**, the number of registered voters in the precinct, the precinct sequence number and the **Split Code**. The total number of precincts stored in your jurisdiction database appears in the **Precincts** box to the right of the **Close** button.

Select a precinct and click **Delete** to remove the precinct from your database. Click **Append** to add a new precinct to the end of the master list or select a precinct and click **Edit** to alter an existing precinct file. Select a precinct and click **Insert** to add a new precinct directly above the selected precinct on your list.

2. The Edit Precinct Information window appears if you select **Append**, **Edit**, or **Insert**.



Edit Precinct Identifiers

In the top portion of the Edit Precinct Information window, configure precinct identification information.

1. In the **Precinct Name** box, type the full name of your precinct. Add precinct records to your county database in the same order that you want precinct results to appear on election reports.

NOTE: Hardware Programming Manager reads names from the **HPM Name** box to identify precincts. The name in the **Precinct Name** box automatically appears in the **HPM Name** box if you press TAB to navigate the Edit Precinct Information window.

2. A split precinct is a precinct that requires more than one ballot style to account for a subdivision within the precinct. In the **Split Name** box, type a precinct number and a split number to identify such a division in your precinct.

   For example, if your county contains a precinct called Lincoln Township with two splits, type 01-01 in the **Split Name** box for the first split, create a second, identical, precinct record for Lincoln Township and type 01-02 in the **Split Name** box to designate the second split. Do not assign split numbers to precincts without splits.

NOTE: In split precincts, a geographic portion of the precinct falls into a different voting jurisdiction than the rest of the precinct. For example, if a portion of Lincoln Township falls within a separate school district than the rest of the precinct, residents of the township vote a split ballot for school contests even though the rest of the ballot may be identical.

3. In the **Precinct ID** box, type a six-digit numeric code to identify your precinct. Hardware Programming Manager and Election Reporting Manager read the six-digit **Precinct ID** code to identify precincts and splits. Type the identification number for your precinct as the first four numbers in the **Precinct ID** box and enter the split number as the last two numbers.

   For example, if the identification number for Lincoln Township is ten, type 001002 in the **Precinct ID** box for Lincoln Township, split two. Type 00 at the end of the precinct identifier for precincts that are not split.

The **Alternate Precinct ID** is not used in California.

Additional Text and Ballot Flags

Use the **Additional Text** boxes in the Edit Precinct Information window to include precinct descriptions on your ballot.

1. In the **Additional Text** boxes, type precinct text, polling place names or extra ballot information that you want to place with the name of your precinct on your ballots. Polling place names only appear on the ballot if you include type the names in the **Additional Text** boxes in the Edit Precinct Information window. You can enter up to 80 characters in each **Additional Text** box.

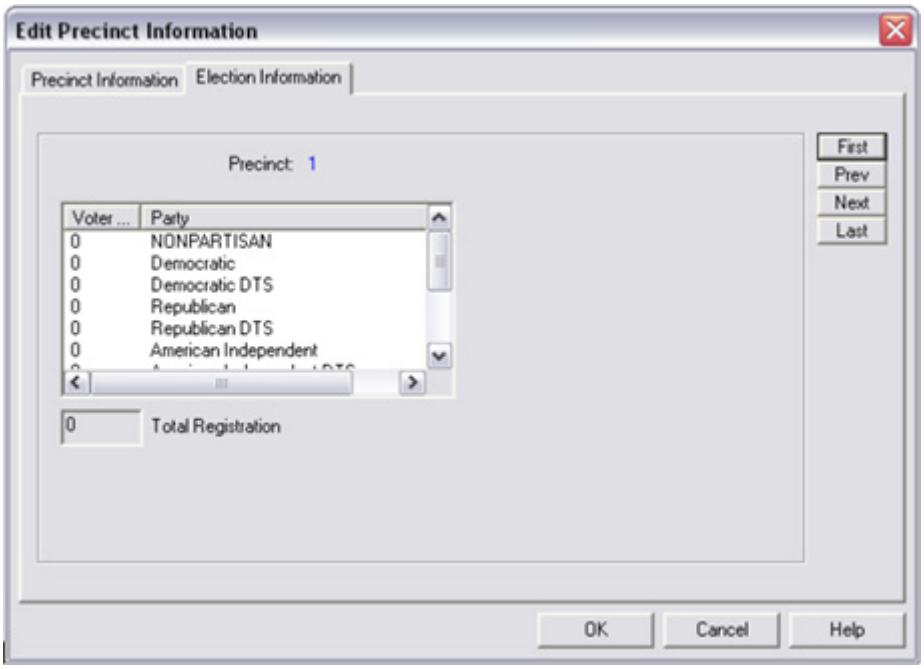
NOTE: Leave the **Flag** boxes blank. They are used only for Shoup or AVM ballots, which are no longer available.

The **Poll Ballot** and **Absentee Ballot** options are not used in California.

Election Information (Optional)

Use the options under the **Election Information** tab to enter registered voter totals for your jurisdiction and to select the method Election Data Manager uses to generate ballot codes. Take the following steps to enter election information.

1. Click the **Election Information** tab to access the election information options in the Edit Precinct Information window.



2. *Triple-click* the zero next to the party name whose registered voter totals you want to update. A box appears around the party total indicating that Election Data Manager is ready for you to enter totals.

3. Enter the number of registered voters for each party in your selected precinct. Press ENTER after you enter each party total to update the **Total Registration** value at the bottom of the window. Enter registered voters by party when you program a primary election. Enter a single voter total in the pre programmed “NONPARTISAN” category when you program a general election.

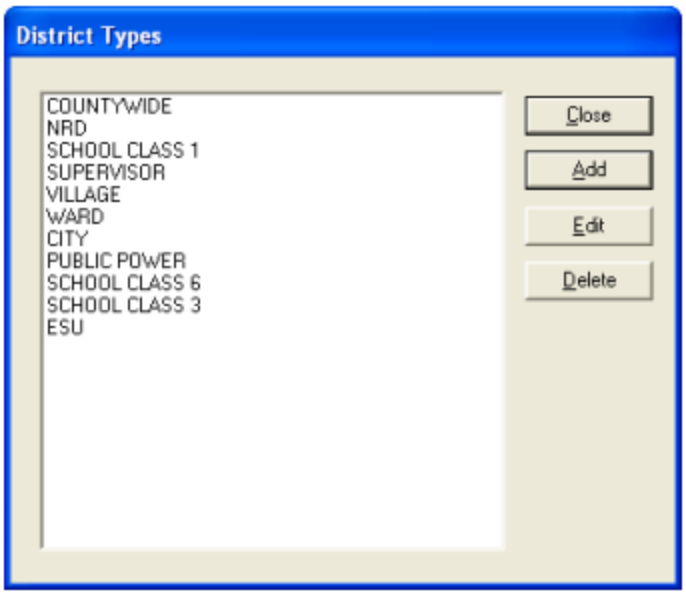
NOTE: Enter registered voters by party when you program a primary election.

4. Use the **First**, **Prev**, **Next** and **Last** buttons on the right side of the window to navigate your precinct list without leaving the Edit Precinct Information window. Click **OK** to save your settings and return to the Edit Master Precinct File window. Click **Cancel** to return to the Edit Master Precinct File window without saving your settings. Click **Close** in the Edit Master Precinct File window to return to the Election Data Manager main screen.

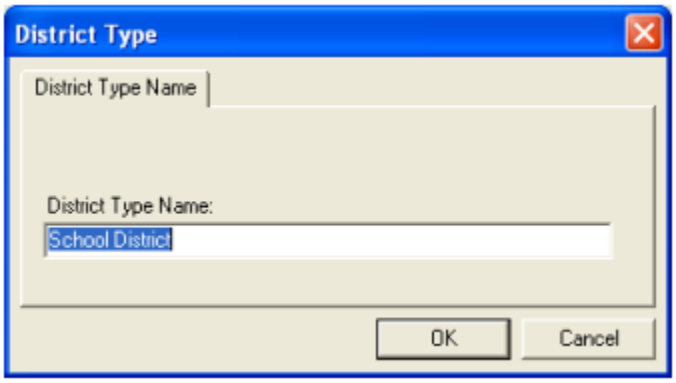
District Types

Election Data Manager organizes offices according to district type. Use the **District Types** command under the **County** menu to define the district types in your jurisdiction To add district types to your database

1. Under the **County** menu, select **District Types** to open the District Types window.



2. Click **Close** to return to the Election Data Manager main screen without adding district types or click **Add** to create a new district type in your jurisdiction database. Highlight a district type and click **Delete** to remove the selected type from your database or click **Edit** to change the settings for the selected district. The District Type window appears if you select **Add** or **Edit**.



3. In the **District Type Name** box, enter the name for your district type and click **OK** to add the district type to your county database.

NOTE: Create a countywide district type to link offices contested county wide to every ballot in your jurisdiction. Type “COUNTY” in the **District Type Name** box and click **OK** to add a countywide district type to your database.

4. Add all of your jurisdiction’s district types in the District Type window.
5. Click **Close** to return to the District Types list.

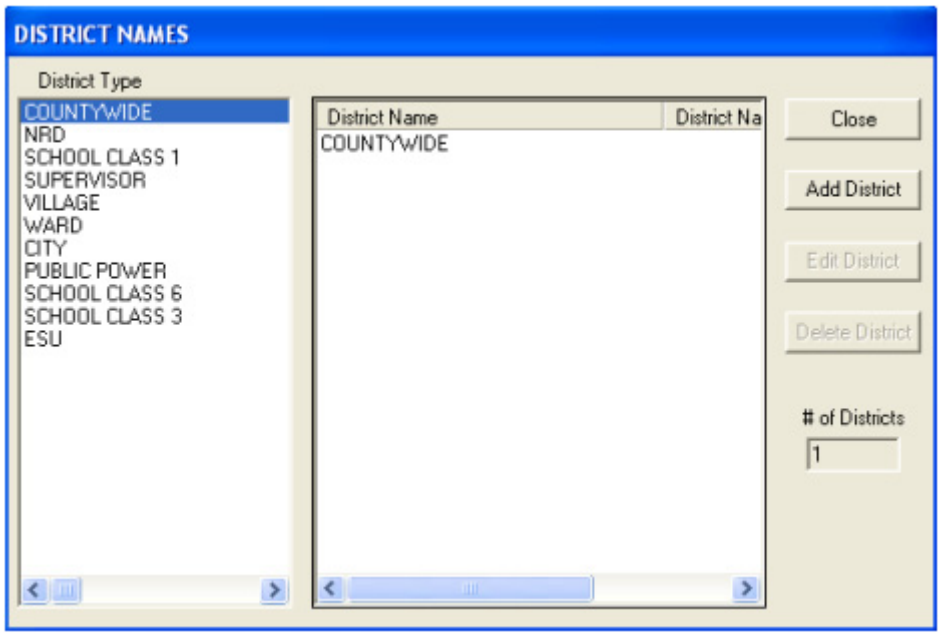
NOTE: Remember to click **OK** to save your last district type to your database before you click **Close** to exit the District Type window.

6. Click **Close** in the District Types window to return to the Election Data Manager main screen.

Create Individual Districts

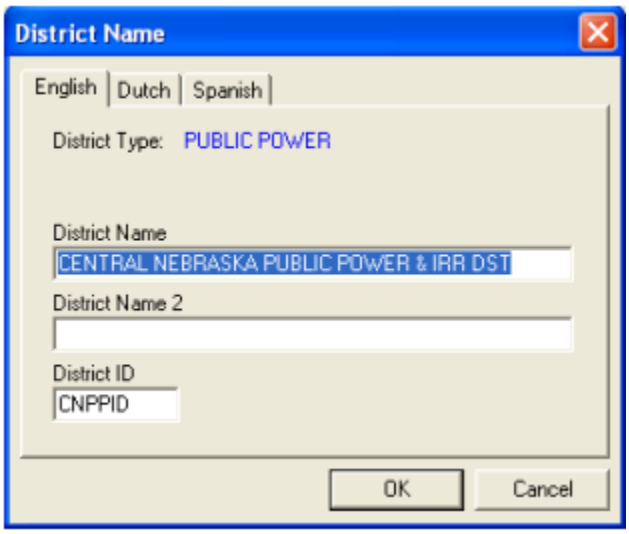
Use the **District Names** command under the **County** menu to add individual districts to your district types. Enter district names exactly as you want the names to appear on your ballots. Take the following steps to enter district names.

1. Under the **County** menu, click **District Names** to open the District Names window.



2. Select a district type in the box on the left side of the DISTRICT NAMES window. The district names linked to the selected type appear in the box on the right and the number of districts linked to the selected type appears in the **# of Districts** box.
3. Select **Close** to exit the DISTRICT NAMES window and return to the Election Data Manager main screen. Click **Add District** to create a new district linked to the selected district type. Select a district and click **Edit District** to change the settings for an existing district name or click **Delete District** to remove the selected district name from your database.

The District Name window appears if you select **Add District** or **Edit District**.



4. In the **District Name** box, type the name of the district that you want to create.

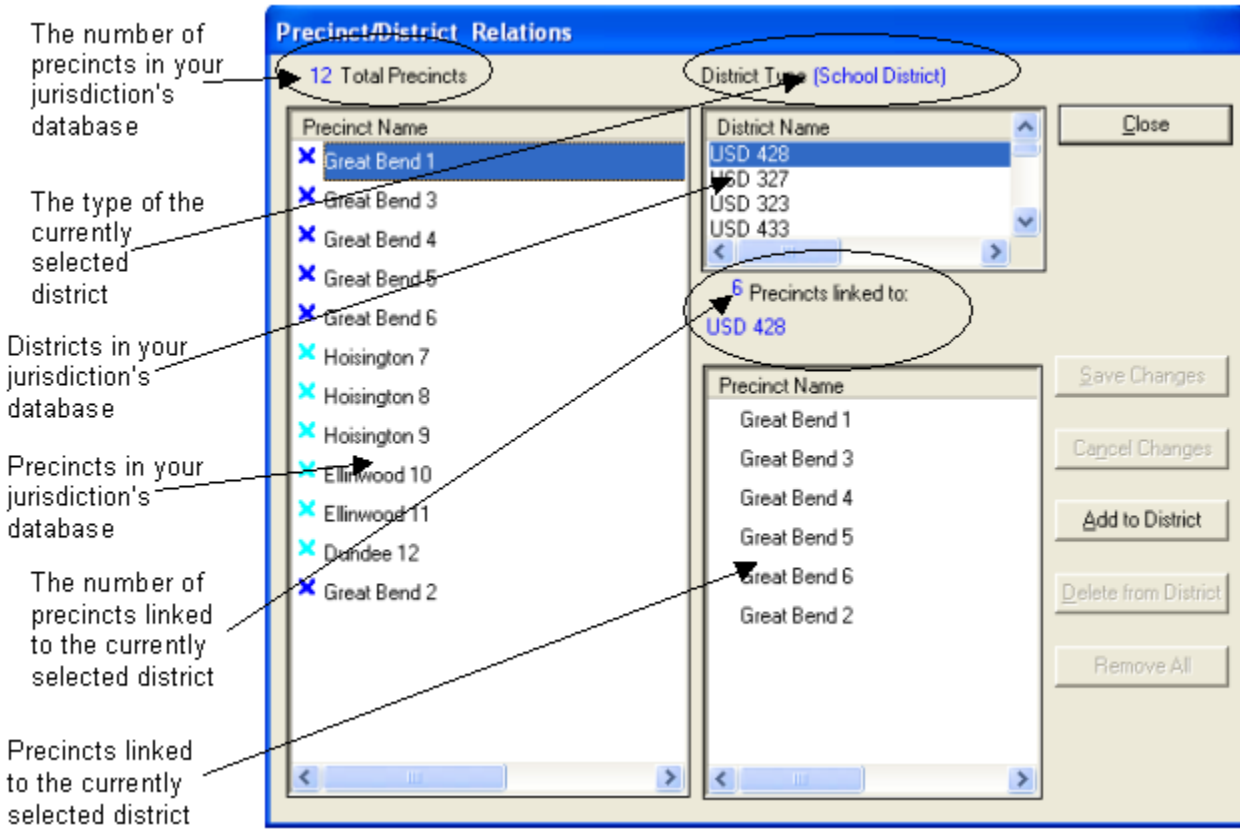
NOTE: The name of the district type linked to your new district appears in blue at the top of the window.

5. If needed, type additional district text, such as a district abbreviation, in the **District Name 2** box. (This field is optional.)
6. In the **District ID** box, type the seven character district code that Image Manager and Hardware Programming Manager will use to recognize your district. Type a three character district abbreviation followed by a four-character district identification number. For example, type “CNG0075” for the 75th Congressional District. Type “COUNTY” in the **District ID** box to create a district name to link to your countywide district type.
7. Click **OK** to save your district name settings and begin entering information for a new district linked to the selected district type. Click **Cancel** after you create all of the districts for the selected type to return to the District Name window.

District Relations

Use the **District Relations** command under the **County** menu to link the districts that you created with the **District Names** command to the precincts in your jurisdiction. The relationships that you set up between your districts and precincts determine which contests appear on which ballots in your jurisdiction. Take the following steps to assign district relationships.

1. Open the **County** menu and click **District Relations** to access the Precinct/District Relations window. The following graphic includes descriptions of the elements that appear in the Precinct/District Relations window.



2. In the **District Names** list, select a district and then hold the **Ctrl** key and click each precinct in the **Precinct Name** list that you want to link to the selected district.

NOTE: The **Add to District** button is inactive until you select a precinct from the **Precinct Name** list.

3. Click **Add to District** to save the Precinct/District links to your jurisdiction's database. Precincts linked to the selected district appear in the **Precinct Name** list at the bottom right of the window. Green arrows appear next to the names of precincts recently linked to the district.
4. Click **Save Changes** after you link all of the necessary precincts to your selected district. Dark blue Xs appear next to precincts linked to the selected district. Light blue Xs appear next to precincts linked to districts that share the same type as the selected district. Red Xs appear next to the names of precincts linked to two or more districts that share the same type.

NOTE: Save your changes each time you link precincts to an individual district so that you can view the status of your precincts when you link files to the next district.

5. Select your next district from the **District Name** list in the top right corner of the Precinct/District Relations window and use the instructions above to link precincts to your district.

NOTE: If you created a countywide district, remember to link all of your precincts to your “COUNTY” district.

Delete District Relations

Remove links between districts and precincts to correct erroneous links or delete a district relationship.Take the following steps to remove a district relationship.

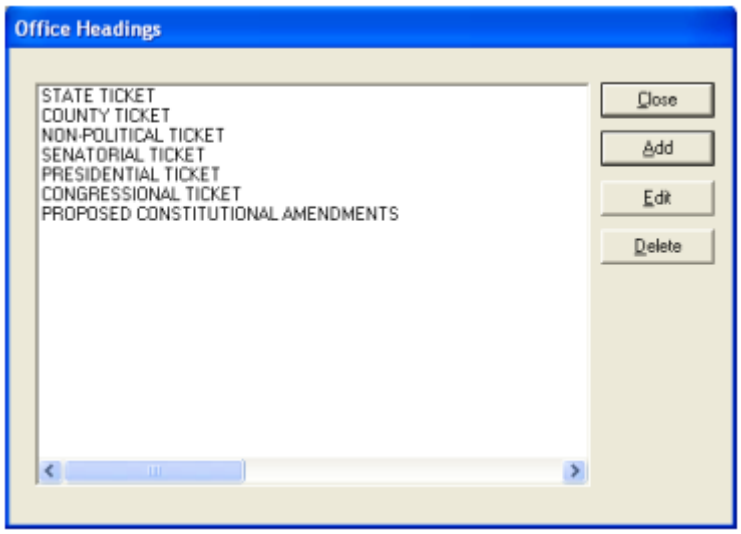
1. Under the **District Name** list at the top right of the Precinct/District Relations window, select the district relationships you want to delete.
2. Select the precinct that you want to remove from the **Precinct Name** list at the bottom right of the window.
3. Click **Delete from District** to remove the precinct. Click **Save Changes** to save your settings.

NOTE: To remove all of the precincts links from a district, select a district and then select the first precinct linked to the district in the **Precinct Name** list at the bottom right of the window. Click **Remove All** to remove all of the precinct relationships from the selected district.

Office Headings

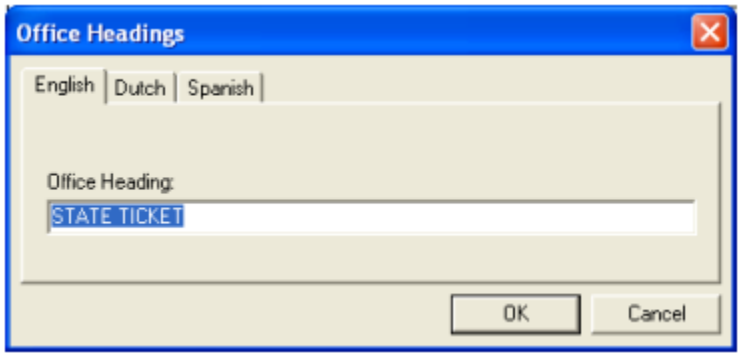
Some jurisdictions group contests on ballots by category (such as Federal, Local, and Judicial). Offices appear under office headings that identify the each office’s category. Use the **Office Headings** command under the **County** menu to create category headings for your offices. Take the following steps to create office headings.

1. Under the **County** menu, click **Office Headings** to access the Office Headings window.

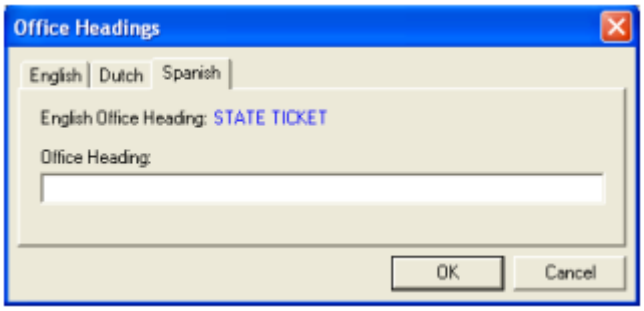


2. Click **Close** to return to the Election Data Manager main screen. Click **Add** to create a new office heading for your jurisdiction database. Select an existing office heading and click **Edit** to change the settings for your heading or click **Delete** to remove the selected heading from your database.

   An edit window appears if you click **Add** or **Edit** in the Office Headings window.



3. In the **Office Heading** box, type the name of the ballot category that you want to add to your jurisdiction database. If your jurisdiction uses scanning equipment that allows additional language configuration in Election Data Manager, click a tab for an additional language to create translated header text.



4. Enter translated text for each of the languages included on your ballots. Click **OK** to save your settings and create your next ballot heading. Click **Cancel** to return to the Office Headings window without saving your settings.

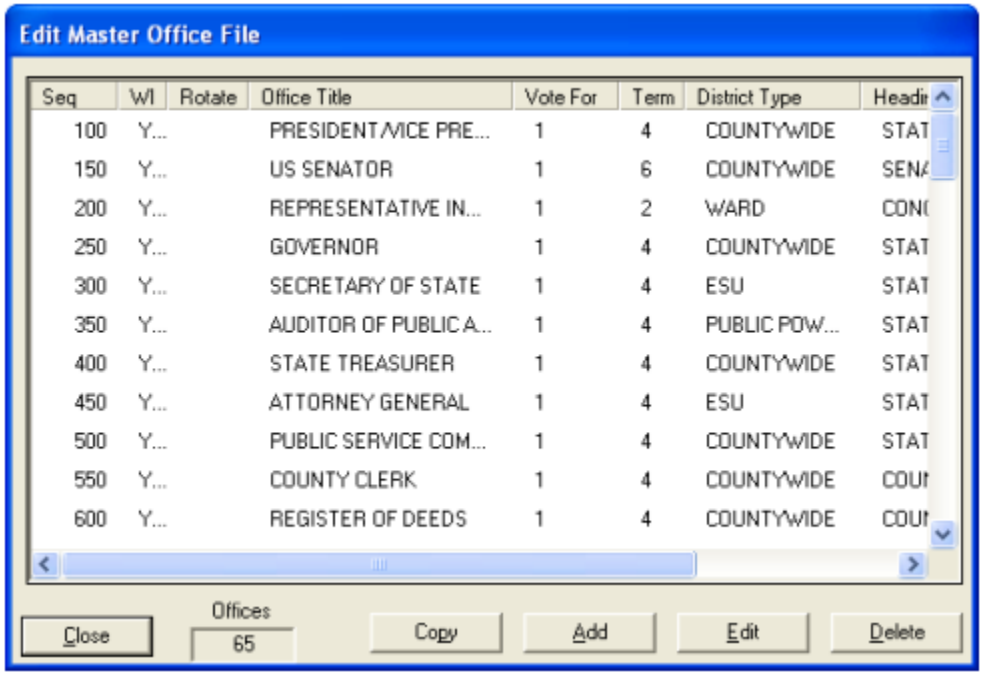
NOTE: Click **OK** to save your last heading before you click **Cancel** to return to the Office Headings window.

5. In the Office Headings list, click **Close** to return to the main screen.

Manage Offices in the Jurisdiction Database

Select **Master Office File** under the **County** menu to manage the offices in your jurisdiction database. Use the office information from your jurisdiction database to create office configurations for individual elections. Create all of the offices contested in a four-year election cycle in your jurisdiction database. Hardware Programming Manager and ES&S Image Manager use office identification information from the master office file to position contests on your ballots and tabulate election results. Take the following steps to manage offices in your jurisdiction database.

1. Click **Master Office File** under the **County** menu to open the Edit Master Office File window.



From left to right, the Edit Master Office File window contains the following headings: **Sequence Number**, **Write-in Line**, **Rotation**, **Office Title**, **Vote for Number**, **Term Length**, **District Type**, **Office Heading** and **Party**. The number of offices stored in your jurisdiction database appears at the bottom of the window.

2. Click **Close** to return to the Election Data Manager main screen. Highlight an office and click **Copy** to duplicate an office setting. Click **Add** to create a new contest in your jurisdiction database. Select an existing office and click **Edit** to change the office settings or **Delete** to remove the office from your database.

   The Edit Office Information window appears if you click **Add** or **Edit**.

Contest Information

Use the options at the top of the Edit Office Information window to enter office identification information, “vote for” numbers and the term limit of the office. Take the following steps to enter contest information.

1. In the **Office Title** box, type the name of your contest, such as “For President of the United States” as you want the name to appear on your ballots. The text that you enter in the **Office Title** box appears on your ballots and on Election Reporting Manager reports.

2. Press TAB to advance to the **HPM Office** box. The office name that you entered in the **Office Title** box automatically appears in the **HPM Office** box when you use the TAB key to advance fields. The office title that you enter in the **HPM Office** box appears on the reports generated directly from your scanning equipment.
3. In the **Alternate ID** box, enter an ID for states requiring their own ID's for Secretary of State reporting purposes.
4. In the **Seq #** box, enter an office sequence number to control the order that contests appear on your ballots and in election reports. Contests with low sequence numbers appear before contests with high sequence numbers.

NOTE: Do not order your offices with consecutive sequence numbers (such as "1,2,3…"). Instead, start your sequence numbers at 100 and advance in increments of 50. For example, assign the first contest to appear on your ballot and reports a sequence number of 100 and assign the next office the sequence number of 150. You can also categorize your offices with sequence number assignments. For example, you can assign state and county offices three-digit numbers, district offices four-digit numbers and local offices five-digit numbers.

5. In the **Vote for #** box, enter the number of candidates that voters can select to fill the current office. For example, type "2" in the **Vote for #** box if voters typically select two candidates for the office in an election year. If the vote for number for an office changes from year to year, select **Edit/Add Offices for this Election** under the **Election** menu to edit the vote for setting for a single election.
6. In the **Term #** box, enter the number of years that a candidate elected in the current contest holds office. For example, type "4" in the **Term #** box to designate a four-year term for your presidential office.

Additional Office Information

Use the options under the **Additional Information** heading in the Edit Office Information window to configure write-in options and set up ballot rules in the event that no candidates contest an active contest. Take the following steps to enter additional contest information.

1. Select **Allow Write-ins** if your jurisdiction places write-in lines on ballots. The value in the **Number of Write-ins** box automatically changes to match the "vote for" number for the current office.
2. In the **Number of Write-ins** box, enter a value if the number of write-in targets required for the current office is different from the office's "vote for" limit.

3. Select the **Generate No Candidate Records** option to place a “no candidate” message beneath the text for the current office if no candidates contest the office in an election. Customize your “no candidate” message in the Merge Preferences window. Voting targets do not appear next to a “no candidate” message.

Refer to the Office Preferences heading in 4.1 Section F: Create Election Files for information about the Merge Preferences window.

4. Select **Omit if no candidates** to remove an active office from the ballot if no candidates exist for the office.
5. Select **Query Undervote** to configure precinct scanners to return ballots to the voter if this contest is undervoted.

Configure an Office

Use the options in the bottom portion of the Edit Office Information window to link your office to the correct district type, party, office heading and rotation. You can also create custom vote messages and term text in this portion of the window. Take the following steps to configure your office.

1. From the **District Type** list, select the district type that you want to link to the current office. For example, select **Federal** in the **District Type** list for a congressional contest. Link offices contested countywide to the “County” district type that you created when you generated district types. Do not link countywide offices to the default <countywide> selection in the **District Types** list.

Refer to the District Types heading in this chapter for information about generating district types.

NOTE: Select the district type list and type the first letter of the district type that you want to link to your office to select the district type. For example, type “L” in the **District Type** list to select **Legislative**. If more than one district type begins with the same letter, such as legislative and local, type the first letter of the type name additional times to cycle through all of the district types that begin with the letter.

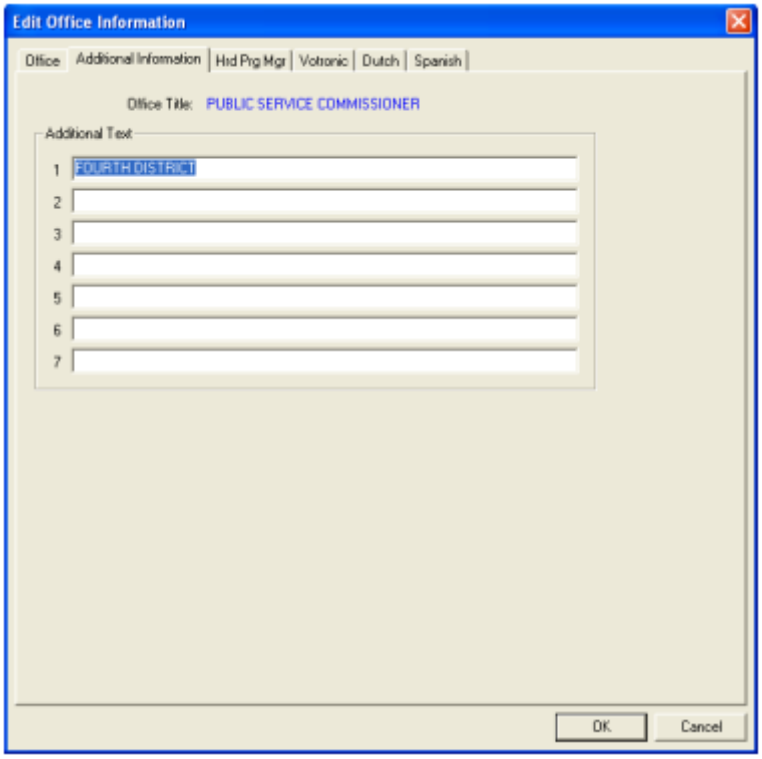
2. From the **Party** list, select the political party that you want to link to the current office. Select **All** to create an office for a general election.
3. If your jurisdiction uses office headings to arrange contests on the ballot, select a heading from the **Office Headings** list to organize the current contest beneath the selected heading.

4. Select **Assembly/Supervisory District (CA)** from the **Rotation** list.
5. Select **Assembly** from the list that appears under the **Rotation** list.

The **Vote Text** and **Term Text** fields are not used in California.

Additional Information Tab

Select the **Additional Information** tab in the Edit Office Information window to create additional office text.



Type messages in the boxes under the **Additional Information** tab to include extra office text on your ballots. Use the boxes if:

- The title for the active office is too long to fit in the **Office Title** box under the **Office** tab.
- Your ballot contains additional language and your jurisdiction uses ballot scanners that do not allow you to access additional language tabs in the Edit Office Information window.

- Your jurisdiction requires you to use variable names to place district names or precinct names with your office text. For example, type the name of the district type and the variable name for the district number (<GNAME>) in an **Additional Text** box to display the district type and number with your office text (such as Congressional District 12).

NOTE: Include hard codes with your text to format messages in the **Additional Text** boxes.

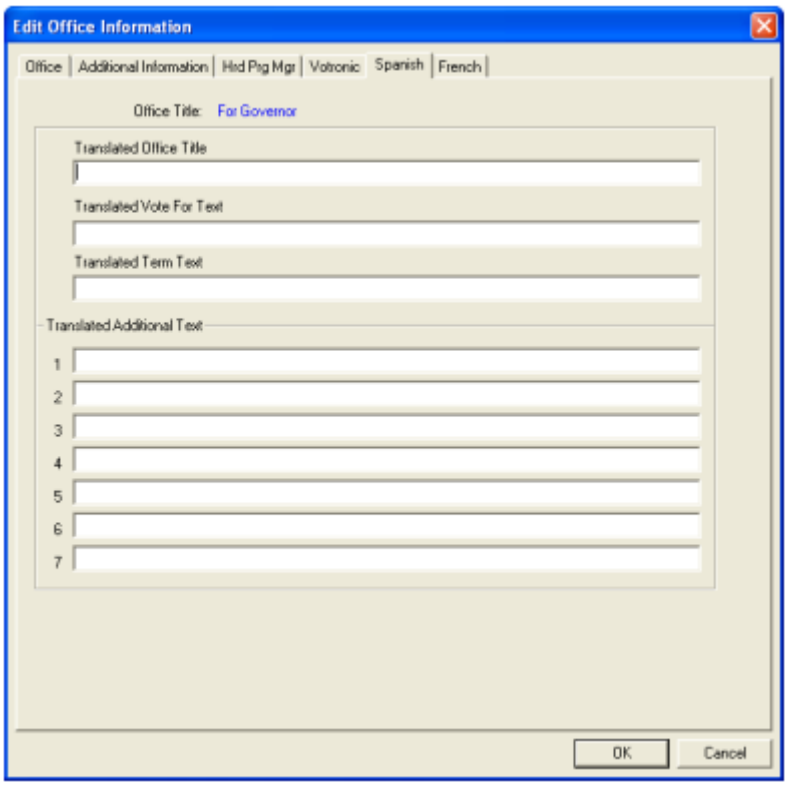
Refer to Appendix D: Hard Codes and Variable Names for a complete list of hard codes and variable name flags available in Election Data Manager.

Additional Ballot Languages for Office Text

A tab for each ballot language that you selected with the **Language** command under the **County** menu appears in the Edit Office Information window. Select options under each of the tabs to format your office text in multiple ballot languages.

Take the following steps to create office text in additional ballot languages.

1. Click the tab for an additional ballot language to open an office text translation window for the language.

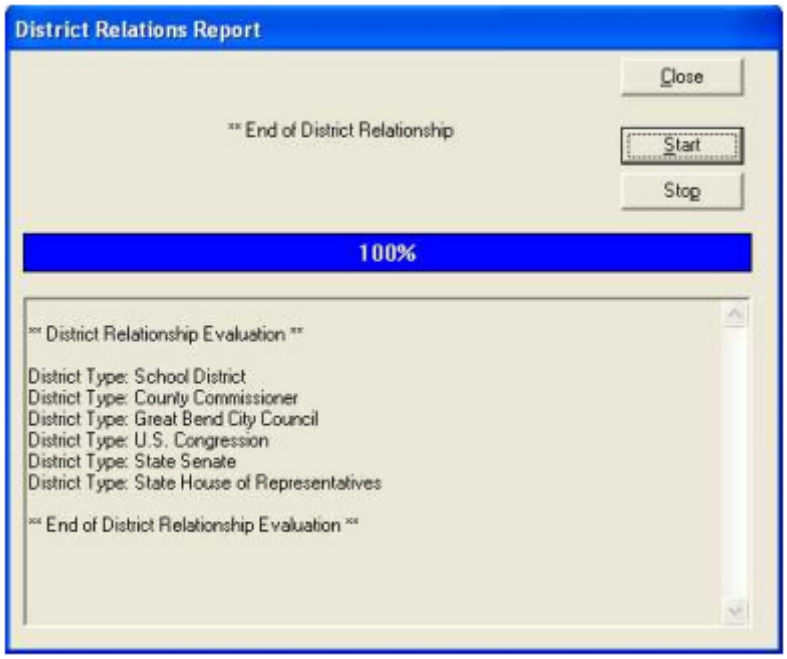


2. In the **Translated Office Title** box, type the **Office** Title that appears in blue at the top of the window translated into your selected ballot language.
3. In the **Translated Vote For Text** box, type the **Vote For Text** that you entered under the **Office** tab in your additional ballot language.
4. In the **Translated Term Phrase** box, type the **Term Text** from under the **Office** tab in the selected ballot language.
5. In the **Translated Additional Text** boxes, type **Additional Text** from under the **Additional Information** tab.
6. Click **OK** to save your office settings and begin entering information for a new office. Click **Cancel** to return to the Edit Master Office File window without saving your settings. Make sure that you click **OK** to save the settings for your last office before you click **Cancel** to exit.

Evaluate District Relations

Use the **Evaluate District Relations** command under the **County** menu to search your district relations database for districts linked to multiple precincts. The **Evaluate District Relations** command performs a final check of the links between your districts and precincts. Take the following steps to evaluate district relations.

1. Select **Evaluate District Relations** under the **County** menu to open the District Relations Report window.



2. Click **Start** to check your precinct and district links. Click **Stop** to cancel the report at any time. District relation information appears in the bottom portion of the window.

NOTE: Under the **County** menu, click **District Relations** to correct mistakes identified in the District Relations Report window.

3. Click **Close** to return to the Election Data Manager main screen.

4.1 Section C: Create an Election Database

Use the precinct, office and party information from your county database to create elections for your jurisdiction. Use the commands under the **Election** menu to build databases for specific elections.

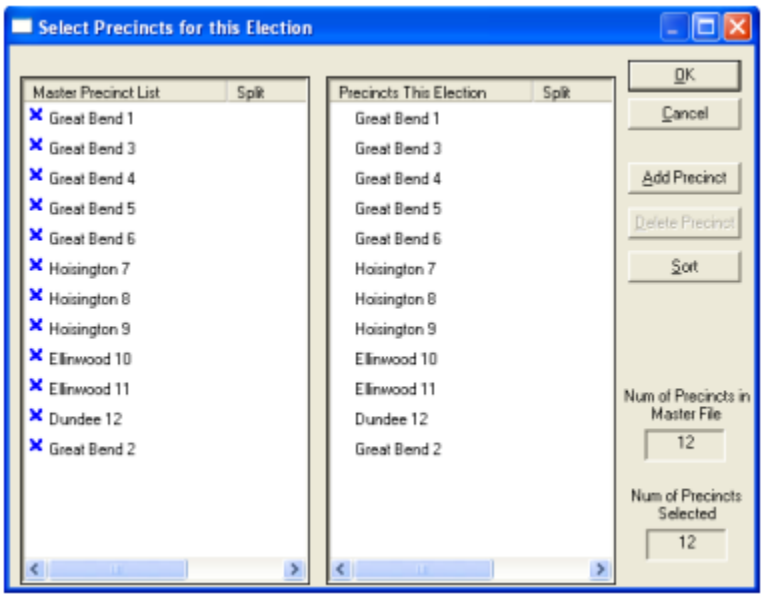
Refer to 4.1 Section B: Create a County Database for information about the county database.

Use the commands under the **Election** menu to activate and edit information from your jurisdiction database for your current election. Select precincts and contests from your jurisdiction database and customize the information for your election. Then, create a straight party option for your ballot (if your jurisdiction uses straight party voting), generate a candidate list and format statistical counters to track ballot information on Election Day.

Activate Precincts for an Election

Use the **Select Precincts from Master Precinct File** command under the **Election** menu to activate precincts from your jurisdiction database for your election. You can also use the **Select Precincts from Master Precinct File** option to customize precinct settings for your current election. Election Data Manager saves changes that you make with the **Select Precincts from Master Precinct File** to your election database but not to your jurisdiction database. Take the following steps to activate precincts for your election.

1. Under the **Election** menu, click **Select Precincts from Master Precinct File** to open the Select Precincts for this election window.



All of the precincts stored in your jurisdiction database appear in the **Master Precinct List** on the left side of the Select Precincts for this Election window. Precincts active in the current election appear in the **Precincts This Election** list on the right side of the window. Blue Xs appear next to active precincts in the **Master Precinct List**. Green arrows appear next to recently activated precincts. The total number of precincts in your master list and the number of precincts active in your election appear at the bottom right of the window.

2. Double-click a precinct from the **Master Precinct List** on the left side of the window to activate the precinct for your election.

NOTE: Select multiple precincts by holding the **Shift** key and selecting a sequence of precincts or holding **Ctrl** and selecting multiple precincts out of sequence.

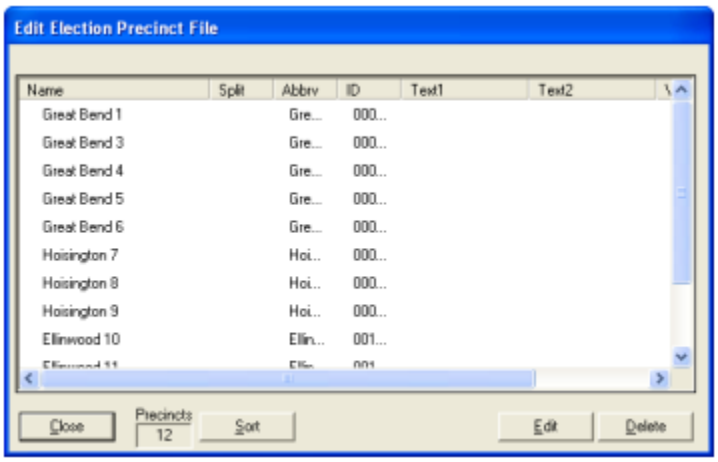
3. Click **Add Precinct** to activate all of the selected precincts for your election.
4. To deactivate a precinct, select an active precinct from the **Precincts This Election** list and click **Delete Precinct**. Use the instructions for selecting multiple precincts in step two to deactivate multiple precincts.
5. Click **Sort** to arrange your active precincts in the same order that precincts appear in the **Master Precinct List**.

6. In the Select Precincts for this Election window, click **OK** to activate your selected precincts and return to the Election Data Manager main screen. Click **Cancel** to return to the main screen without activating precincts for your election.

Customize a Precinct for an Election

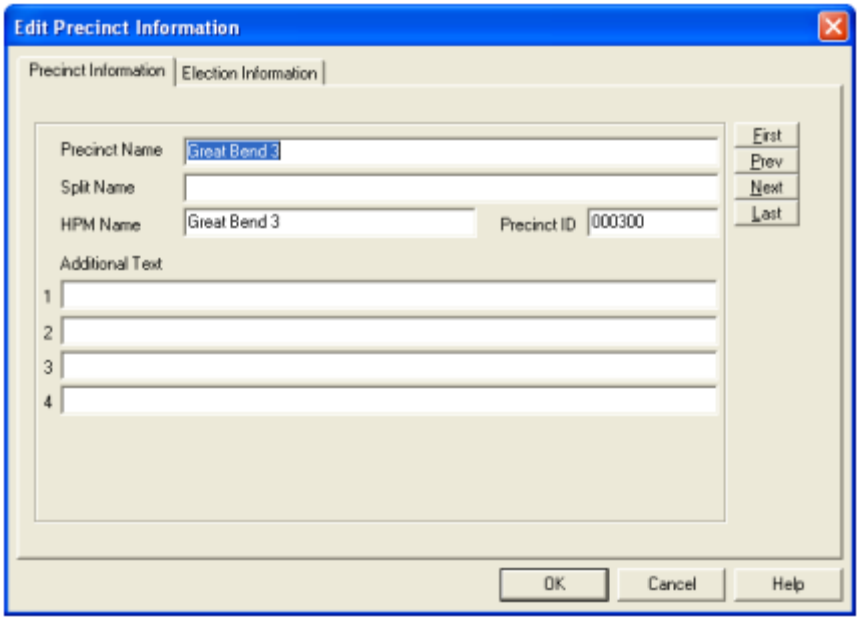
Use the **Edit Precincts for this Election** command under the **Election** menu to customize precincts for the current election without changing precinct settings in your jurisdiction database. Take the following steps to customize precinct information for your election

1. Under the **Election** menu, click **Edit Precincts for this Election** to open the Edit Election Precinct File window.



From left to right, the Edit Election Precinct File window displays the following information for precincts active in your election: **Precinct Name**, **Split Number**, **Precinct Abbreviation**, **Precinct ID Number**, **Additional Text 1**, **Additional Text 2**, the number of registered voters in the precinct, the precinct sequence number, **Split Code**, **Precinct Code Number** and the **State**. The total number of precincts activated for your election appears to the right of the **Close** button at the bottom of the window.

2. To remove a precinct from your election, select a precinct from the Edit Election Precinct File list and click **Delete**. To change the settings for a precinct, select a precinct that you want to customize for your election and click **Edit** to open the Edit Precinct Information window.



Refer to the Precincts heading in 4.1 Section B: Create a County Database for information about customizing your precinct data.

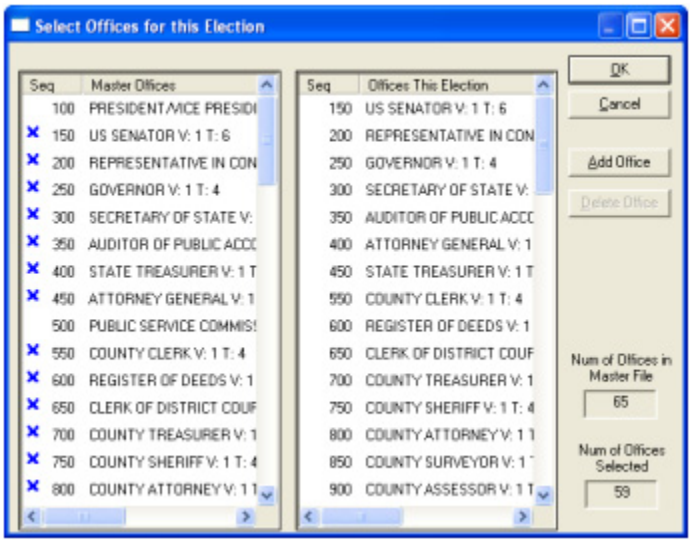
Changes to your precinct settings in the Edit Election Precinct File only affect precincts for your current election. Precinct settings in the Master Precinct File of your jurisdiction database remain unchanged.

3. Click **OK** to save your settings and return to the Edit Election Precinct File window. Click **Cancel** to return to the Edit Election Precinct File window without saving changes to your precinct.
4. In the Edit Election Precinct File window, click **Sort** to arrange the precinct list for your election in the same order that precincts appear in the Master Precinct File in your jurisdiction database. Click **Close** to save your precinct settings and return to the Election Data Manager main screen.

Activate Offices for an Election

Use the **Select Office from Master Office File** command under the **Election** menu to activate offices from your jurisdiction database for your election. Election Data Manager saves your office selections to your election database but your jurisdiction database remains unchanged. Take the following steps to activate offices for your election.

1. Under the **Election** menu, click **Select Offices from Master Office File** to open the Select Offices for this Election window.



All of the office records stored in the Master Office File of your Jurisdiction Database appear in the **Master Offices** list on the left of the window. Offices activated for your election appear in the **Offices this Election** list on the right of the window. The window displays office sequence numbers, office titles, the "vote for" number (V:*n*) and the term number (T:*n*). The total number of office records stored in your jurisdiction database appears in the **Number of Offices in Master File** box and the total number of offices activated for your election appears in the **Num of Offices Selected** list. Green arrows appear next to offices recently activated for your election. Blue Xs appear next to offices previously activated for your election.

2. Double-click an office in the **Master Offices** list on the left side of the window to activate the office for your election.

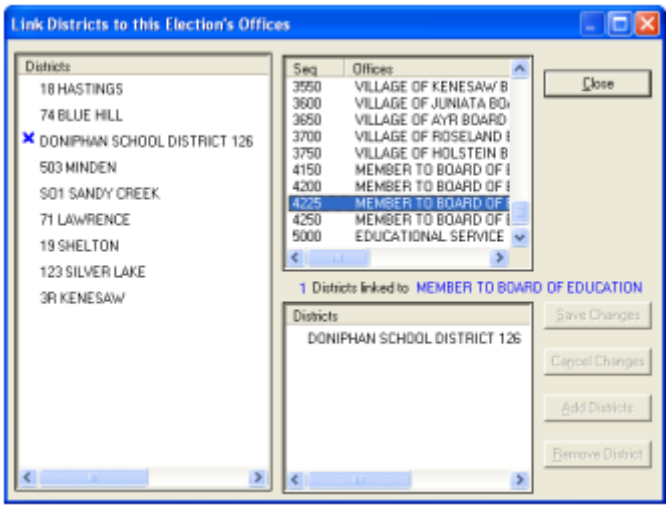
NOTE: Select multiple offices by holding the **Shift** key and selecting a sequence of precincts or holding **Ctrl** and selecting multiple offices out of sequence.

3. Click **Add Office** to activate your selected offices.
4. To deactivate an office, select an active office from the **Offices this Election** list and click **Delete Office**. Use the instructions for selecting multiple offices to deactivate multiple offices.
5. Click **OK** to activate your selected offices and return to the Election Data Manager main screen. Click **Cancel** to return to the main screen without activating offices for your election.

Link Offices to Districts for an Election

Use the **Link Districts to Office** command under the **Election** menu to assign offices to ballots for specific voting districts. Offices must be linked to districts to appear on a ballot. Take the following steps to assign offices to voting districts.

1. Under the **Election** menu, select **Link Districts to Offices** to open the Link Districts to the Election's Offices window.



The **Districts** list on the left side window contains the districts from your jurisdiction database that match the assigned district type of the office selected in the Office list. The **Offices** list at the top right of the window contains all of the names and sequence numbers of all of the offices active in your election. The **Districts** list at the bottom right of the screen contains all of the districts linked to your selected office. Blue Xs appear next to districts linked to the selected office. Green arrows appear next to recently linked districts.

Refer to the Manage Offices in the Jurisdiction Database heading in 4.1 Section B: Create a County Database for more information about assigning a district type to an office.

2. Select the office that you want to link your active district from the **Offices** list at the top right corner of the Link Districts to this Election's Offices window. All of the districts in your jurisdiction database that share the district type of your selected office appear in the **Districts** list at the left of the window.
3. Double-click a district from the **Districts** list at the left of the window to place the selected office on ballots for the selected district only.

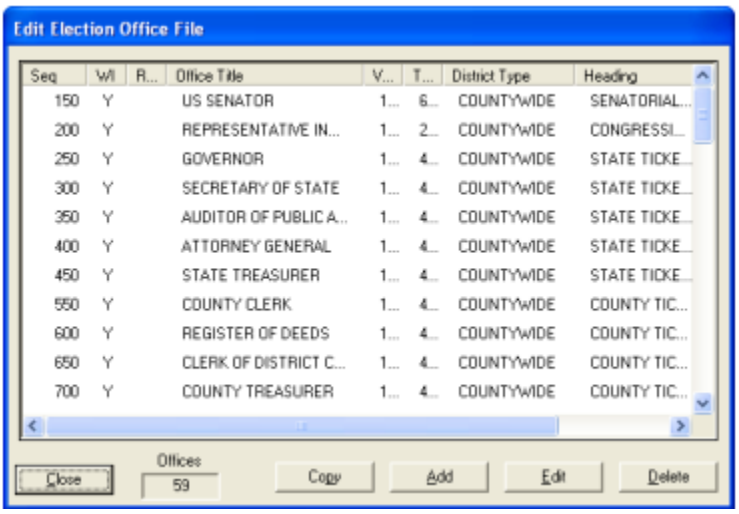
NOTE: Select multiple districts by holding the **Shift** key and selecting a sequence of precincts or holding **Ctrl** and selecting multiple districts out of sequence.

4. Click **Add Districts** to place your office on the ballot for the selected districts. The names of the districts where the selected office is active on the ballot appear in the **Districts** list at the bottom right of the window.
5. Click **Save Changes** to place the selected office on ballots for all of the districts that you selected from the **Districts** list on the right side of the window.
6. To remove an office from the ballots a specific district, select the district where you want to remove the office from the **Districts** list at the bottom right of the window. Click **Remove District** to remove the selected office from ballots for the selected district.
7. Click **Save Changes** to save your office assignments. Click **Cancel Changes** to remove all of the links made after your last save. Click **Close** to return to the Election Data Manager main screen. Remember to click **Save Changes** before you click **Close** to save your office links.

Customize an Office for an Election

Use the **Edit/Add Offices for this Election** command under the **Election** menu to create custom "one-time" offices for your election or to change the settings for an office without altering the office information permanently saved in your jurisdiction database. Take the following steps to create a custom office or edit an office for an election.

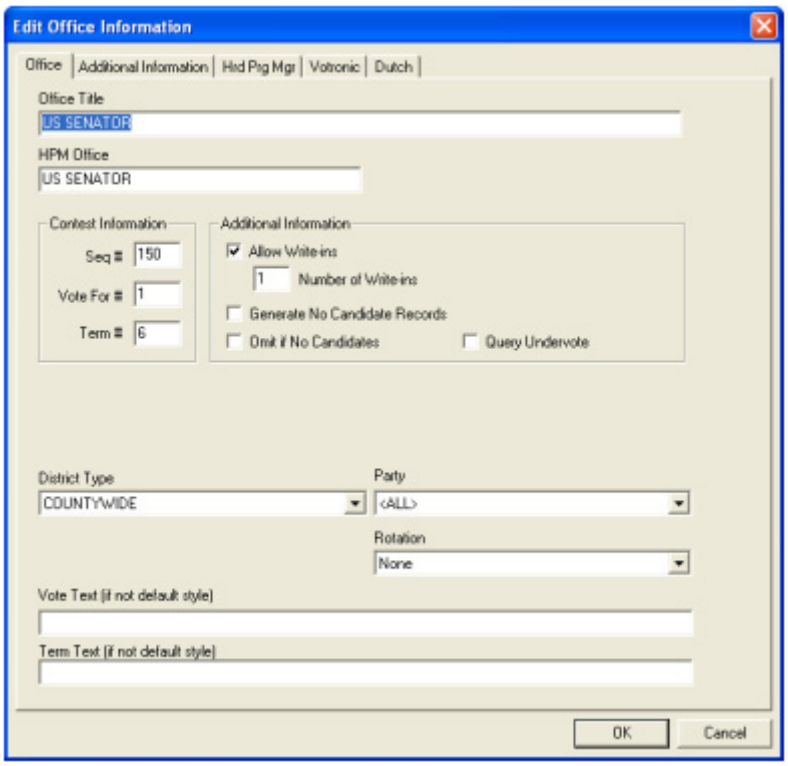
1. Under the **Election** menu, click **Edit/Add Offices for this Election** to open the Edit Election Office File window.



From left to right, the Edit Election Office File window contains the following lists: **Sequence Number**, **Write-in**, **Rotation**, **Office Title**, **Vote For Number**, **Term Number**, **District Type**, **Heading** and **Party**. The total number of offices activated for your election appears to the right of the **Close** button at the bottom of the window.

2. To deactivate an office for your election, select an office in the Edit Election Office File window and click **Delete**. Highlight an office and click **Copy** to duplicate an office setting. Click **Add** to create a custom office for your election or select an office and click **Edit** to change the settings for an existing office.

The Edit Office Information window appears if you click **Add** or **Edit**.



Refer to the Manage Offices in the Jurisdiction Database heading in 4.1 Section B: Create a County Database for information about how to edit office information or create a custom office for your election.

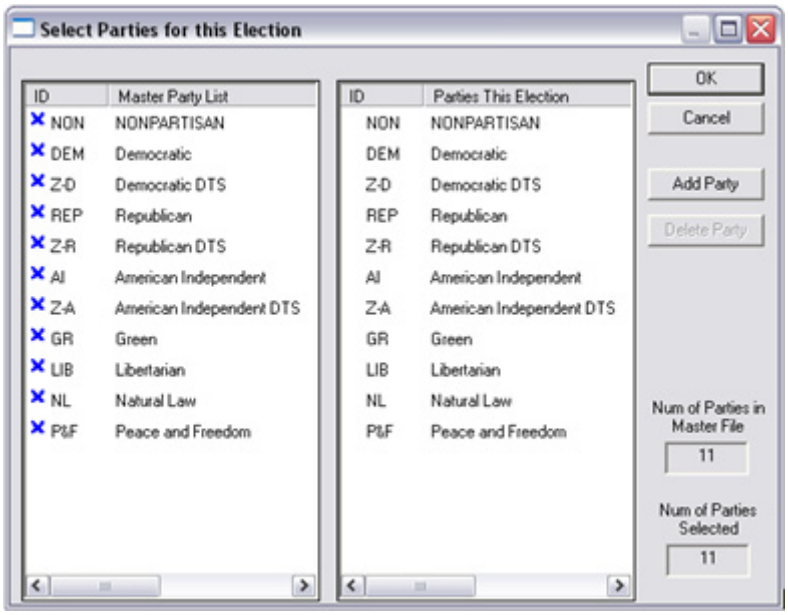
Changes to office information in the Edit Election Office File only affect offices active in your current election. Office settings in the Master Office File of your jurisdiction database remain unchanged.

3. Configure your new office or edit existing office settings and click **OK** to save your work and return to the Edit Election Office File window. Click **Cancel** to return to the Edit Election Office File window without saving changes to your offices.
4. In the Edit Election Office File window, click **Close** to return to the Election Data Manager main screen.

Activate Parties for an Election

Use the **Select Parties from Master Party File** command under the **Election** menu to activate political parties for your election. Take the following steps to activate parties for your election.

1. Under the **Election** menu, click **Select Parties from Master Party File** to open the Select Parties for this Election window.



The names of all of the parties stored in your jurisdiction database appear in the **Master Party List** on the left side of the window. The names of the parties activated for your election appear in the **Parties this Election** list on the right side of the window. The total number of parties stored in your jurisdiction database appears in the **Num of Parties in Master File** window. The number of parties activated for your election appears in the **Num of Parties Selected** box. Blue Xs appear next to active parties in the **Master Party List**. Green arrows appear next to recently activated parties.

2. Double-click a party in the **Master Party List** on the left side of the window to activate a party for your election.

NOTE: Select multiple parties by holding the **Shift** key and selecting a sequence of precincts or holding **Ctrl** and selecting multiple parties out of sequence.

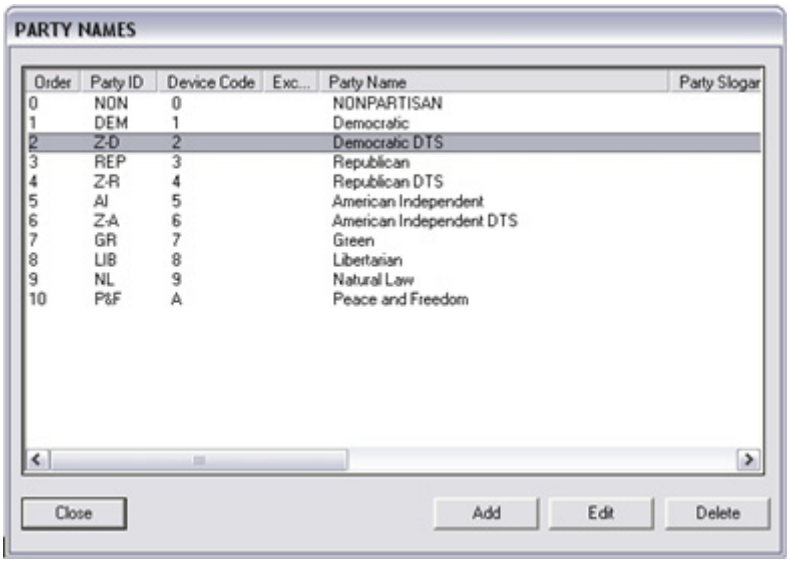
3. Click **Add Party** to activate all of the selected parties for your election.

4. To remove a party from your election database, select a party from the **Parties this Election** list and click **Delete Party** use the instructions from step two to remove multiple parties from your election database.
5. Click **OK** to return to save your changes and return to the Election Data Manager main screen. Click **Cancel** to return to the main view without saving your party assignments.

Customize a Party for an Election

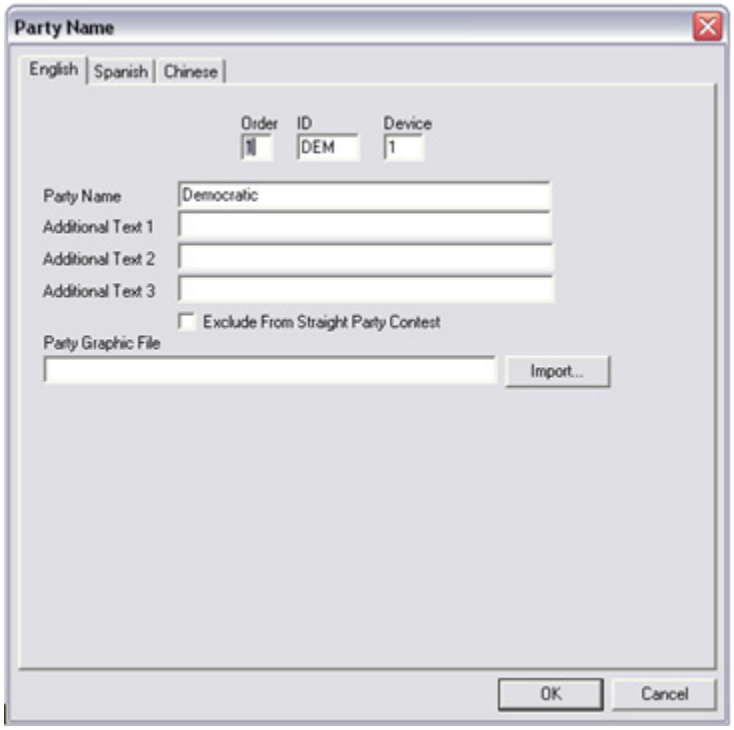
Use the **Edit Parties for this Election** command under the **Election** menu to change the settings for a party without updating the party information in your jurisdiction database. Take the following steps to create a custom party or edit a party for an election.

1. Under the **Election** menu, click **Edit Parties for this Election** to open the PARTY NAMES window.



From left to right, the PARTY NAMES window displays information in the following lists: **Order**, **Party ID**, **Device Code**, **Exclude from Straight Party**, **Party Name**, **Party Slogan**, **Text 2** and **Text 3**. All of the parties that you activated for your election with the **Select Parties from Master Office File** command under the **Election** menu appear in the PARTY NAMES window.

2. Select a party and click **Delete** to deactivate the party for your election. Select a party and click **Edit** to open the Party Name window.



Refer to the Political Parties heading in 4.1 Section B: Create a County Database for information about customizing your party data.

Changes to your party settings in the election database do not affect the party records stored in your jurisdiction database.

3. Click the additional language tabs at the top of the Party Name window to edit party language settings for your election.

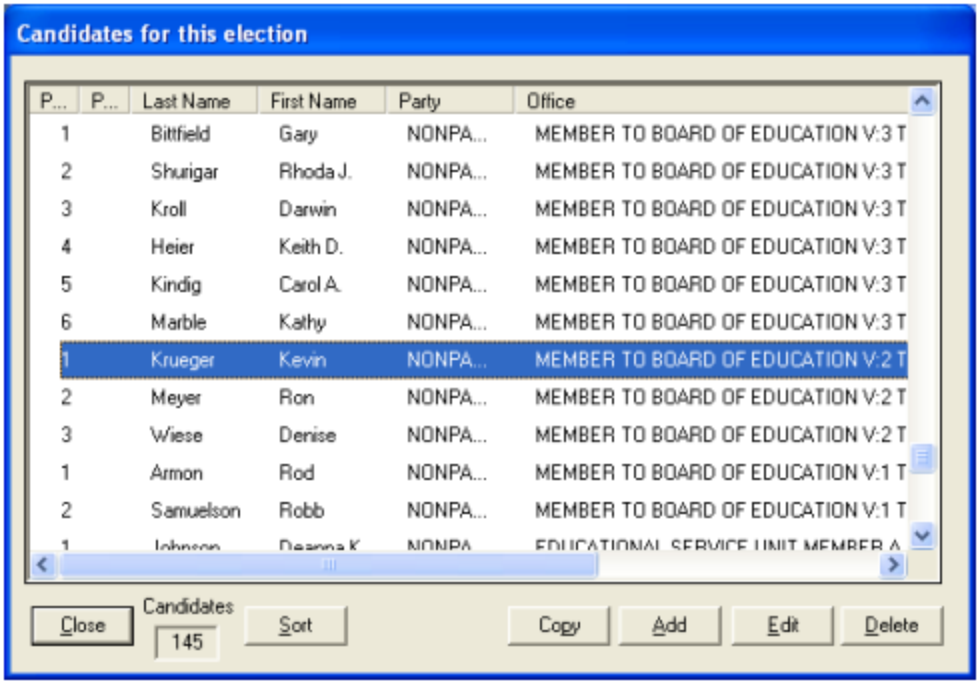
Refer to the Political Parties heading in 4.1 Section B: Create a County Database for information about altering party language settings.

4. Click **OK** to save your settings and return to the Party Name window. Click **Cancel** to return to the Party Name window without saving your changes.
5. In the Party Name window, click **Close** to return to the Election Data Manager main screen.

Candidates for an Election

Use the **Candidates** command under the **Election** menu to create candidate records for your election, link your candidates to political parties and contests and create candidate text in additional ballot languages. Take the following steps to create a candidate record.

1. Under the **Election** menu, click **Candidates** to open the Candidates for this Election window.



From left to right, the Candidates for this Election window displays candidate information in the following lists: **Candidate Position 1**, **Candidate Position 2**, **Last Name**, **First Name**, **Party**, **Office** and **District**. The total number of candidate records created for your election appears in the **Candidates** box next to the **Close** button.

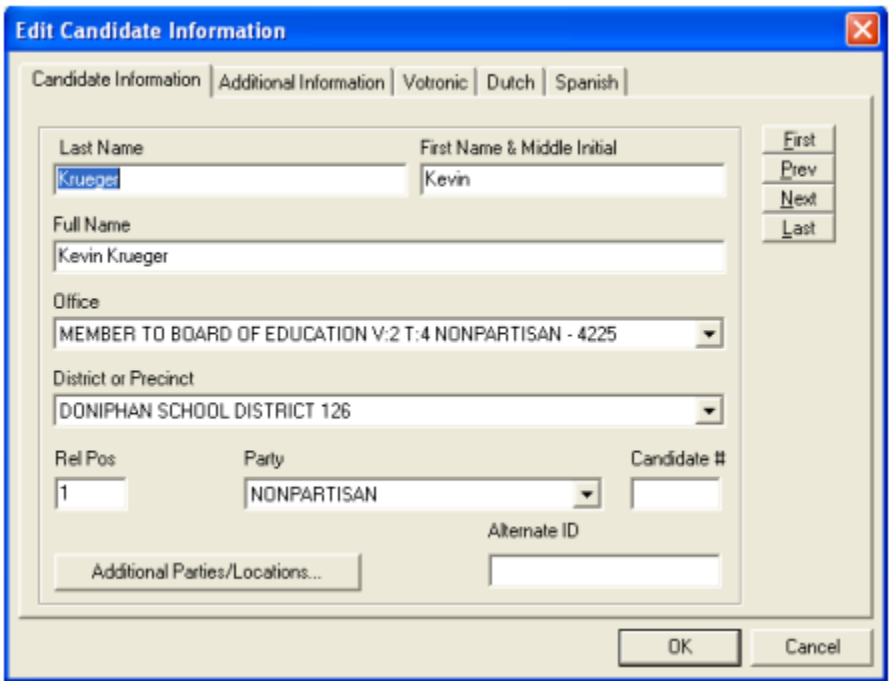
2. In the Candidates this Election window, click **Sort By** to open the Candidate sorting options window and change the order that candidates appear in the Candidates this Election window. **Sort By** options do not affect the order that candidates appear on ballots.

3. Click the **Sort Using Party Order** check box to order the candidate list in the Candidates this Election window by the party order that you set up when you configured the political party database for your county.

Refer to the Activate Parties for an Election heading in 4.1 Section B: Create a County Database for information about setting up the party order for your election.

4. If you selected **Sort Using Party Order**, select one of the following commands under the **Sort by** heading, to choose a secondary sort option. If you did not select **Sort Using Party Order**, choose an option under the **Sort** heading to select a primary sort option.
   - Click **Last Name** to sort your candidates alphabetically by last name.
   - Click **Office + Candidate Position** to sort your candidates first by the sequence number of the office the candidate contests and then by the candidate position number that you assign when you create candidates.
   - Click **Office + Last Name** to sort your candidates first by office sequence number and then alphabetically by last name.
5. Click **Sort Now** to change the order that your candidates appear in the Candidates this Election window. Click **OK** to close the Candidate Sorting Options window.
6. To delete a candidate from your election, select a candidate and click **Delete**. Highlight a candidate and click **Copy** to duplicate a candidate record. Click **Add** to create a new candidate for your election or select a candidate record and click **Edit** to change the settings for an existing candidate.

The Edit Candidate Information window appears if you click **Add** or **Edit**.



Candidate Identification Data

Use the options under the **Candidate Information** tab to configure the information that identifies the selected candidate on ballots and election reports and to link your candidate to the correct office and district.

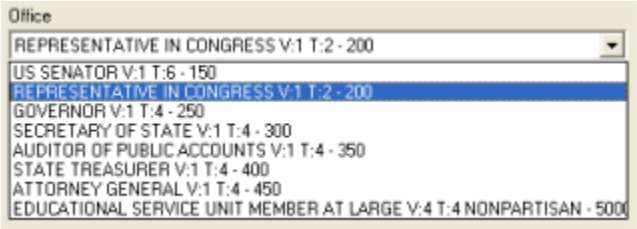
NOTE: Click the **First**, **Prev**, **Next** and **Last** buttons at the right side of the Edit Candidate Information window to open the first, previous, next or last candidate record from the list in the Candidates this Election window.

1. In the **Last Name** box, type the last name of your candidate.
2. In the **First Name** box, type your candidate's first name and middle initial (if desired).

NOTE: Type the candidate information in the format you want it to appear on your ballot, such as all upper case, or the proper case.

3. Press **Tab** to automatically fill in the **Full Name** box with information from the **Last Name** and **First Name** boxes.

4. From the **Office** list, select the office that the selected candidate is contesting in your election.



5. From the **District or Precinct** list, select the district or precinct where your candidate is contesting the office that you selected. Only districts or precincts linked to the selected office appear in the **District or Precinct** list.

NOTE: Do not select the default <countywide> option from the **Districts or Precincts** list if your candidate appears on every ballot in your jurisdiction. Instead, select the "COUNTY" option that you created when you configured your district types with the instructions in the District Types heading in 4.1 Section B: Create a County Database.

6. If the candidates in your jurisdiction draw lots for ballot position or if your jurisdiction rotates candidates on the ballot and candidates draw lots for home position, enter a value in the **Relative Position** box to set the position of a candidate's name on the ballot relative to the names of other candidates contesting the same office. Type "01" in the **Relative Position** box to position your candidate first below the office text, type "02" to position the second candidate and "03" to place the third candidate on the ballot. Do not enter a value in the **Relative Position** box if your jurisdiction sorts candidates by party order.

NOTE: Use two-digit numbers (01-99) for your candidates. If you have more than 99 candidates for an office, use 99 for each additional candidate.

NOTE: Do not select **No affiliation** if you use Hardware Programming Manager to generate election definitions for your ballot counting equipment.

The **Candidate #** field is not used in California.

Additional Candidate Information

Use the options under the **Additional Information** tab in the Edit Candidate Information window to create additional text for your candidates.

In the **Additional Text** boxes, enter additional candidate text, such as candidate hometowns, nicknames, or occupation. Use hard codes and variable names to format your additional candidate text.

Refer to Appendix D: Hard Codes and Variable Names for information about using codes to customize additional text.

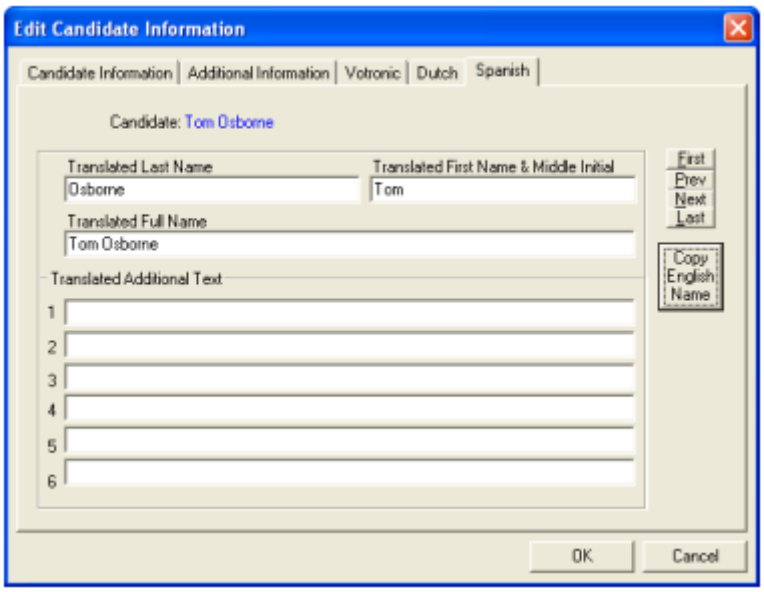
NOTE: If your ballot contains a race in which you must link more than one candidate to a voting target, such as a presidential delegation race, enter the names of your additional candidates in the **Additional Information** boxes. If there is not enough room in a single candidate record to enter all of the necessary candidate names, create an additional, “no candidate” record and enter the remaining names in the **Additional Text** boxes for that candidate file.

Refer to the Manage Offices in the Jurisdiction Database heading in 4.1 Section B: Create a County Database for more information about formatting a “no candidate” record.

Additional Language Text for Candidates

When you selected **ESS Image Manager** as your **Ballot Type** in the Merge Preferences window and formatted additional languages for your election, additional language tabs appear in the Edit Candidate Information window. Use the options under the language tabs to create translated candidate text for each of your ballot languages. Take the following steps to generate translated candidate text.

1. In the Edit Candidate Information window, click an additional language tab to create translated text for your selected candidate.



NOTE: The language tabs only appear for ESS Image Manager, Optech Image Manager, Votronic Touch Screen and iVotronic Image Manager ballot types.

2. In the **Translated Name** boxes (**Translated Last Name**, **Translated First Name & Middle Initial** and **Translated Full Name**), type the name of your selected candidate if the name appears differently when translated to your additional ballot language. Click **Copy English Name** to use the information from your English candidate file if the English name and the translated name appear the same.
3. In the **Translated Additional Text** boxes, translate the additional text (such as candidate nicknames or home towns) that you created under the **Additional Information** tab.
4. Click **OK** to save your candidate settings and return to the Candidates this Election window. Click **Cancel** to return to the Candidates this Election window without saving your settings.

Statistical Counters

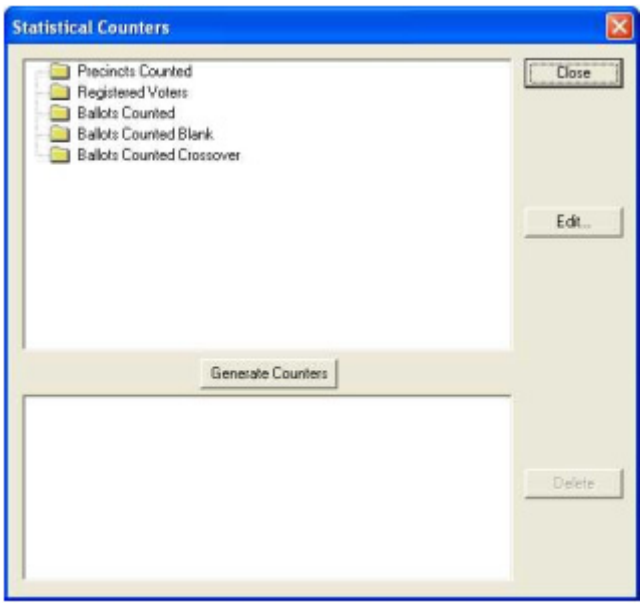
Jurisdictions use statistical counters (sometimes called statistical contests) to track miscellaneous information such as the total number of ballots cast in an election and the number of registered voters participating in an election. Statistical counters do not appear on ballots but voting equipment tracks statistical counter totals in the same way that the machines tabulate contest results.

Create Statistical Counters

Use the **Statistical Counters** command under the **Election** menu to select which statistical counters your voting equipment will track during vote tabulation. Election Data Manager generates statistical counters in the following five main categories, Precincts Counted, Registered Voters, Ballots Counted, Ballots Counted Blank and Ballots Counted Crossover. You can also assign counters to individual districts to track statistics for political subdivisions within your jurisdiction. For example, assign a Registered Voters counter to an individual district to track how many registered voters cast ballots in the district. Take the following steps to select statistical counters.

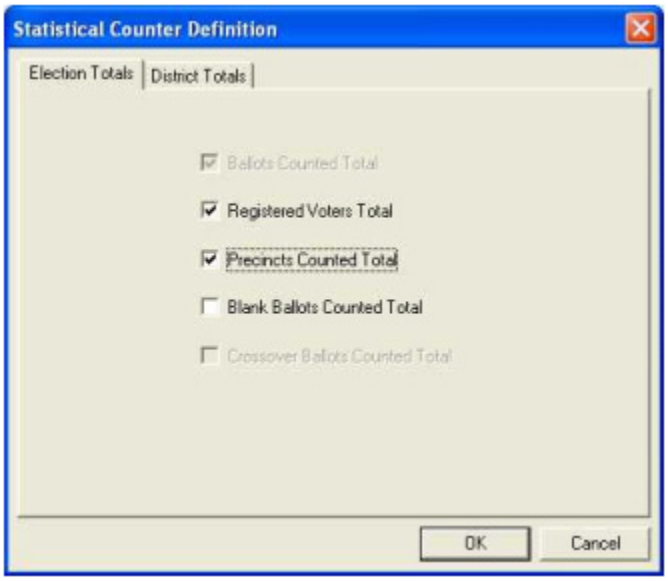
NOTE: Statistical Counters must be entered in the same order as the parties.

1. Under the **Election** menu, click **Statistical Counters** to open the Statistical Counters window.



Folders for each of Election Data Manager's statistical counter categories appear in the list at the top of the Statistical Counter window. Any counter types (including district counters or totals counters) appear beneath each folder. The individual statistical counters that your voting equipment will track during ballot counting appear in the list at the bottom of the window.

2. Click **Edit** to open the Statistical Counter Definition window and configure your statistical counters.

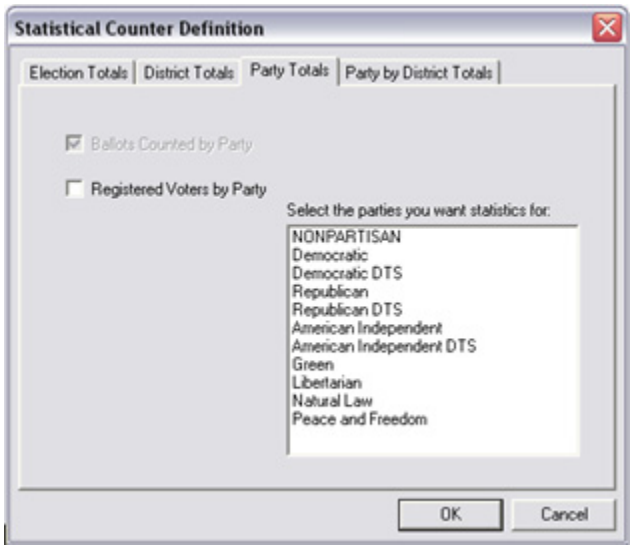


3. Under the **Election Totals** tab in the Statistical Counters Definition window, click the check boxes to activate the following statistical counter types for your election.
   - Turn on the **Ballots Counted Total** counter to track the total number of ballots cast in your election.
   - Select **Registered Voter Total** to monitor the total number of registered voters who participate in your election.
   - Click **Precincts Counted Total** to track the number of precincts that submit cast ballots on Election Day.
   - Turn on the **Blank Ballots Counted Total** statistical counter to track the number of blank ballots cast in your election.

Party Counters

Use the options under the **Party Totals** tab to assign the statistical counter types that you selected under the **Election Totals** tab to the individual political parties for a primary election. For example, click **Ballots Cast Total** under the **Election Totals** tab and select the Republican Party under the **Party Totals** tab to track the total number of ballots cast by members of the Republican Party and include the total on your election reports. Take the following steps to assign a party counter.

1. In the Statistical Counter Definition window, click the **Party Totals** tab to assign your statistical counters to political parties in your election database.



NOTE: The Party Totals and Party by District Totals tabs are only available for elections with open primary (OPRI), closed primary (CPRI) and PICK election types.

2. From the list at the right of the window, select party names to assign your selected statistical counters to individual political parties.

NOTE: Select multiple parties by holding the **Shift** key and selecting a sequence of precincts or holding **Ctrl** and selecting multiple parties out of sequence.

3. Select **Ballots Counted by Party** to track the total number of ballots cast for each of your selected parties.

NOTE: The Ballots Counted by Party total is a default selection for a party based statistical counter and cannot be cancelled.

4. Select **Registered Voters by Party** to track the number of registered voters from each selected party that vote in your election.

Generate Statistical Counters

In the Statistical Counters window, click **Generate Counters** to add counters to your election definition. The names of your individual counters appear in the list under the **Generate Counters** button.

4.1 Section D: Add Ballot Text and Questions

Use the **Text/Referendum** command on the title bar to create ballot questions, contest explanations and descriptive text for your ballots. Whether you create ballot text and questions in Election Data Manager or ES&S Image Manager depends on how your jurisdiction positions contests on ballots.

Use Election Data Manager to format ballot text if your jurisdiction allows contests to change ballot positions from precinct to precinct (floating offices). For example, if you use floating offices and your first precinct votes a presidential race followed by a school board race and your second precinct does not vote the school board race, the office that follows the school board race takes over the school board ballot position in your second precinct.

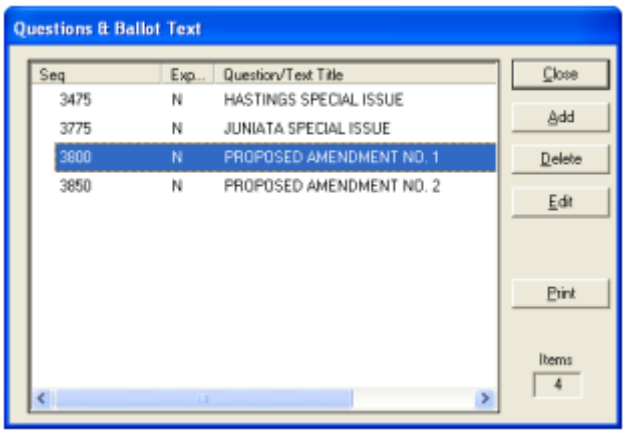
On ballots that do not use floating offices, blank spaces appear where offices not contested in a precinct would appear. Use ES&S Image Manager to generate ballot questions for jurisdictions that do not allow floating contests.

Election Data Manager limits ballot questions created with the **Text/Referendum** command to a maximum of four ballot responses. If a question requires more than four responses, create the question as a nonpartisan office and enter ballot responses as candidates. Save all of your ballot text as Text (.txt) files. (Using .txt files allows the Spanish characters to be viewable on the ballots.)

Ballot Text

Use the **Text/Referendum** command on the Election Data Manager menu bar to create or edit instruction text, ballot questions or contest explanations. If you create text with the **Text/Referendum** command, your ballot questions, descriptions or explanations automatically save to your election folder. Take the following steps to generate ballot text.

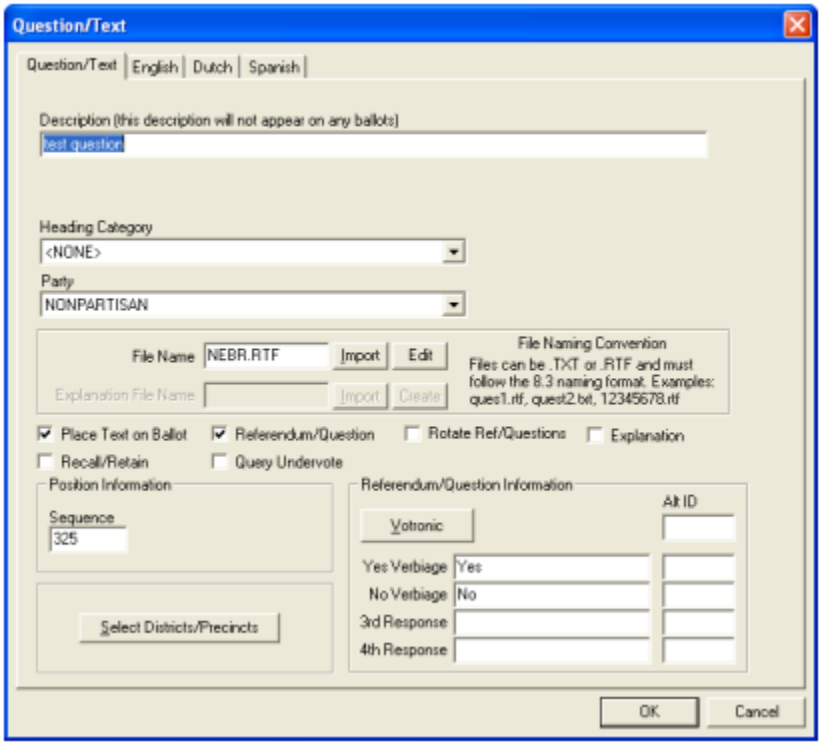
1. Click **Text/Referendum** on the Election Data Manager menu to open the Questions & Ballot Text window.



The list in the Questions & Ballot Text window displays the sequence number for each of your ballot question or text files, whether or not each text file contains explanation text and the description for each text file.

2. Select an existing question and click **Delete** to remove a question from your ballots. Click **Add** to create a new ballot question or select a question and click **Edit** to change the settings for an existing text file. Select a question and click **Print** to create a printout of the selected file on your default printer.

Click **Add** or **Edit** to open the Questions/Text window.



Question Identification Information

Use the options at the top of the Questions and Text window to identify your ballot text and link your text file to an office heading and political party. Take the following steps to enter identification information.

1. In the **Description** box, type up to 80 characters that describe your ballot question. Text from the **Description** box appears on election reports but not on ballots.

NOTE: Only use WordPad or Notepad to create ballot text. Do not use Microsoft Word. Format all ballot text files as a Text files (.txt). Open the text file with Election Data Manager's text editor to link the question or explanation to your ballots.

2. From the **Heading Category** list, select an office heading for your ballot text file. Select **<NONE>** if your jurisdiction does not use office headings.
3. From the **Party** list, select the political party that votes on your ballot question. Select **<ALL>** to create a description or contest explanation that appears on ballots for all of your parties. Select **NONPARTISAN** to create a nonpartisan question a bond issue or amendment.

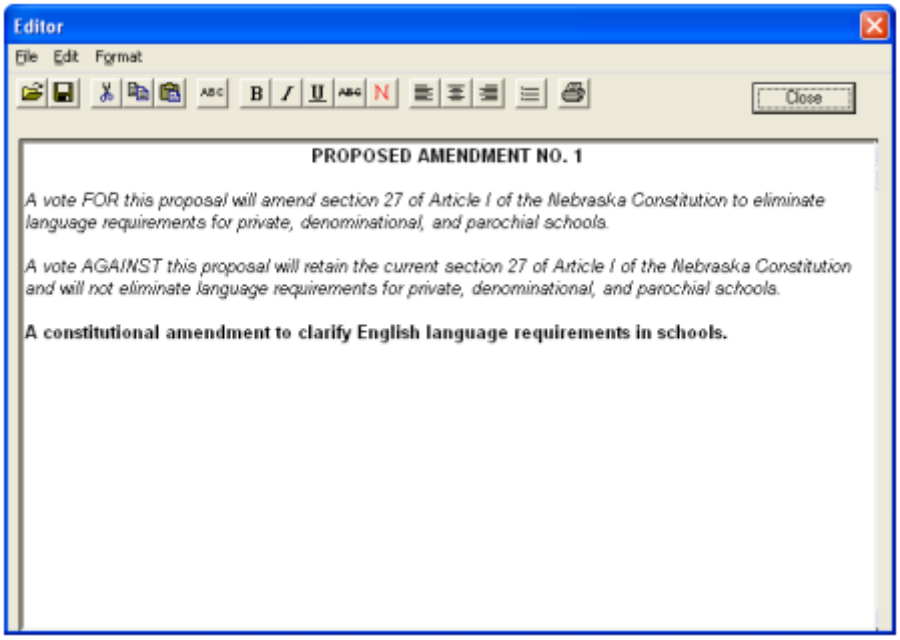
Create, Edit and Import Text Files

Use the file options in the middle of the Questions/Text window to create, import and edit text files. You must save ballot text as Text files (.txt). Take the following steps to create or edit text files.

1. In the **File Name** box, type a file name (up to eight characters) with a ".txt" extension and click **Edit** or **Create** to create a new file. If you opened an existing ballot question from the Questions & Ballot Text window, the question file name should already appear in the **File Name** box.

NOTE: Use the options next to the **File Name** box to create a ballot question. Use the **Explanation File Name** box to create explanation text for your ballot question. Explanation text appears below the question on the ballot.

2. Click **Import** next to the **File Name** box or **Explanation File Name** box to open a browse window and search your folders for existing ballot questions.
3. Select a file and click **Open** to use an existing text file as your ballot question, description or explanation text. Click **Cancel** to return to the Question/Text without importing a file. The name of your selected file appears in the **File Name** box in the Question/Text window.
4. After you select a text file or type a file name in the **File Name** or **Explanation File Name** box, click **Edit** to open the Election Data Manager text editor and create or edit your ballot text.



5. Type your text exactly as you want it to appear on your ballots and then click **Close** to open the Save window. Remember to save your text as a Text file (.txt).

NOTE: Election Data Manager's text editor uses the same tools as other simple word-processing programs such as Microsoft WordPad. Use hard codes to format text in .txt files. Use only PostScript fonts to create ballot text.

Refer to the Hard Codes heading in Appendix D: Hard Codes and Variable Names for a list of hard codes.

6. Click **Close** in the text editor window to return to the Question/Text window.

Text Options

Click the check boxes under your text file names to configure your ballot text options. Take the following steps to select text options.

1. Click **Place Text on Ballot** to include the selected text file on your jurisdiction's ballots.
2. Select the **Referendum/Question** check box if your text file is a ballot question or referendum.

NOTE: You can only enter text in the **Yes Verbiage**, **No Verbiage**, **3rd Response**, and **4th Response** boxes if you turn on the **Referendum/Question** check box. Response text in the Question/Text window overrides response text from the Merge Preferences window for your ballot question or referendum.

3. Select the **Recall/Retain** check box to link your ballot question to a recall office. Make sure that you set the sequence number for the recall question *one number lower* than the sequence number for your recall office.

NOTE: Responses to a recall question determine whether your jurisdiction removes or retains a current office holder. The recall office, sometimes referred to as a recall race, determines the office holder's replacement.

4. Select **Query Undervote** to configure precinct scanners to return ballots to the voter if this contest is undervoted.

Position Text on Ballots

Under the **Position Information** heading, type a number in the **Sequence** box, to position your ballot text relative to the offices on your ballots. For example, if you set the sequence number for a presidential race at 100 and type “200” in the **Sequence** box for your ballot question, your question appears after the presidential race on the ballot.

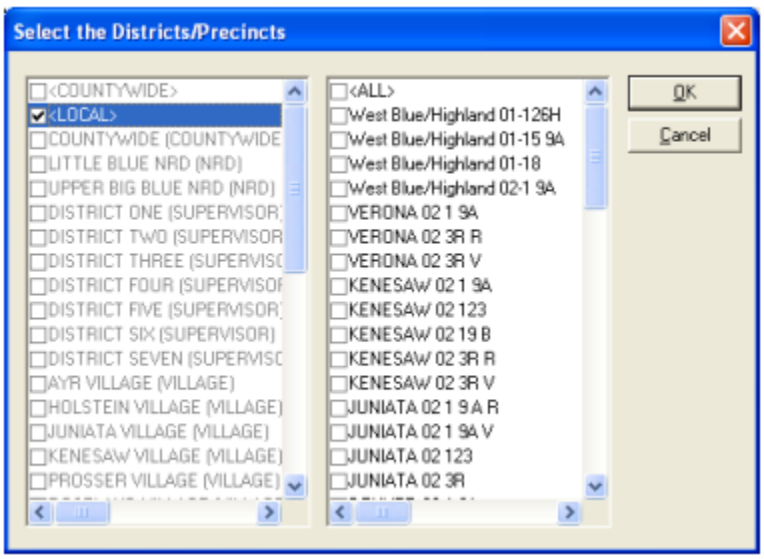
Enter Question Response Text

If your ballot text is a question, type the response text in the **Yes Verbiage**, **No Verbiage**, **3rd Response** and **4th Response** boxes under the **Referendum/ Question Information** heading.

Place Text on Ballots for Districts or Precincts

Use the **Select Districts/Precincts** option in the Question/Text window to link your text file to ballots for specific voting districts. For example, if your election contains a referendum for a local school district, use the **Select Districts/ Precincts** option to place your text only on the ballots for districts where the referendum is active. Take the following steps to link ballot text to districts or precincts.

1. In the Question/Text window, click **Select Districts/Precincts** to select the subdivisions in your jurisdiction where your ballot question or text is active.



2. Click district names to place y our question or text on ballots for selected districts.

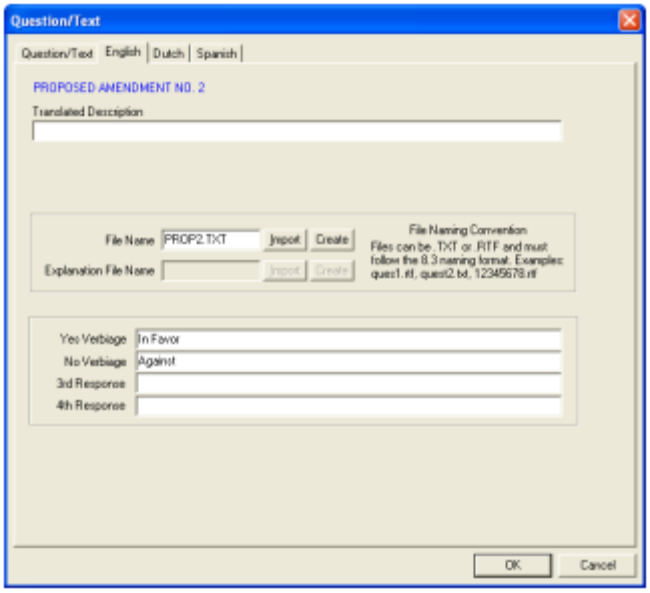
3. Click **Local** to deactivate your district list and open a precinct list that allows you to place your text on ballots for specific precincts.
4. Click **OK** to save your selections and return to the Questions/Text window. Click **Cancel** to return to the Question/Text window without saving your district or precinct selections.

Format Text in Additional Ballot Languages

Language tabs appear at the top of the Question/Text window if you select additional languages for your ballots. Use the options under the language tabs to format your question or text for all of your jurisdiction's ballot languages. To format text in multiple ballot languages

Refer to the Ballot Languages heading in 4.1 Section B: Create a County Database for more information about formatting additional ballot languages.

1. In the Question/Text window, select a language tab to format your question or text in an additional ballot language.



2. In the **Translated Description** box, type the description for your question or text translated into your additional ballot language. The **Translated Description** does not appear on your ballots but does appear on election reports.

3. Click **Import** next to the **File Name** box or the **Explanation File Name** box open a browse window and search your computer for existing translated text files.
4. Click **Create** or **Edit** (the name of the button changes if you select an existing ballot text file) next to the **File Name** boxes to open the Election Data Manager text editor. Create a new Text file (.txt) or edit an existing file.

Refer to the Create, Edit and Import Text Files heading in this chapter for more information using the Election Data Manager text editor.

5. In the **Yes Verbiage**, **No Verbiage**, **3rd Response**, and **4th Response** boxes, type translated response text for your ballot question.
6. Click **OK** to save your question or text settings and return to the Ballot Question &Text window. Click **Cancel** to return to the Ballot Question & Text window without saving.

Recall Race

A recall contest allows voters to remove an elected official from office before the end of an assigned term. Recall races appear as two sequential contests on your ballots, a recall question (sometimes called a controlling contest) and a recall office. Responses to the recall question determine whether your jurisdiction removes or retains the current office holder. The result of the recall office determines the office holder's replacement if your voters elect to remove him or her.

To place a recall race on your ballot, create the recall question with the **Text/ Referendum** command on the menu, program the recall office with the **Master Office File** command under the **County** menu and then link the two contests in the **Master Office File**.

Create a Recall Question

Use the **Text/Referendum** command to create the recall question. The results for the recall question determine whether your jurisdiction removes an elected official from office. Take the following steps to create the recall question.

1. Click **Text/Referendum** on the menu to open the Questions & Ballot Text window.

2. Follow the instructions under the Ballot Text heading earlier in this chapter to create the recall question. Select the **Place Text on Ballot** and **Referendum/ Question** check boxes in the Question/Text window place ballot targets with the recall question.
3. Type a number in the **Sequence** box to position the recall question on your ballots. Set the Sequence number for your recall question one number lower than the sequence number for your recall office to place the recall question directly before the disputed office on the ballot.
4. Select **Recall/Retain** to designate your ballot question as the controlling contest of a recall race.

NOTE: Recall questions are sometimes called controlling contests because the result of the recall question controls whether your voting equipment tabulates results for the recall office.

5. In the **Yes Verbiage** and **No Verbiage** boxes, type the positive and negative response text that appears below the recall question text on your ballots.
6. Click **Select Districts/Precincts** to link your recall question to specific districts or precincts in your jurisdiction.

Select a Recall Question Type

1. Under the **Merge** menu, click **Ballot Sets** to open the Ballot Sets window.
2. Select your ballot set and click **Merge Preferences** to open the Merge Preferences window.
3. Select **Type D (Yes or No vote)** from the **Recall/Retain** list under the **Ballot Generation** heading to place a positive and a negative response below your recall question. Two voting targets, one for the **Yes Verbiage** and one for the **No Verbiage** appear beneath a type D recall question. The **Type D** race will not tabulate voter selections from the recall race if the voter selects **No** in the controlling contest. Select **Type D (Yes or No vote)** if your jurisdiction uses Model 100 or 650 scanning equipment.

Create a Recall Office

Use the instructions under the Manage Offices in the Jurisdiction Database heading in 4.1 Section B: Create a County Database to create your recall office. Select a sequence number that positions the recall office directly below the recall question on your ballot and link the recall office to the same districts and precincts that you linked to your recall question.

Link a Recall Question to a Recall Office

For most ballot scanners, Election Data Manager automatically designates the office that directly follows the recall question on the ballot as the recall office when you use the **Text/Referendum** option to format a recall race. In most cases, it is not necessary to select **Recall** from the **Special** list under the **Hrd Prg Mnr** tab in the **Master Office File**.

NOTE: Unity® 3.0.1.1 does not support more than 99 candidates for rotation positions.

Contact ES&S for assistance if your jurisdiction requires an election to be rotated and it has more than 99 candidates in a contest.

4.1 Section E: Set up Polling Places and Ballot Style Information

If your jurisdiction uses precinct scanners such as the Model 100, select commands under the **Poll Setup** menu to configure output files for your jurisdiction's polling places. Use polling place options to configure default polling place settings, generate a master file for default polling place data, configure polling places for a single election, and link polling places to precincts.

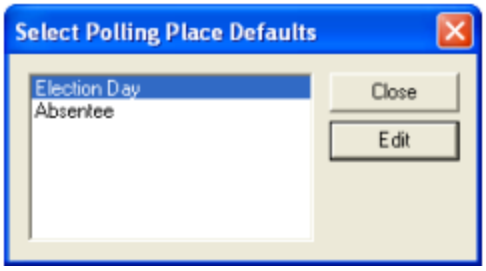
Polling Places

If your jurisdiction uses precinct count equipment, use the **Polling Place Defaults** command under the **Poll Setup** menu to format baseline settings for all of the polling places in your jurisdiction. After you create default settings, Use the **Master Polling Place File** command to create polling places in your jurisdiction database. Click **Select Polling Places for this Election** to activate polling places from your master file for your open election or use the **Edit/Add Polling Places for this Election** command to create or customize polling places only for your active election. Finally, click **Assign Precincts to Polling Places** to assign voters to polling places by precinct.

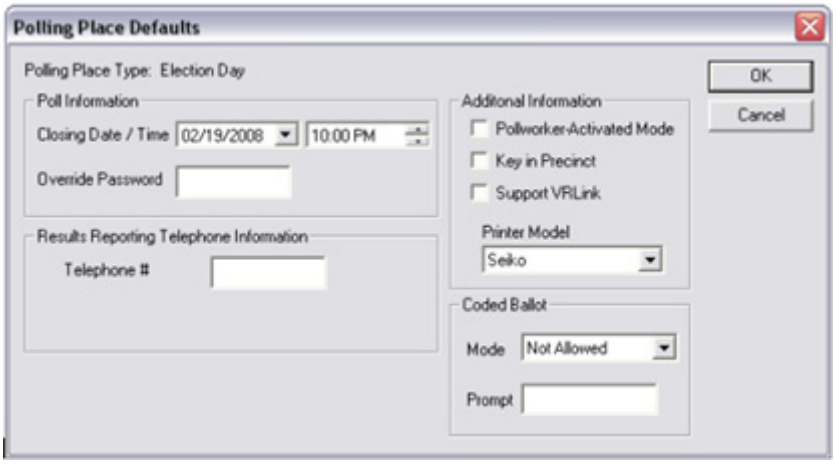
Default Polling Place Settings

If your jurisdiction uses precinct scanners such as the iVotronic or Model 100, select commands under the **Poll Setup** menu to configure output files for your jurisdiction's polling places. Use polling place options to configure default polling place settings, generate a master file for default polling place data, configure polling places for a single election, link polling places to precincts, set up ballot styles and ballot style names for iVotronic equipment and update output files for iVotronic tabulators. Take the following steps to configure default polling place settings.

1. Under the **Poll Setup** menu, click **Polling Place Defaults** to view and edit the default settings for your polling places.



2. Select a polling place type from the list and click **Edit** to open the Polling Place Defaults window:



Poll Information

In the Polling Place Defaults window, use the options under the **Poll Information** heading to select the standard time that polls open and close in your jurisdiction and to create an override password that keeps the polls open after the specified closing time. Take the following steps to configure poll information.

1. In the Polling Place Defaults window under the **Poll Information** heading, use the calendar and arrow keys in the **Closing Date/Time** lists to set the closing date and time for your election.

NOTE: Do not type dates or times in the **Closing Date/Time** box. Election Data Manager only recognizes closing dates and times if you use the selection arrows.

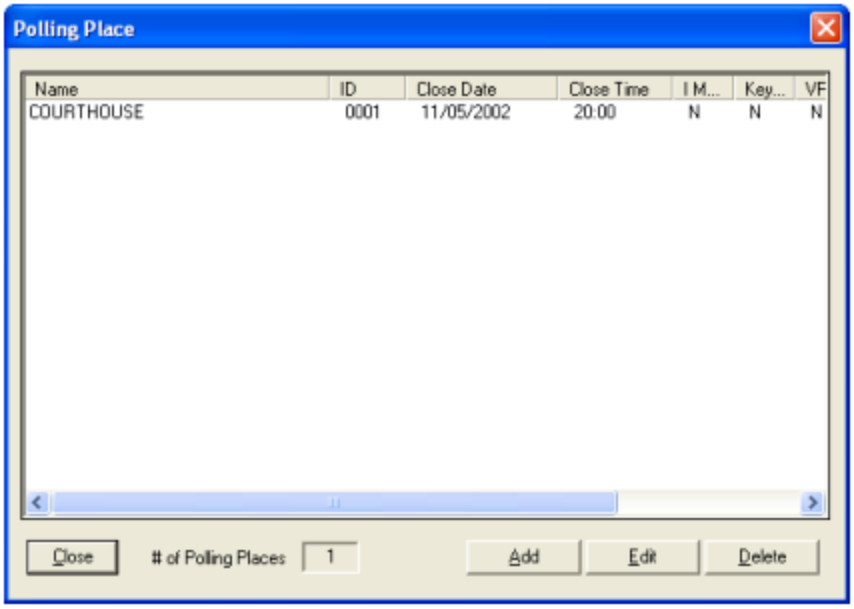
The remaining fields on this window are not used in California.

2. Click **OK** to return to the EDM main screen.

Create Polling Places in your Jurisdiction Database

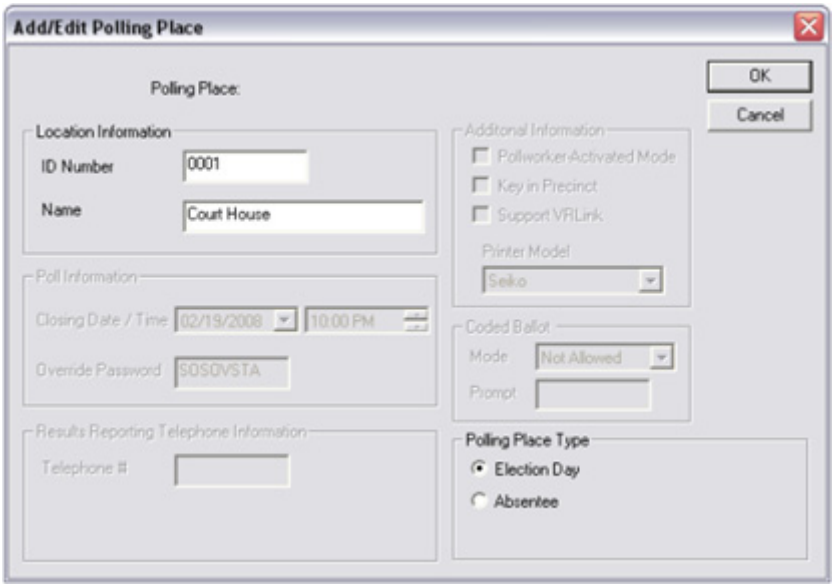
Under the **Poll Setup** menu, use the **Master Polling Place File** command to create permanent polling place records in your jurisdiction database. Link the polling places from your master file to precincts to activate polling places for your election. Take the following steps to create permanent polling place records.

1. From the **Poll Setup** menu, click **Master Polling Place File** to add or edit polling place records for your election.



From left to right, the Polling Place window displays the following information: polling place name, poll ID number, poll closing date and time, whether the polling place uses iVotronic voter activated terminals, whether the polling place uses PEBs keyed to individual precincts, whether the polling links to voter registration records and the telephone number used to transfer election results. The total number of polling places in your jurisdiction database appears to the right of the **Close** button.

2. In the Polling Place window, select a polling place and click **Delete** to remove the polling place record from your database. Click **Add** to create a new record or select a polling place and click **Edit** to change the settings for an existing poll location. Click **Add** or **Edit** to open the Add/Edit Polling Place window.



3. Under the **Location Information** heading, type the **ID Number** and **Name** of your polling place in the appropriate boxes. Your state assigns polling place ID numbers to identify polling locations during results gathering on election night.

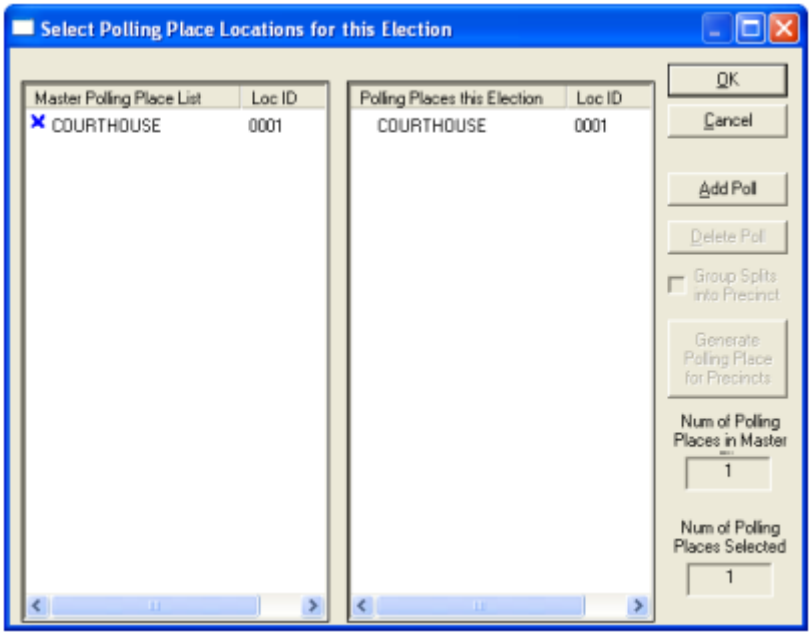
Refer to the Default Polling Place Settings heading in this section for instructions for setting the other options in the Add/Edit Polling Place window.

4. Under the **Polling Place Type** heading, select one of the following options to select the type of your polling place.
   - Select **Election Day** to configure your polling place as an Election Day polling center.
   - Select **Absentee** to configure your polling place for vote by mail voting.
5. If you select **Absentee** as the **Polling Place Type**, it enables the **Absent Precinct Generation** heading. Under the **Absentee Precinct Generation** heading, select one of the following methods to generate the vote by mail precinct.
   - Select **Automatic** to automatically generate your vote by mail precincts.
   - Select **Manual** to manually assign election day precincts to the polling place. Type the **Precinct Name** in the enabled field.
6. Click **OK** to save settings for the current polling place and enter data for your next polling place. Click **Cancel** to return to the Polling Place window. Make sure you click **OK** to save the settings for your last polling place before you click **Cancel** to close the Add/Edit Polling Place window.

Select Polling Places for an Election

Under the **Poll Setup** menu, use the **Select Polling Places for this Election** to activate polling places for your election. Take the following steps to activate polling places.

1. Under the **Poll Setup** menu, click **Select Polling Places for this Election** to activate your polling places.



2. From the **Master Polling Place List** on the left of the window, select a polling place and click **Add Poll** to activate the location. Selected polling places appear in the **Polling Places for this Election** list at the right of the window.

NOTE: The number of polling places stored in the **Master Polling Place** list appears in the **Number of Polling Places in Master** box and the number of activated polling places appears in the **Number of Polling Places Selected** box.

3. From the **Polling Places for this Election** list, select a polling place and click Delete **Poll** to deactivate a polling place.

NOTE: Select multiple polling places by holding the **Shift** key and selecting a sequence of precincts or holding **Ctrl** and selecting multiple polling places out of sequence.

4. Click **Generate Polling Place for Precinct** to automatically create a polling place for each active precinct in your election. Select **Group Splits into Precinct** to assign splits within a precinct the same polling place as the rest of the precinct. Clear the **Group Splits into Precinct** check box to create separate polling places for splits within a precinct.
5. Click **OK** to save your settings and return to the main screen or **Cancel** to exit to the main screen without saving.

Edit or Add Polling Places for a Single Election

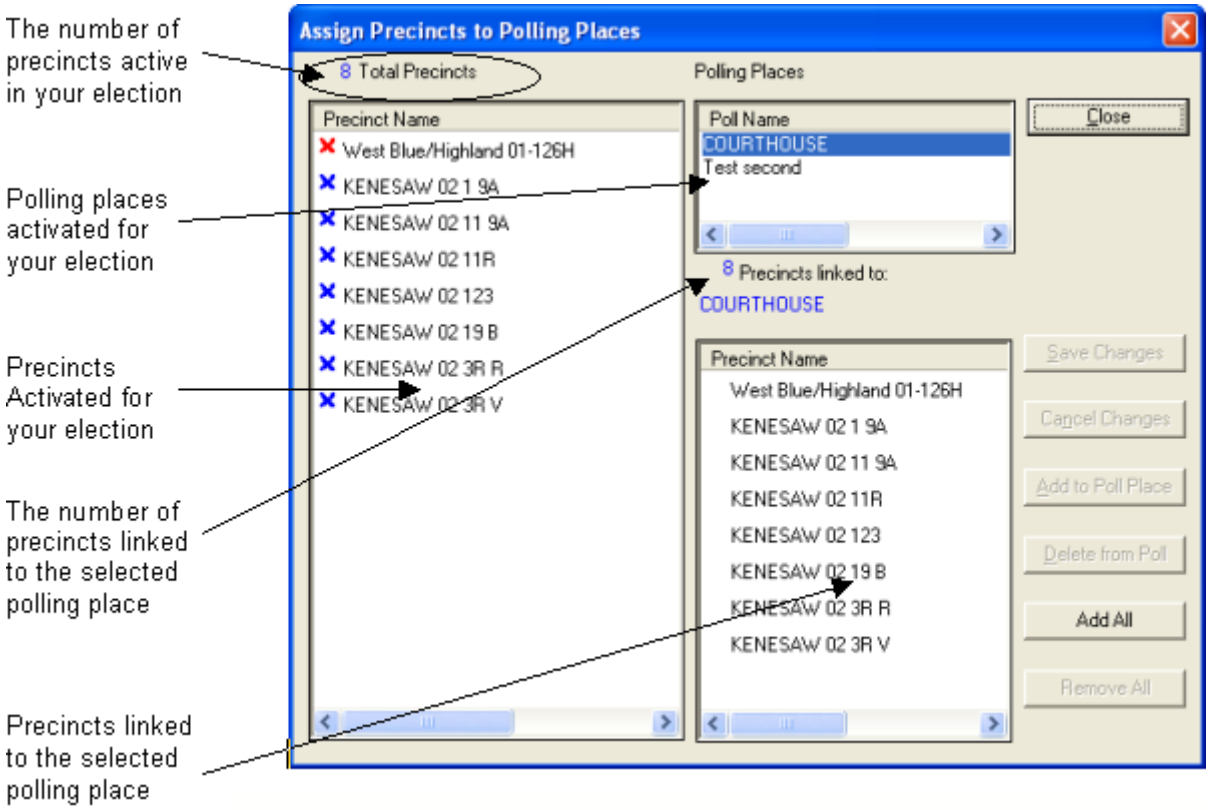
Under the **Poll Setup** menu, select **Edit/Add Polling Places for this Election** to create or customize polling places for a single election.

Refer to the Default Polling Place Settings heading in this section for instructions about how to set up custom polling places for your election.

Assign Precincts to Polling Places

Under the **Poll Setup** menu, use the **Assign Precincts to Polling Places** command to link polling places to precincts activated for your election. You can use the **Assign Precincts to Polling Place** command to automatically generate polling places for each of your active precincts. Take the following steps to assign precincts to polling places.

1. Under the **Poll Setup** menu, click **Assign Precincts to Polling Places** link active precincts to your polling places.



2. From the **Poll Name** list at the top right of the window, select a polling place. Then, select precincts from the **Precinct Name** list on the left side of the window to assign precincts to your polling place. Click **Add to Poll Place** to finalize the link. Precincts linked to your selected polling place appear in the **Precinct Name** list at the bottom right of the window. Green arrows appear next to recently assigned precincts.

NOTE: Select multiple precincts by holding the **Shift** key and selecting a sequence of precincts or holding **Ctrl** and selecting multiple precincts out of sequence.

3. Click **Add All** to assign all precincts to the selected polling place.
4. Click **Save Changes** to save your polling place assignments. Blue Xs appear to designate finalized links. Red Xs appear if you link a precinct to more than one polling location. Click **Cancel Changes** to disregard your polling place assignments.

NOTE: Click Remove All to remove all precincts from the selected polling place.

5. Click **Save Changes** each time you assign precincts to a polling place. Click **Close** to the main screen.

4.1 Section F: Create Election Files

Use the options under Election Data Manager's **Merge** menu to create election files based on information from your jurisdiction database and election database. When you merge your election, Election Data Manager creates scanner files for Hardware Programming Manager and ballot information files for ES&S Image Manager. Hardware Programming Manager uses election files from Election Data Manager to create election definitions for your vote counting equipment. Image Manager uses Election Data Manager files to position contests and candidates on your ballots.

Election Data Manager merges all of the office, candidate and precinct data from your election database into a single ballot data file (.bdf). Election Data Manager stores the ballot data file in the election folder in your EDM directory.

Ballot Sets

Election Data Manager groups ballots for different political parties in a primary election and ballots that use different election equipment or configurations into categories called ballot sets. When you generate your final election files, Election Data Manager merges all of your ballot sets and simultaneously creates all of the necessary output files for your election.

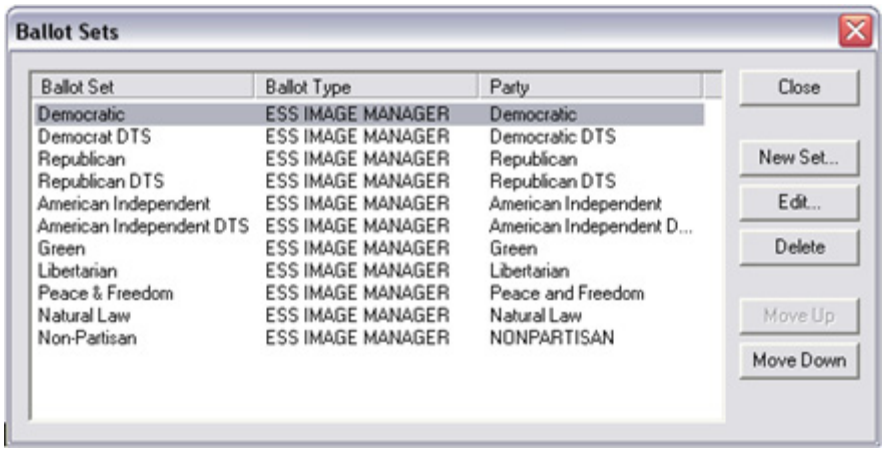
Before you generate your election files, create a different ballot set for each ballot category (party, equipment or configuration) in your election. For example, if you create a two-party primary election and your jurisdiction uses Model 100 precinct counters for Election Day voting and a Model 650 central scanner to count vote by mail ballots, create four ballot sets to generate all of the necessary election files. Each political party requires a different ballot configuration for the precinct count and the central count equipment. So, if your parties are Democratic and Republican, you must create a Democratic Model 100 set, a Democratic Model 650 set, a Republican Model 100 set and a Republican Model 650 set. In addition, if your primary also contains nonpartisan contests, you must create two additional ballot sets (one for each equipment type) for your nonpartisan contests.

After you configure options for each of your ballot sets and program your election, select the **Generate Ballot Styles** command under the **Merge** menu to create all of the output files required for your election.

Create a Ballot Set

Create a ballot set for each ballot configuration included in your election. Election Data Manager requires ballot sets to create election files for separate political parties in a primary election, each piece of voting equipment used in your jurisdiction, and ballots configured with different merge options. Configure ballot sets before you generate your final election files to create all of your ballot files and election definitions for your voting equipment at the same time. Take the following steps to create a ballot set.

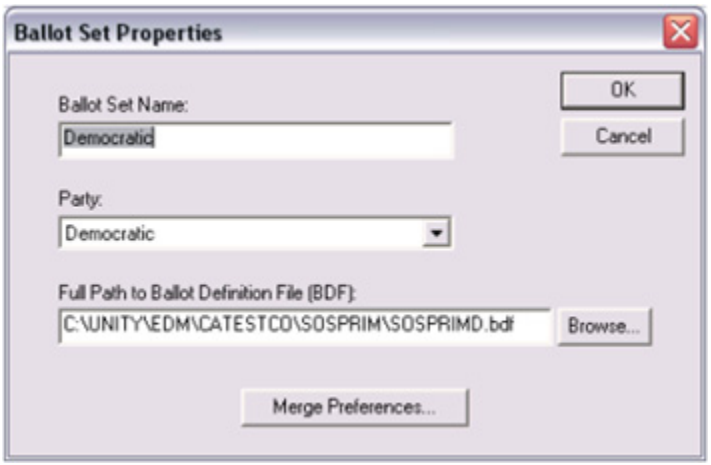
1. Under the **Merge** menu, click **Ballot Sets** to create ballot groups for your election.



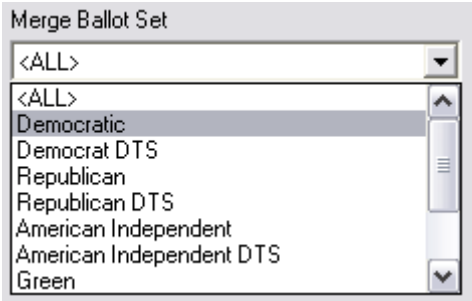
From left to right, the Ballot Sets window displays the following information: the name of the ballot set, the equipment type selected for the ballot set and the party selected for the ballot set.

2. In the Ballot Sets window, select a ballot set and click **Delete** to remove a ballot set from your election configuration. Click **New Set** to create a ballot set or select an existing set and click **Edit** to change the settings for a ballot configuration. Select a set and click **Move Up** or **Move Down** to change the position of a ballot set on the list.

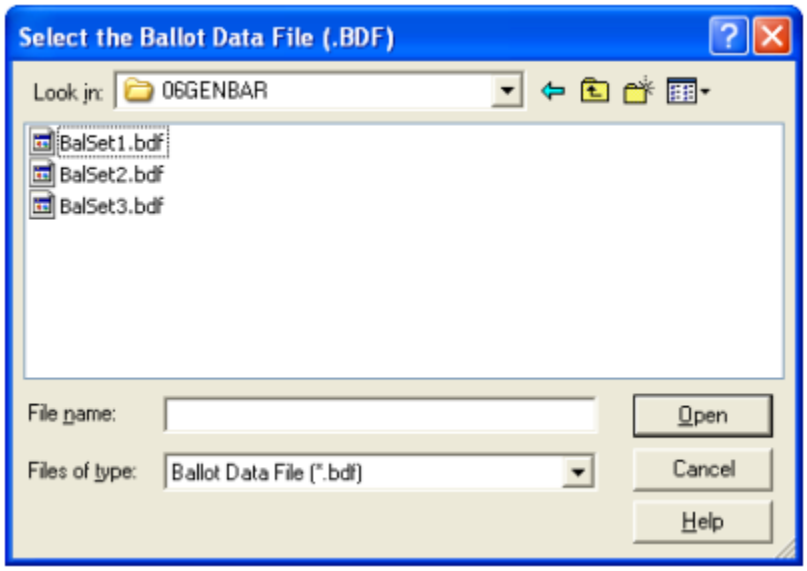
Click **New Set** or **Edit** to open the Ballot Set Properties window.



3. In the **Ballot Set Name** box, type a name to identify your ballot set in the Ballot Sets window.
4. From the **Parties** list, select a party name to configure your ballot set for a specific political party. Select **<All>** to create a ballot set for a general election.



5. Click the **Browse** button next to the **Full Path to Ballot Definition File (BDF)** box to open a browse window to select an output location for your election information.



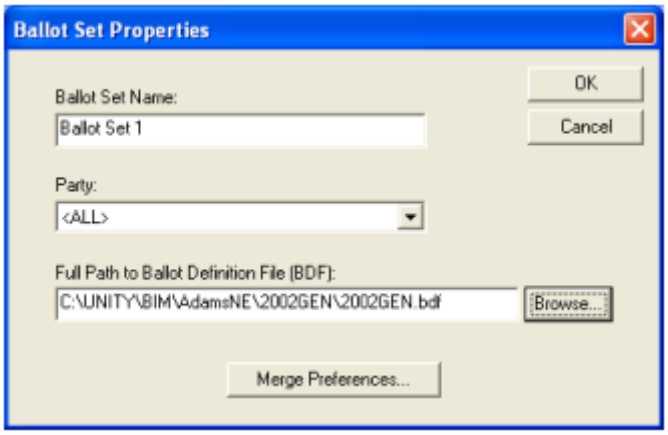
6. In the Select the Ballot Data File window, browse your computer to set the output location for your ballot data file. In the **File Name** box, type a name for the file that Election Data Manager will create from your ballot set when you generate election files. Click **Open** to save your selections and return to the Ballot Set Properties window or click **Cancel** to return to the Ballot Set Properties window without selecting an output location or file name.
7. In the Ballot Set Properties window, click **OK** to save your ballot set configuration and return to the Ballot Sets window. Click **Cancel** to return to the Ballot Sets window without saving your configuration. Click **Merge Preferences** to configure the output files for your election.

Refer to the Merge Preferences heading in this chapter for information about configuring your election output files.

Output Files

Set your merge preferences to configure Election Data Manager's output files. When you generate your election files, Election Data Manager creates files for Hardware Programming Manager and ES&S Image Manager. Configure merge preferences to properly format Election Data Manager's output files for your election. Take the following steps to select merge preferences.

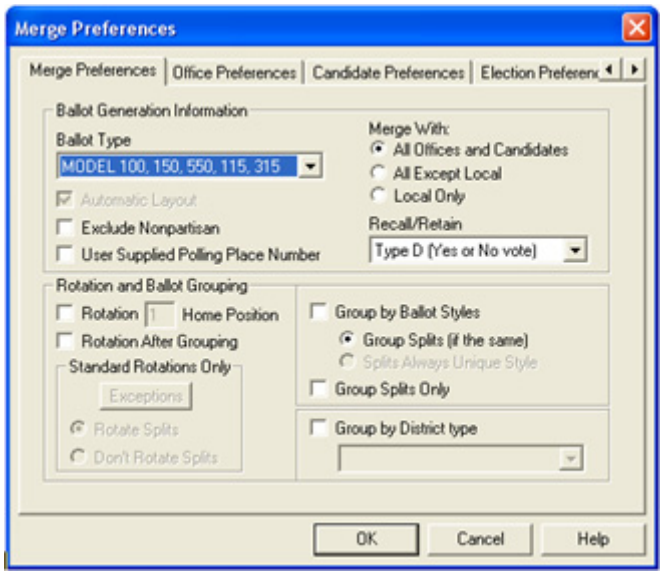
1. Under the **Merge** menu, click **Ballot Sets** to open the Ballot Sets window. Select the ballot set that you want to configure and click **Edit**, or click **Create New** to open the Ballot Set Properties window and build a new ballot set file.



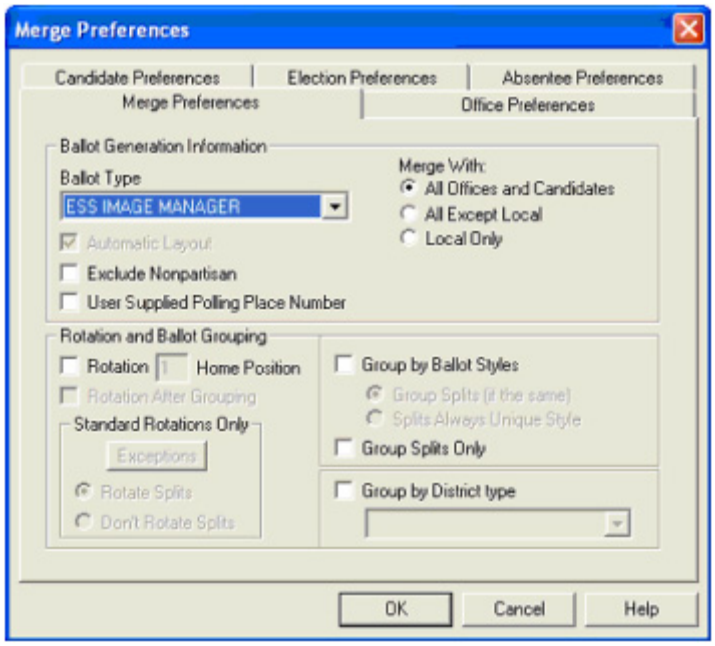
2. In the Ballot Set Properties window, click **Merge Preferences** to configure your output files.

NOTE: The Merge Preferences window is different for Unity 2.4.3.1 and Unity 3.0.1.1, as shown in the following examples.

Merge Preference Window for Unity 2.4.3.1



Merge Preference Window for Unity 3.0.1.1



Merge Preferences

In the Merge Preferences window, use the options under the **Merge Preferences** tab to configure the following output file options:

- Ballot Generation Options
- Rotations
- Rotation Exceptions
- Grouping by Style or District Type

Ballot Generation Options

In the Merge Preferences window, use the options under the **Ballot Generation Information** heading under the **Merge Preferences** tab to select your jurisdiction's voting equipment, nonpartisan ballot options, local office file configuration and recall race format. Take the following steps to select ballot generation options.

1. If you use Unity 3.0.1.1, from the **Ballot Type** list, select **ESS Image Manager** as your jurisdiction's voting equipment. If you use Unity 2.4.3.1, from the **Ballot Type** list, select **MODEL 100, 150, 550, 115, 315** as your ballot type for the Model 100 and/or Model 650.

Refer to the Merge Preference Window for Unity 2.4.3.1 screen sample and the Merge Preference Window for Unity 3.0.1.1 screen sample for examples of the appropriate Merge Preferences window.

If your jurisdiction uses more than one type of equipment, select the equipment type that you want to link to the current ballot set.

2. Under the **Merge With** heading, select one of the following options to configure merge options for your local contests:
   - Select **All Offices and Candidates** to include all the offices and candidates from your election database in your ballot data file.
   - Select **All Except Local** to exclude local offices and candidates from your output files.
   - Click **Local Only** to create an output file that contains only local offices.
3. From the **Recall/Retain** list, select the type of recall question your jurisdiction uses. Select **Type D (Yes or No vote)** to place two responses under your recall question.

Refer to the Recall Race heading in 4.1 Section D: Add Ballot Text and Questions for information about formatting a recall contest.

Ballot Rotation Options

In the Merge Preferences window, use the options under the **Ballot Rotation Options** heading under the **Merge Preferences** tab to select how you want to rotate candidate names on ballots in your jurisdiction.

1. Click the **Rotation** box.
2. Type 1 in the **Home Position** field.

Group Ballots

Grouping ballots by style does not apply in California. Skip this step.

Office Preferences

In the Merge Preferences window, configure options under the **Office Preferences** tab to format office information for your Election Data Manager output files. The **Office Preferences** tab contains options for changing standard office verbiage such as vote for text, preferences for formatting offices with no active candidates, format options for write-in lines and preferences for formatting straight party contests. Use this tab to configure office information for your output files.

Default Office Text

Under the **Office Preferences** tab in the Merge Preferences window, select options under the **Office Preferences** heading to configure default office text for your election files. Take the following steps to configure default text.

1. Click the **Office Title All Capital Letters** check box to format office titles to appear in all capital letters on your jurisdiction's ballots.

NOTE: When you configure your offices, type your office titles exactly as you want them to appear on your ballots. Only click Office Title All Capital Letters if necessary.

2. In the **Vote for Phrase when only 1** box, type a default vote for phrase for offices that allow voters only one candidate selection.
3. In the **Vote For Phrase** box, type a default vote for phrase for offices that allow voters to select more than one candidate. Vote for phrases from your election's office file override the default vote for phrase in the Merge Preferences window. The term phrase from your office file also overrides the default term text in the Merge Preferences window.

NOTE: You can use hard codes to format your vote for text. Type the code "<NUM>" after your vote for text to place the vote for number from your office file on your ballots as a numeral. Type "<ALPHA>" to spell out the number in all capital letters on your ballots. Type "<Alpha>" to spell out the vote for number in title caps.

4. From the **Term Phrase** list, select a default term phrase for your office records. The term number from your office file automatically appears with your selected **Term Phrase**. Use the same codes to format your term phrase that you use to format the **Vote For Phrase**.

"No Candidate" Text

Use the options under the **No Candidate Information** heading to format "no candidate" ballot messages that appear under offices with no active candidates. Take the following steps to configure No Candidate information.

NOTE: The No Candidate Information functionality only works for offices that have the Generate No Candidate option selected.

Refer to the Additional Office Information heading in 4.1 Section B: Create a County Database for information about the Generate No Candidate option.

1. Under the **No Candidate Information** heading, click **No Candidate** to place a no candidate message on the ballot for offices without candidates.
2. Click **One per Office** to place a single no candidate message below an uncontested office.
3. Click **One per Vote For #** to place a number of no candidate messages beneath an uncontested office equal to the vote for number of the office.

4. In the **No Candidate Text** box, type a default no candidate phrase for your uncontested offices. For example, “No Petition Filed,” “No Nomination Made,” or “No Candidate.”

IFC Options

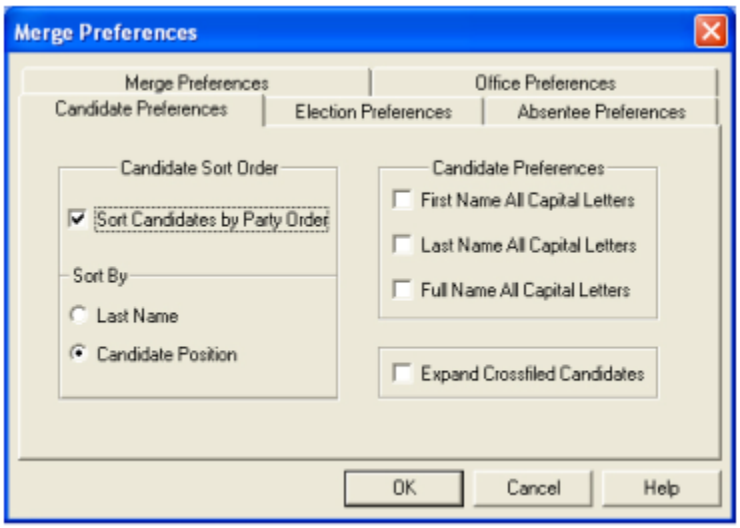
The **IFC Options** are not used in California.

Place Write-in Targets on a Ballot

Under the **Office Preferences** tab in the Merge Preferences window, click **Use Write-Ins** under the **Write-Ins** heading to place write-in targets below your offices. The number of write-in targets that appear for an office equals the vote for number of the office.

Candidate Preferences

In the Merge Preferences window, configure options under the **Candidate Preferences** tab to format candidate records for your Election Data Manager output files. The **Candidate Preferences** tab contains options for sorting your candidates, formatting the appearance of candidate names on your ballots and for configuring rules for cross filed candidates. In the Merge Preferences window, click the **Candidate Preferences** tab to configure candidate information for Election Data Manager’s output files.



Candidate Sort Order

Under the **Candidate Preferences** tab in the Merge Preferences window, select options under the **Candidate Sort Order** heading to set the order that candidates appear below contest text on your ballots. Sort candidates by party order, alphabetically or by candidate position number. Take the following steps to select a candidate sort order.

1. Under the **Candidate Sort Order** heading, click **Sort Candidates by Party Order**, to place candidates below contest text in party sequence order.

Refer to the Activate Parties for an Election heading in 4.1 Section B: Create a County Database for information about assigning party sequence numbers.

2. Select one of the **Candidate Position** option under the **Sort by** heading to select order your candidates by candidate position number, if you selected **Sort Candidates by Party** order or to select a primary sort option if you clear the **Sort Candidates by Party** Order check box.

Refer to the Candidates for an Election heading in 4.1 Section C: Create an Election Database for information about assigning candidate position numbers.

Format Candidate Names

Use the options under the **Candidate Preferences** heading to format the appearance of candidate names on your ballots. Take the following steps to format candidate names.

1. Click **First Name All Capital Letters** to format your ballots so that the first names of all of your candidates appear in capital letters.
2. Click **Last Name All Capital Letters** to format your ballots so that the last names of your candidates appear in capital letters.
3. Click **Full Name All Capital Letters** to format the candidate names on your ballots to appear in all capital letters.

NOTE: Do not use the options under the **Candidate Preferences** heading unless necessary. Type your candidate names exactly as you want them to appear on your ballots when you create candidate records.

Cross Filed Candidates

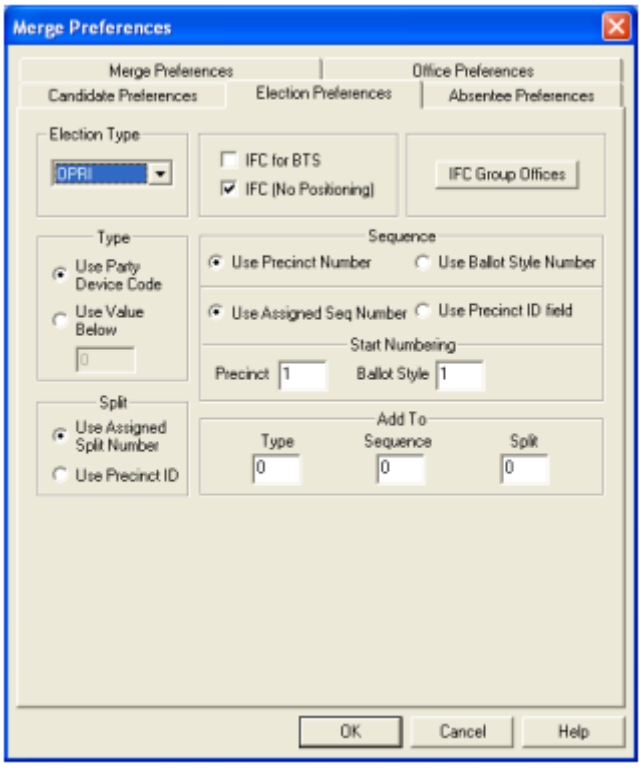
This option does not apply to California. Skip this step.

Election Preferences

The options available under the **Election Preferences** tab in the Merge Preferences window vary depending on the election equipment that you select from the **Ballot Type** list under the **Merge Preferences** tab.

Election Preferences for Paper Ballot Scanners

In the Merge Preferences window, configure options for the ESS Image Manager under the **Election Preferences** tab to select your election type, format an interface file for ES&S Image Manager, configure ballot type and split codes, format your ballot sequence and select ballot numbering preferences. In the Merge Preferences window, select **ESS Image Manager** from the **Ballot Type** list and then click the **Election Preferences** tab to configure preferences for Election Data Manager's election output files.



Election Type

Use the list under the **Election Type** heading to configure your election files for a specific type of election such as a general or primary election. Select one of the following election categories from the **Election Type** list:

- **SPEC:** Special
- **GENL:** General
- **CPRI:** Closed Primary
- **OPRI:** Open Primary
- **PICK:** Pick a Party

Interface File Options

Interface File Options are not used in California.

Ballot Type Options

Election Data Manager groups additional ballot pages, nonpartisan ballots and primary election ballots for different political parties into separate ballot types. Your jurisdiction can assign up to 30 ballot types for a single election. Use the options under the **Ballot Type** heading to determine how Election Data Manager assigns ballot type codes to your ballots. Take the following steps to configure ballot types.

1. Under the **Type** heading, click **Use Party Device Code** to assign ballot type codes that are identical to the party generated with the **Parties** command under the **County** menu. For example, if you assign the Republican party a party code of 2, your Republican contests appear on the second ballot type in your election.

NOTE: Use the options under the **Type** heading in general and recall elections.

2. Click **Use Value Below** and enter a two-digit number in the box to manually select the first ballot style number for your election. If your jurisdiction requires an extra ballot for referendums or races, merge your ballot questions as a separate election and assign a ballot style number manually.

NOTE: Use the **Use Value Below** option in primary elections.

Split Codes

If you assign codes to your ballots based on precinct identifiers rather than ballot style numbers, use the options under the **Split** heading to determine how Election Data Manager assigns split precinct identification codes to your ballots. A split precinct contains a political subdivision that requires a different ballot style than the rest of the precinct. For example, a single precinct may contain multiple school districts that vote on separate contests. Take the following steps to format split codes.

1. Under the **Split** heading, click **Use Assigned Split Number** to use the split number that you assigned when you entered precinct information with the **Precincts** command under the **County** menu. ES&S recommends that you select the **Use Assigned Split Number** check box.

2. Click **Use Precinct ID** to assign split codes that match the precinct identification number (precinct number followed by split number) in your jurisdiction database.

Contact ES&S before you **Use Precinct ID** to assign split codes.

NOTE: To activate options under the **Split** heading, you must select **Use Precinct Number** under the **Sequence** heading to assign ballot codes by precinct identifiers rather than ballot types.

Ballot Sequence Codes

Use the options under the **Sequence** heading to format sequence codes for your ballots. Sequence codes act as ballot identifiers and consist of either the precinct identification number followed by a split number or the ballot style number. Take the following steps to format sequence codes.

1. Under the **Sequence** heading, select **Use Precinct Number** to assign sequence codes based on the precinct identification codes that you assigned with the **Precincts** command under the **County** menu. Click **Use Ballot Style Number** to assign sequence codes based on assigned ballot style numbers.
2. The **Use Assigned Seq Number** and **Use Precinct ID field** options are only available if you click **Use Precinct Number** under the **Sequence** heading. Click **Use Assigned Sequence Number** to access options under the **Start Numbering** heading and manually assign ballot sequence codes. Click **Use Precinct ID field** to assign sequence codes based on the precinct numbers that you formatted with the **Precincts** command under the **County** menu.
3. If you select **Use Assigned Seq Number**, use the options under the **Start Numbering** heading to manually assign sequence numbers. Type values in the **Precinct** and **Ballot Style** boxes to select the precinct or ballot style whose ballots will contain the first ballot sequence number for your election. Use the **Start Numbering** options to manually assign sequence numbers if your jurisdiction holds an election that does not include all of your precincts.

NOTE: Always select **Use Precinct Number** and **Use Precinct ID Field** when you format files for a general election.

4. If you select **Use Ballot Style Number** under the **Sequence** heading, click the **Assign Sequence** check box under the **Start Numbering** heading to automatically assign sequence numbers to your ballots.

5. Under the **Add To** heading, type values in the **Type**, **Sequence**, or **Split** boxes to manually add numbers to your ballot codes.

Consult a customer service representative from ES&S before you manually add numbers to your ballot codes.

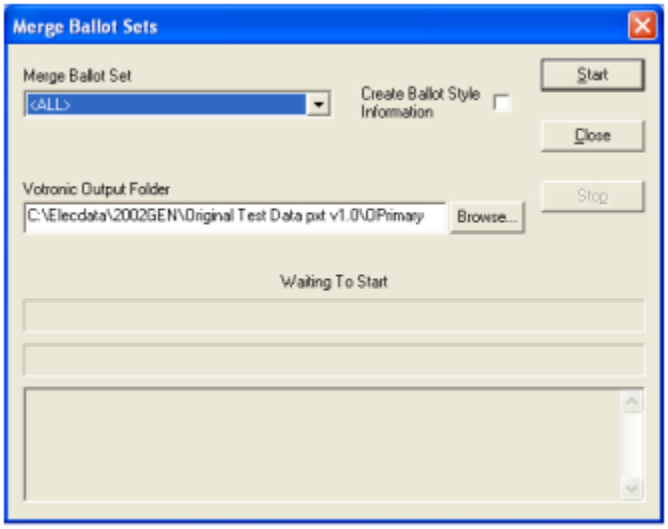
Generate Election Files

Under the **Merge** menu, select **Generate Ballot Styles** to generate output files for your election. The **Generate Ballot Styles** option creates output files for each of your ballot sets. You can generate files for all of your ballot sets at the same time or create files for individual sets. Take the following steps to generate output files.

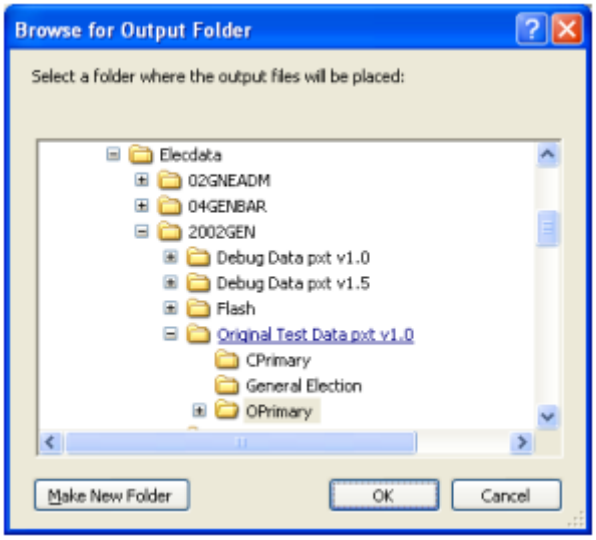
Refer to the Election Data Manager File Structure heading in 4.1 Section A: Create a Unity File Structure for information about creating folders for your Election Data Manager output files.

1. Under the **Merge** menu, click **Generate Ballot Styles** to open the Merge window and configure your election files.

NOTE: You must generate ballot styles for each party in a primary election.

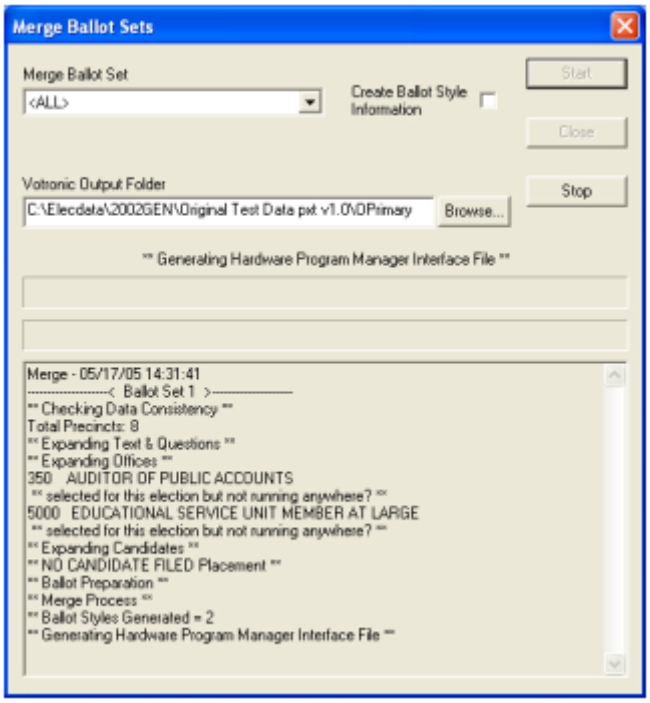


2. From the **Merge Ballot Sets** list, select **All** to generate output files for all of your ballot sets. Select a ballot set from the list to generate output files for each of your ballot sets individually.
3. Select the **Create Ballot Style Information** check box the *first time* you generate election files for iVotronic election equipment. Do not click **Create Ballot Style Information** for any election equipment other than the iVotronic terminals.
4. Next to the **Output Folder** box, click the browse button to open a the Browse for Output Folder window.



5. Select your election folder under the EDM folder and click **OK** to return to the Merge Ballot Sets window.

6. Click **Start** to generate output files for your election. Status information appears in the bottom half of the Merge Ballot Sets window.



7. Click **Stop** to cancel your file generation in progress. Click **Close** to return to the Election Data Manager main screen after you create output files.

Special Instructions for Merging Primaries

Some ballot scanners require you to perform special tasks in Election Data Manager when you create a primary election. Use the instructions in the following paragraphs to configure primary election files for Model 100 ballot scanners.

After you create a ballot set for each of your parties, select **Generate Ballot Styles** under the **Merge** menu to open the Merge Ballot Sets window. Select your first ballot set from the **Merge Ballot Set** box and then click **Create Ballot Style Information** to create a ballot data file for your first ballot set. Repeat the process for each of your ballot sets to generate a separate ballot data file for each of your ballot sets. After you merge your ballot files, use the following instructions to configure ballot styles for your election.

4.1 Section G: Reports

Election Data Manager produces a number of reports that track the information in your jurisdiction and election databases. Use the commands under the **Reports** menu to double-check your election information and to track your progress as you configure an election. Under the **Reports** menu, click a command to generate one of the following Election Data Manager reports:

- Select **Master Precinct List** to generate a list of all the precinct records stored in your jurisdiction database.
- Click **District Names** to create a list of the names of all of your districts and the offices contested in each district.
- The **District Relations** report displays the links between your districts and precincts.
- Select **Master Offices** to generate a report that lists all of the information contained in the master office file of your jurisdiction database.
- Click **Party** to generate a list of the party records in your jurisdiction database. Election Data Manager organizes your party records first by party order, then by party ID and device code and finally by party name.
- Select **Office Headings** to generate a list of office headings stored in your jurisdiction database.
- Click **Precincts this Election** to list information for all of the precincts activated for your election.
- Select **Registered Voters this Election** to create a list of registered voter totals in your jurisdiction.
- Click **Offices this Election** to list information for all of the offices activated for your election.
- Select **Office Relations** to list the districts where each office in your jurisdiction database appears on the ballot.
- Click **Candidates this Election** to generate information for each of the candidates active in your election.
- Click **Offices and Candidates this Election** to generate a list of active offices in your election and the candidates assigned to run for each office.

  If you use an additional text field to add a second candidate for the same office position, for instance President and Vice President, the second candidate will not appear when you run a Offices and Candidates this Election report.

- Generate a **Ballot Style Report** to list each of your ballot styles and the identification information for each style. Under the **Reports** menu, point to **Ballot Style Reports** and click **Ballot Styles in Ballot Style Order** to list your ballot styles in order of ballot style number or click **Ballot Styles in Precinct Order** to sort your ballot styles by precinct identification number.
- Select the **Ballot Galley- Precinct/Office/Candidate** report to view information that appears on your final ballots. The production number for the current ballot appears at the top of the report page followed by information that appears on the ballot for the current style.

  If you use an additional text field to add a second candidate for the same office position, for instance President and Vice President, the second candidate will not appear when you run a Ballot Galley Report. The report also does not display write-in information.

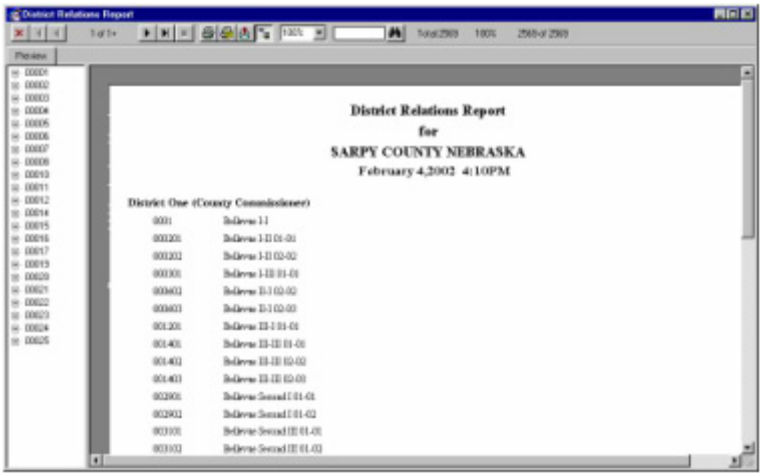
NOTE: The ballot galley report generates files called merge.dbf and mrg.dbf in your election folder. Delete the two files after you generate a ballot galley report to free up disk space.

- Point to **Rotation Reports** and then select a rotation type. Select how you want Election Data Manager to sort your report (by registration, rotation, precinct or precincts and candidates) to generate a report that shows how your candidates rotate for the selected rotation type.

Election Security Requirement: The EDM reporting function provides security for your election. Print reports for every election and archive them physically and electronically with your other election materials.

Select a Report

Under the **Reports** menu, select a report title to generate a database report. Election Data Manager displays your report in format similar to the following example.



NOTE: Pointing to some report commands under the **Reports** menu opens a submenu with additional selections.

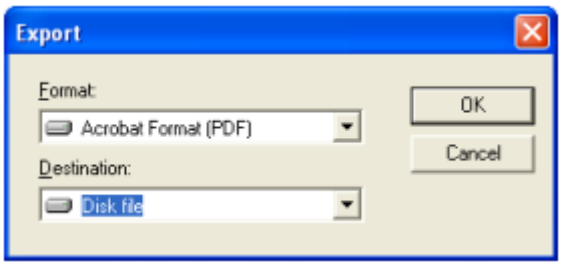
Print a Report

In your report window, click the printer icon, which looks like a printer with a wrench in front of it to select print preferences. In the Print Setup window, select options and click **OK** to print your report.

Export a Report

Use Election Data Manager's report export options to transfer database reports to other locations or to save your reports to disk.

1. In the report window, click the envelope button with the red arrow to select preferences for exporting your report.



2. From the **Format** list, select the file format that you want to use to save your report.
3. From the **Destination** list, select the location where Election Data Manager will save your report. ES&S saving to disk.
4. Click **OK** to convert your report to the selected format and save to the selected location. Click **Cancel** to return to your report window without exporting the file.

4.1 Section H: Back Up EDM Files

To back up the election programming (EDM and ESSIM), save the following files with the full path information.

1. Right-click the **start** button and select **Explore**.
2. Locate your election in C:\UNITY\EDM\COUNTYFOLDER, where COUNTYFOLDER is the name of your county.
3. Select every file in the folder, as well as the election name folder of the election to be backed up.

NOTE: Select multiple files by holding the **Shift** key and selecting a sequence of files or holding **Ctrl** and selecting multiple files out of sequence.

4. If you saved Image Manager objects, such as text or graphic frames, outside of the COUNTY folder brows to the appropriate location and include them.
5. Save these files to your choice of media, such as a 3.5-inch disk, a CD, or a USB drive.

4.1 Section I: ES&S Image Manager Introduction

ES&S Image Manager is a desktop publishing tool that enables you to design and publish Election Systems and Software paper ballots for central and precinct ballot scanners. Use ES&S Image Manager to create ballot formats for ES&S ballot services or a partner printer who use your layouts to print official ballots, or use the layouts you create with the program to print extra Election Day ballots with Ballot on Demand. ES&S Image Manager reads and converts the information contained in your jurisdiction's election database (created with Election Data Manager) into finished ballot layouts.

Ballot Data File

After creating county and election databases in Election Data Manager, the program must convert the election information into a usable format for other Unity™ software. Election Data Manager merges all of the office and candidate data contained in an election database into a single ballot data file (.bdf). Layout artists use the ballot data file to design ballots and ballot scanner programmers use the file, along with ES&S Image Manager interface files (.ifc files), to generate election definitions for ballot scanners.

Election Data Manager stores all ballot data files in the election folder on your PC.

Refer to 4.1 Section A: Create a Unity File Structure for information about naming and storing ballot data files.

Format Ballots

Use the commands in ES&S Image Manager under the Style Sheets menu, Ballot menu and Frames menu to design the ballots for your jurisdiction.

Use Style Sheets commands to format individual components of a ballot data file from Election Data Manager. For example, format an office style sheet to control how the office information from your election database appears on your ballots.

Ballot menu commands control the general formatting rules for all your ballots. Select a ballot type, ballot size, a number of ballot columns, and ballot serial numbers with commands under the Ballot menu. You can also use Ballot menu commands to place formatting marks on your ballots and import ballot text and graphics.

Use the commands under the Frames menu to place external text or graphics on your ballots. You can either create ballot text in ES&S Image Manager or Election Data Manager, or you can import any ASCII file as a ballot text file.

After you format ballots, you can use ES&S Image Manager layouts to print ballots directly from your PC with Ballot on Demand or save your ballot images as Portable Document Format (.pdf) files for bulk printing by ES&S ballot services or a partner printer.

Ballot Measurements

ES&S Image Manager allows you to select measurements for ballot margins, ballot sizes and ballot targets. Enter all ES&S Image Manager measurements in inches and fractions of inches.

Create a Unity File Structure

ES&S recommends that you use a standard filing system to store election data for your jurisdiction. Follow the instructions in this chapter to set up folders for Election Data Manager and ES&S Image Manager files. You can store data for multiple elections in your election database.

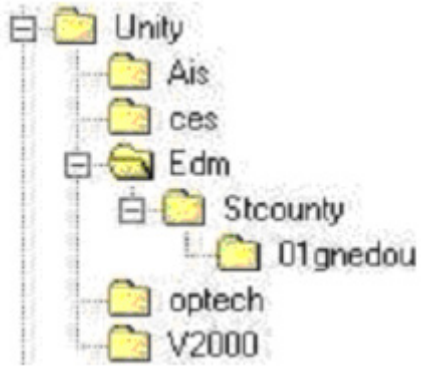
Election Data Manager File Structure

Election Data Manager automatically creates the file structure for your jurisdiction when you build a county database and create an election.

Refer to the 4.1 Section B: Create a County Database and 4.1 Section C: Create an Election Database for more information about creating county and election databases.

View County and Election Files in Windows

Start Windows Explorer and locate the folder where you installed Election Data Manager. If you installed to the default folder, open C:\Unity\EDM on your hard disk to view Election Data Manager files.



Your county folder appears below the Election Data Manager folder. If you followed the instructions for creating a county in 4.1 Section B: Create a County Database, the name of your county folder will be an eight-letter code that identifies your state and county. The first two characters of the folder name represent the U.S. Postal Service abbreviation for your state (for example, “NE” for Nebraska) and the last six letters are the first six letters of the county name (for example, “Dougla” for Douglas County). When you view your files in Windows Explorer, the file structure for Election Data Manager should look like the example earlier on this page (with “St” representing the state postal abbreviation and “county” representing the county abbreviation).

NOTE: The election folder appears below your county folder.

Refer to Part 4.1 Section A: Create a Unity File Structure for more information about naming election folders.

Create a File Structure for ES&S Image Manager

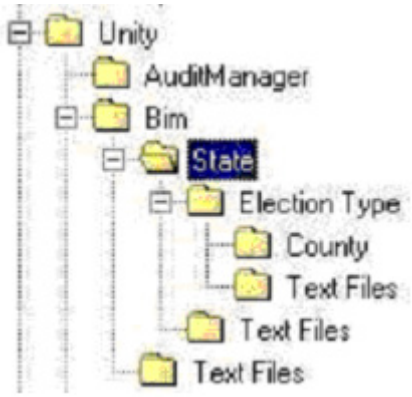
In the BIM program folder, ES&S ballot specialists create folders for each of the states for which they manage ballots. If you design ballots for only one state, skip to step three in the following instructions after you locate the ES&S Image Manager program folder.

NOTE: ES&S uses the following file structure to manage ballot layout files. Individual jurisdictions should use the following instructions as a guide for creating a useful folder structure.

1. Open Windows Explorer and locate the folder where you installed ES&S Image Manager. The default installation folder is on your hard disk is C:\Unity\BIM.
2. Create a new folder in the BIM folder and name it for your state.

Refer to Windows Help for instructions for creating a folder.

3. Create a second folder in the BIM folder and name it “Text Files.” Store all state specific text files in this folder.
4. Open the state folder that you just created and create a folder named for the election year and the type of election you are creating. For example, create a folder called “2007 General” to store 2007 general election files for your state.
5. Create a “Text Files” folder in the state folder to store election-specific text files.
6. Open your newly created election type folder and create a folder named for your county.
7. Create a “Text Files” folder in the election type folder to store county specific text files. Your ES&S Image Manager file structure should look like the following example when you view your folders in Windows Explorer.

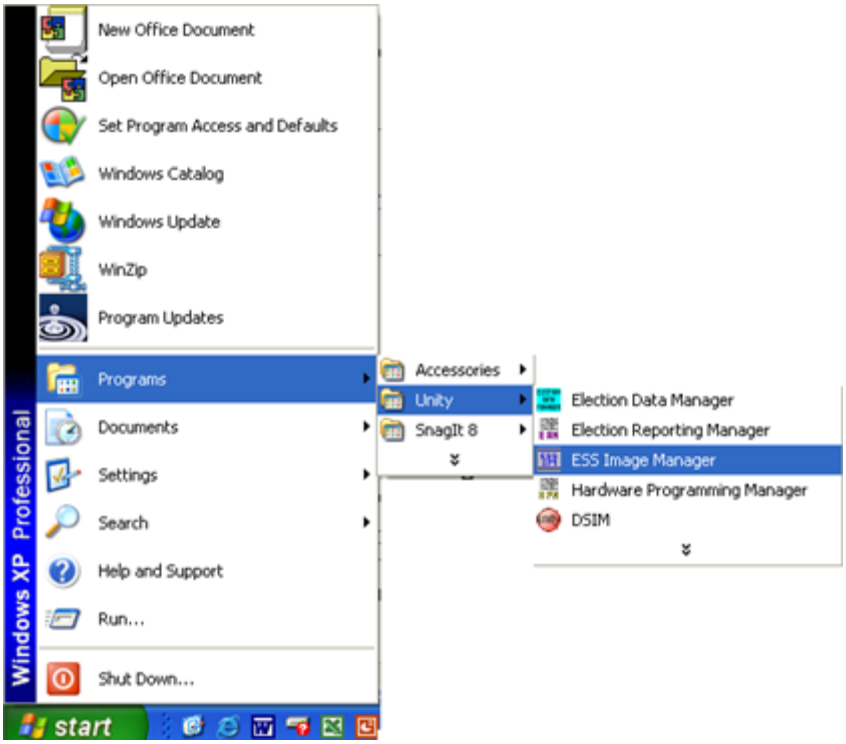


Start ES&S Image Manager

Use Audit Manager to assign passwords that limit access to your Unity programs. After you assign a password to ES&S Image Manager, you must enter the password each time you start the program.

Election Security Requirement: The Audit Manager module provides security for your election. The California Secretary of State requires that you always use Audit Manager. Do not share user names or passwords, and change them frequently.

1. Click **Start** on your Windows task bar; point to **Programs** and then to **Unity**. Click **ESS Image Manager**.



2. If you activated Unity passwords in Audit Manager, a password entry screen appears.
3. Type your user name and password in the boxes and click **Login** to open the ES&S Image Manager copyright window.
4. Click **OK** in the copyright window to open the program.

4.1 Section J: ES&S Image Manager Menus

Become familiar with ES&S Image Manager's File, Edit, and View menus to open, close and save ES&S Image Manager files, create or edit ballot text and change the screen presentation for your ballot layouts.

File Menu

Use File menu commands to open, close and save ES&S Image Manager files, print ballot layouts, and exit ES&S Image Manager.

NOTE: The **Save Template As** option is available for Unity 3.0.1.1 only. It is not supported in Unity 2.4.3.1.

Select from the following commands under the File menu.

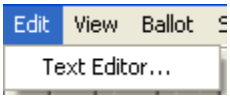
File Menu Options

Click this option...	To perform this action...
New	Open a new project in ESS Ballot Image Manager.

File Menu Options *(continued)*

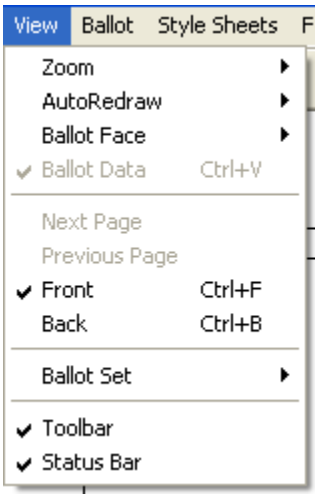
Click this option...	To perform this action...
Open...	Access an existing project.
Save	Store an open project in the project's current folder under the project's current name.
Save As...	Save an open project under a name that you choose in a folder that you select.
Close	Close the current ballot layout.
Load Template	Use a saved ballot template for your current ballot layouts.
Save Template As...	Save your current ballot layout settings for future use. **NOTE:** The **Save Template As** option is available for Unity 3.0.1.1 only. It is not supported in Unity 2.4.3.1.
Properties...	View the names of available ballot sets, the name of the ballot definition file associated with your ballot sets and the file location of the ballot definition files.
Print to PDF	Save your project as a portable document format (.pdf) file for ES&S ballot services or a partner printer.
Print...	Print the open project on your default printer.
Print Preview	Open a view that shows how your ballots appear when they are printed.
Print Setup...	Configure print settings such as the default printer and paper size. Click one of the numbered file names to open a recently used file.
Exit	Close the ES&S Image Manager program and return to your Windows desktop.

Edit Menu



Click **Text Editor** under the Edit menu to activate the ES&S Image Manager text editor. Use the text editor to create and edit ballot text. Copy any changes that you make to a text file in ES&S Image Manager to the corresponding text file saved with Election Data Manager. The two files must match if you change your election preferences.

View Menu



Use commands under the View menu to change the on-screen appearance of your ES&S Image Manager project.

Select from the following commands under the View menu.

View Menu Options

Click this option...	To perform this action...
Zoom	Get a close-up view of the ballot on your monitor. This will not affect the size of your ballot.

View Menu Options *(continued)*

Click this option...	To perform this action...
Auto Redraw	Point to **AutoRedraw** then **On** to automatically reformat the ballot image on your screen whenever you make changes. Click **Off** to deactivate the redraw function. Click **Draw Now** to reformat the ballot layout manually.
Ballot Face	Point to **Ballot Face** and click **GoTo** to open a search window and access specific ballot images. Click **First** to open the first ballot in your file, **Next** to display the next ballot, **Previous** to access the previous ballot, or click **Last** to display the last ballot contained in the file.
Ballot Data	Populate your ballot layout with all of the information from your ballot definition file.
Next Page	View the additional page of the ballot if the current ballot takes up more than the front and back of a single sheet of paper.
Previous Page	Return to the original page.
Front	View the front of the ballot page. The ballot front is the default view.
Back	Display the back of the ballot page.
Ballot Set	Point to **Ballot Set** and select the ballot set you want to view from the submenu.
Toolbar	Uncheck the **Toolbar** to hide the toolbar at the top of the screen.
Status Bar	Uncheck the **Status Bar** to hide the information bar that appears at the bottom of the main window.

Toolbar

Use the function buttons on the ES&S Image Manager Toolbar to access many of the commands available under the File and View menus.

From left to right, click the Toolbar buttons to access the following commands.

Toolbar Options

Use this button...	Called...	To perform this action...
	New	Begin a new project.
	Open	Open an existing project.
	Save	Save an open project under its existing name in its current location.
	Print	Print finished ballots on your default printer.
	Previous Ballot Face	Show the previous ballot face in your ballot sequence.
	Previous Page	Display the previous ballot page, if your ballot takes up more than a singe page, front and back.
	Next Page	Display the next ballot page, if your ballot takes up more than a single page, front and back.
	Next Ballot Face	Open the next ballot face in your ballot sequence.
	Auto Redraw On	Automatically reformats the ballot image whenever you make changes. ES&S Image Manager activates Auto Redraw by default.
	Auto Redraw Off	Turns Auto Draw off.
	Redraw Ballot Now	Manually reformat the ballot image.
F	Front of Ballot	Display the front of the ballot.
B	Back of Ballot	Display the back of the ballot.

Toolbar Options *(continued)*

Use this button...	Called...	To perform this action...
	View Ballot Data	Import ballot information from Election Data Manager and displays the data on screen.
	Go To Ballot	Open a search window that you can use to access individual ballots.

4.1 Section K: Ballot Layout File

Create a new ES&S Image Manager ballot file or open an existing file with commands under the **File** menu. Then, use the commands under the **Ballot** menu to format ballot layouts, select a default language for your ballots, configure advanced options, organize a ballot view sequence, generate serial numbers and select ballot print options.

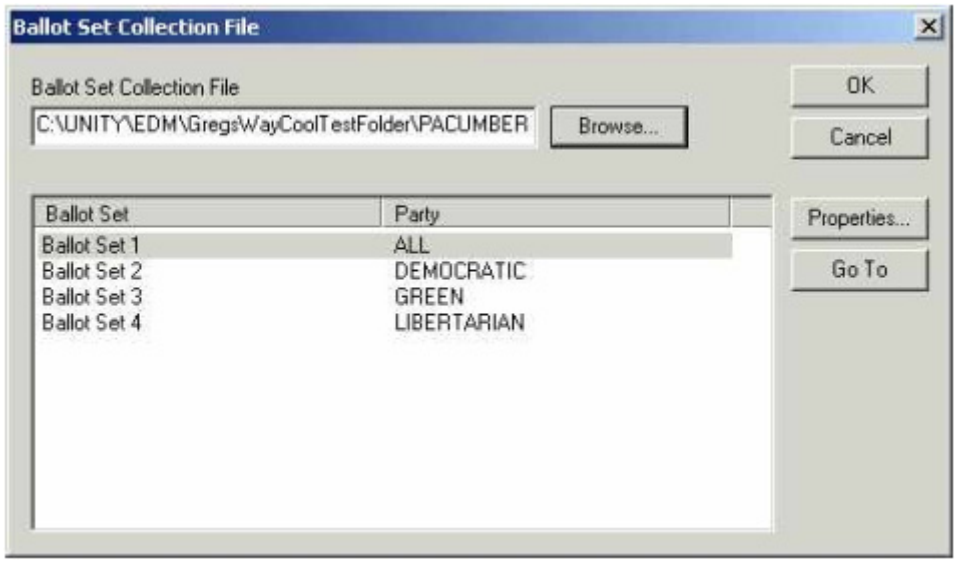
Under the **File** menu, use the **New** and **Open** commands to create a new ES&S Image Manager ballot file (.ais file) or to open an existing file.

Create a New Ballot File

Take the following steps to create a ES&S Image Manager ballot file based on an existing Ballot Data File (.bdf file) generated with Election Data Manager.

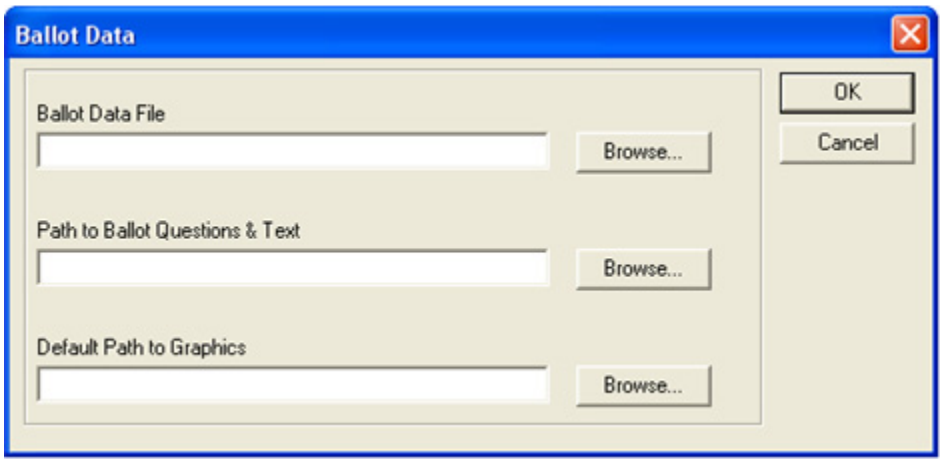
1. If you use Unity 3.0.1.1, under the File menu, click **New** to open the Ballot Set Collection File window.

Ballot Set Collection File Window for Unity 3.0.1.1

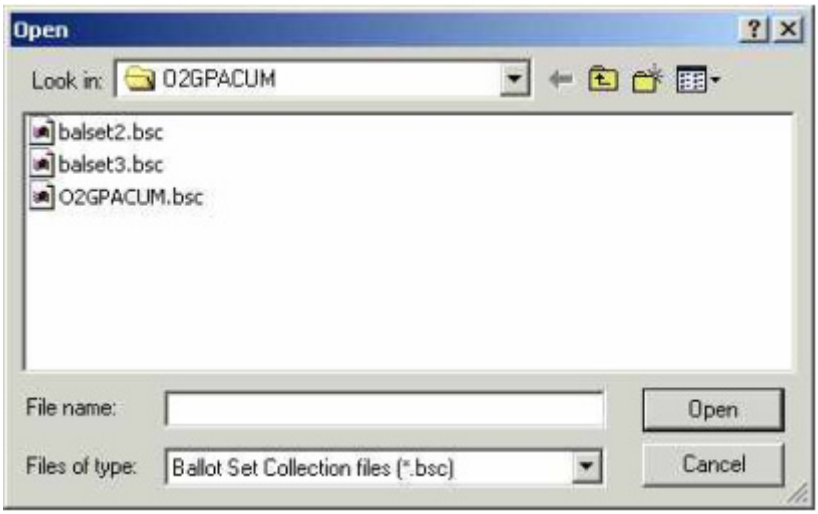


If you use Unity 2.4.3.1, under the File menu, click **Ballot Select Data** to open the Ballot Data window.

Ballot Data Window for Unity 2.4.3.1



2. Click **Browse** next to the **Ballot Set Collection File** box (for Unity 3.0.1.1) or the **Ballot Data File** box (for Unity 2.4.3.1) to search your computer for the ballot set collection files (.bsc files), questions and text, and graphics (if applicable), generated by Election Data Manager when you merged election information.



NOTE: If you saved your election files to the default location where you installed ES&S Image Manager, your ballot set files should be located in the folder you created for your state on your hard disk in C:\Unity\BIM\.

3. When you locate the ballot set collection file you want to use, select it (or type it in the **File name** box), and click **Open**. You will return to the Ballot Set Collection File window.

4. In the Ballot Set Collection File window, select a ballot set name and click **Properties** or double-click a ballot set name from the list to open the Ballot Set Properties window.

In the Ballot Set Properties window you can view the name of the selected ballot set, the name of the ballot data file (created in Election Data Manager) associated with your ballot set, and the location of the folder where the ballot data file resides. Click **Browse** to view the folder where your ballot data file is stored. Click **OK** to return to the Ballot Set Collection File window after you view ballot set properties.

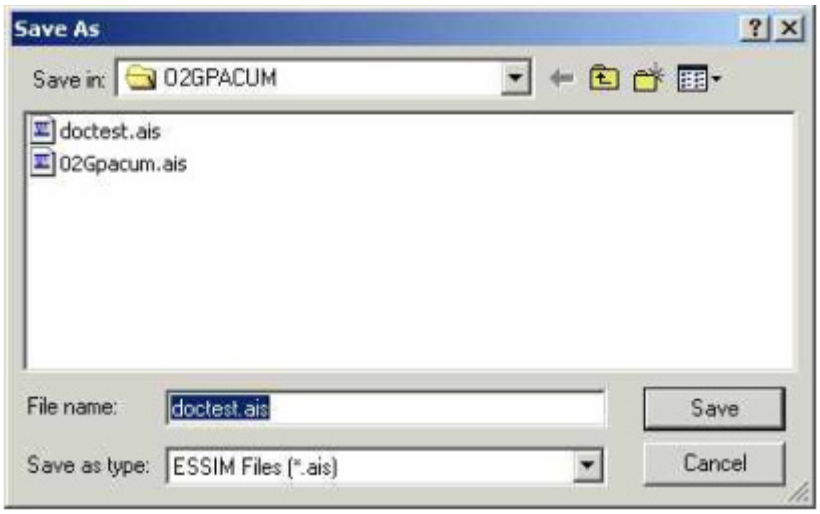
5. In the Ballot Set Collection File window, click a ballot set name and click **Go To** which will open the selected ballot set in the Image Manager main window or, click **OK** to open the layout for the first ballot set on the list.

Refer to the Save a Ballot Layout File heading in this chapter for instructions for saving your initial settings.

Save a Ballot Layout File

After you configure your ballot file for ES&S Image Manager, save the file in your county folder.

1. From the **File** menu, click **Save As** to save your ballot layout file.



2. Use the browse tools in the **Save As** window to locate your county folder.

   The default location for the county folder on your hard disk is C:\Unity\BIM\CountyName.

3. In the **File Name** box, type the same eight-character name that you used to identify your ballot data file in Election Data Manager. ES&S Image Manager saves files with an .ais extension.
4. Click **Save** to store the project file or click **Cancel** to return to the ES&S Image Manager main window without saving.

NOTE: Save your work often to prevent loss of data in the event of system failure.

Open an Existing Ballot File

Use ES&S Image Manager to open an ES&S Image Manager ballot file (.ais file) with commands under the File menu. Then, use the commands under the Ballot menu to format ballot layouts, select a default language for your ballots, configure advanced options, organize a ballot view sequence, generate serial numbers, and select ballot print options.

Take the following steps to open an existing ES&S Image Manager ballot file based on an existing Ballot Data File (.bdf file) generated with Election Data Manager.

1. Under the **File** menu, click **Open** to access an existing ballot file.

2. Locate your file then click **Open** to edit your ballot settings. Click **Cancel** to return to the ES&S Image Manager main screen without opening a file.

Ballot Layout

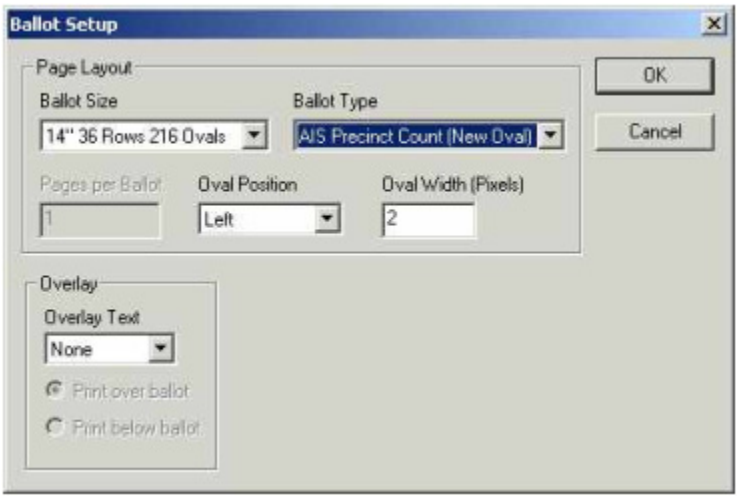
Under the **Ballot** menu, click **Ballot Setup** to select ballot target and overlay options. Select the **Page Layout** command to format ballot columns, margins and stubs. Click **Copy Layout** to reuse a finished ballot format from one ballot set for another ballot set. Use the **Set Default Language** command to determine the default language for your ballot text. Click **Advanced** to configure advanced ballot options. Select **BOD Setup** to configure your layouts for Ballot on Demand printing. Click **Organization** to set the display order for your different ballot styles. Select **Serial #s** to format identification numbers for your ballots and click **Options** to configure the print marks that appear on the ballot shell.

Use all of the commands under the **Ballot** menu to create custom ballots for your election.

Ballot Setup

Use the **Ballot Setup** command to configure the size of your ballots, select the number of ovals that appear on the ballot face, select a ballot type, format the appearance and position of voting targets, and place overlay text on your ballots. Take the following steps to set up a ballot face.

1. Under the **Ballot** menu, click **Ballot Setup** to open the Ballot Setup Window.



2. From the **Ballot Size** list, select the dimensions of your ballots as well as the number of rows and oval positions that appear on the ballot face.
   - Select **11" 36 Rows 216 Ovals** if your jurisdiction uses standard 11-inch ES&S ballots.
   - Select **14" 36 Rows 216 Ovals** if your jurisdiction uses standard 14-inch ES&S ballots.
   - Select **17" 41 Rows 246 Ovals** if your jurisdiction uses standard 17-inch ballots.
   - Select **19" 51 Rows 306 Ovals** if your jurisdiction uses standard 19-inch ballots.

NOTE: The **Ballot Size** list contains custom settings for specific jurisdictions and four-column ballots. Check the ballot settings for your area.

Contact ES&S if your jurisdiction uses ballots with non-standard measurements.

3. If your ballots take up more than one sheet of ballot stock, front and back, type the number of sheets that your ballot requires in the **Pages per Ballot** box.
4. From the **Oval Position** list, select **Left** to place voting targets to the left of ballot text. Most jurisdictions place targets to the left. Check the documentation for your scanner or call ES&S customer support to determine whether your scanning equipment supports targets placed to the right of ballot text before selecting **Right**.
5. In the **Oval Width (Pixels)** box, type a two-pixel measurement, to set the thickness of oval voting targets if you are not using the default oval width.

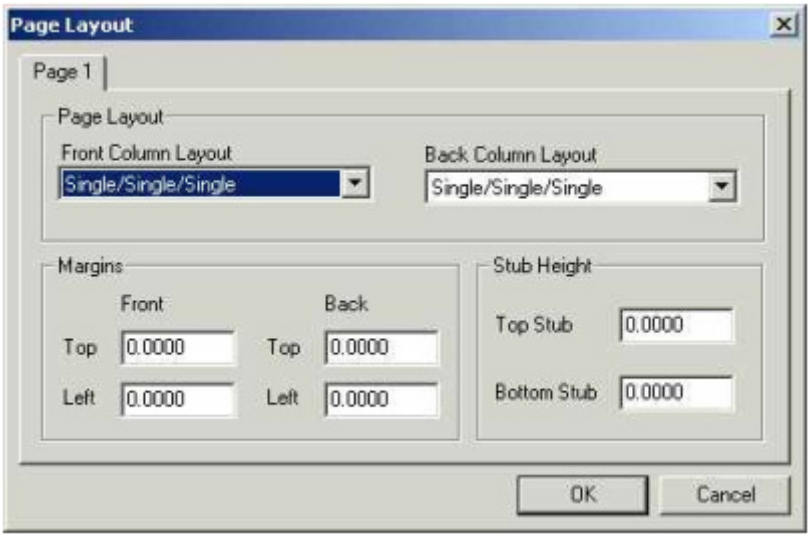
NOTE: One pixel is a measurement representing the smallest amount of information displayed graphically on the screen as a single dot.

6. From the **Overlay** list, select **Test**, **Sample** or **Specimen** to print the selected word in light gray letters across the face of test ballots. Select **None** to format official ballots. Click **Print over ballot** to print overlay text over ballot text. Click **Print below ballot** to print ballot text above overlay text.

Ballot Page Layout

Use the **Page Layout** command under the **Ballot** menu to select the number of columns that appear on the front and back of the ballot, configure ballot margins and format ballot stubs. Take the following steps to format a ballot page.

1. Under the **Ballot** menu, select **Page Layout** to format the appearance of your ballots.



2. From the **Front Column Layout** and **Back Column Layout** lists, select from the following options to format the columns on the front and back of your ballots:
   - Select **Single** to place a single column that takes up a third of a ballot page on the front or back of your ballots. Select **Single/Single/ Single** to place three evenly spaced columns on your ballots.
   - Select **Double** to place a column that spans two single columns on the front or back of your ballots.

- Select **Triple** to place a column that spans three singled columns on the front or back of your ballots. If you use 8.5-inch wide ballots, a triple column takes up the entire ballot face.

NOTE: The column combinations available in the **Front Column Layout** list and **Back Column Layout** list depend on what ballot measurements you select from the **Ballot Size** list in the Ballot Setup window.

3. Under the **Margins** heading, in the **Front Top**, **Front Left**, **Back Top** and **Back Left** boxes, type measurements, in inches, to set the page margins for your ballots.
4. Under the **Stub Height** heading in the **Top Stub** box or **Bottom Stub** box, type a distance, in inches, to set the size of your ballot stub. Type a measurement in the **Top Stub** box to place stubs at the top of your ballots. Enter a measurement in the **Bottom Stub** box to place stubs at the bottom of your ballots.

NOTE: A ballot stub is a non-readable portion of a ballot removed by poll workers for registration purposes. Ballot stubs usually contain at least one identification number (such as a precinct identification number or sequence code number) and sometimes contain ballot instructions or other ballot text. Use a production frame to place identification numbers or text on ballot stubs and use a graphic frame to place marks at the edge of the stub where your printer will perforate the ballot for easy tearing.

Recommended Page Layout Settings

For this Page Layout...	Recommendation...
Ballot Type	AIS Precinct Count (New Oval)
Ballot Size	14”, 36 Rows, 216 Ovals
Front Column Layout	Single/Single/Single
Back Column Layout	Single/Single/Single
Oval Position	Left
Oval Width	2
Overlay	None

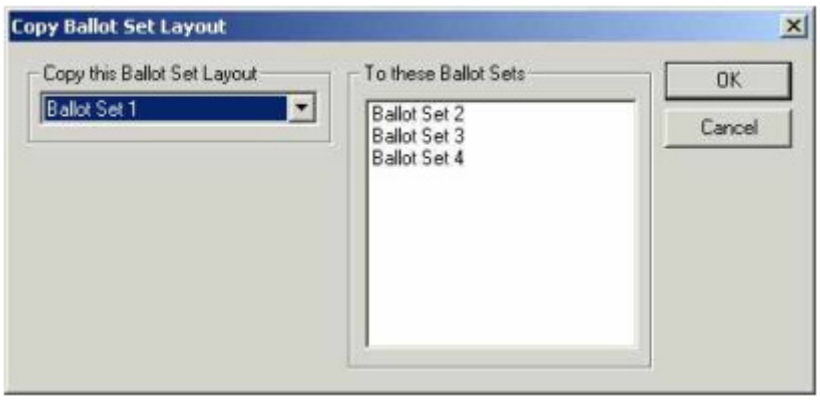
Recommended Ballot Margins and Stub Height

For this Margin...	Recommendation...
Top Front Margin	0.25
Top Back Margin	0.25
Left Front Margin	0.25
Left Back Margin	0.25
Top Stub	0.000000
Bottom Stub	0.000000

Copy Layout (Unity 3.0.1.1 Only)

Under the **Ballot** menu, use the **Copy Layout** command to reuse the ballot layout settings from one of your ballot sets as the starting configuration for your other sets.

1. From the Ballot menu, click **Copy Layout** to open the Copy Ballot Set Layout window.



2. From the **Copy this Ballot Set Layout** list, select the ballot set that uses the layout that you want to copy.
3. In the **To these Ballot Sets** box, click the names of the ballot sets that you want to copy the layout to.

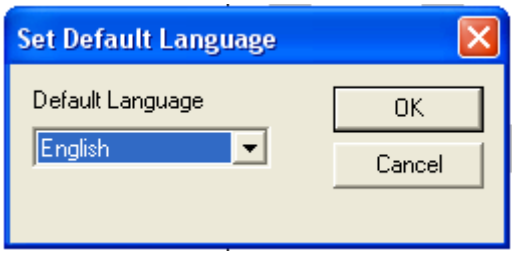
NOTE: Hold the **Shift** key while you click ballot set names to select multiple items in sequence. Hold the **Ctrl** key while you click ballot set names to select multiple items out of sequence.

4. Click **OK** to format the selected ballot sets with the layout you chose in the **Copy this Ballot Set Layout** box.

Default Ballot Language

Under the **Ballot** menu, use the **Set Default Language** command to select the default ballot text language that appears on your ballots. Take the following steps to select a default ballot language.

1. From the **Ballot** menu, click **Set Default Language** to open the Set Default Language window.



2. From the **Default Language** list, click the language you want to use as a default for your office, question, and candidate text.
3. Click **OK** to save your settings and return to the ESSIM main screen.

Advanced Ballot Options

Use this option to control the positioning of ballot targets, cut lines, and registration marks on the ballot face.

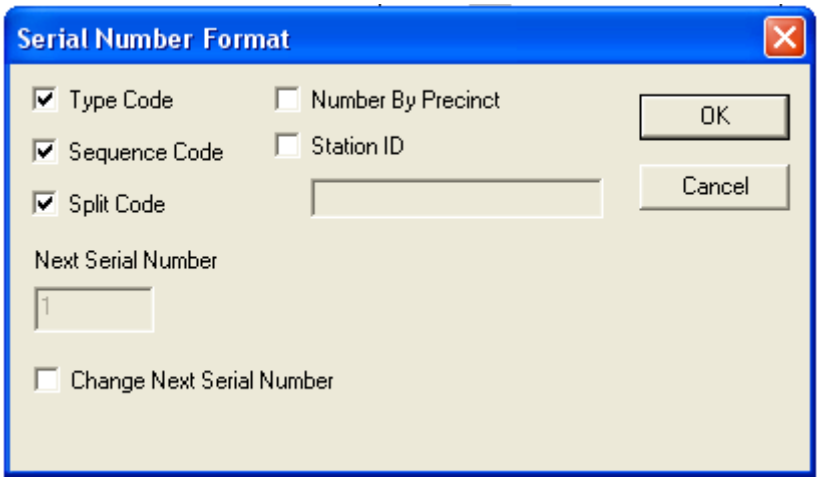
Warning:ES&S recommends that only trained ES&S ballot specialists change advanced ballot settings. Improperly configuring advanced ballot options can cause serious scanning errors on Election Day.

NOTE: All measurements in the Advanced Layout window are configured for points instead of inches. One point equals 0.0138 inch.

Ballot Serial Numbers

Different jurisdictions use different information to configure ballot identification numbers. Take the following steps to format ballot serial numbers.

1. From the **Ballot** menu, select **Serial Numbers** to open the Serial Number Format window.



2. Click the **Type Code**, **Sequence Code**, **Split Code**, **Number By Precinct** check boxes to select which identification numbers you want to place on ballots as serial numbers.

   Use the **Number By Precinct** option to have each precinct start numbering its ballots at 1.

3. Click **Station ID** and type the polling place identification number for the current ballot layout in the box to place polling place identification numbers on ballots.
4. Click **Change Next Serial Number** and type a number in the **Next Serial Number** box to reset the serial number value to the ballot face.

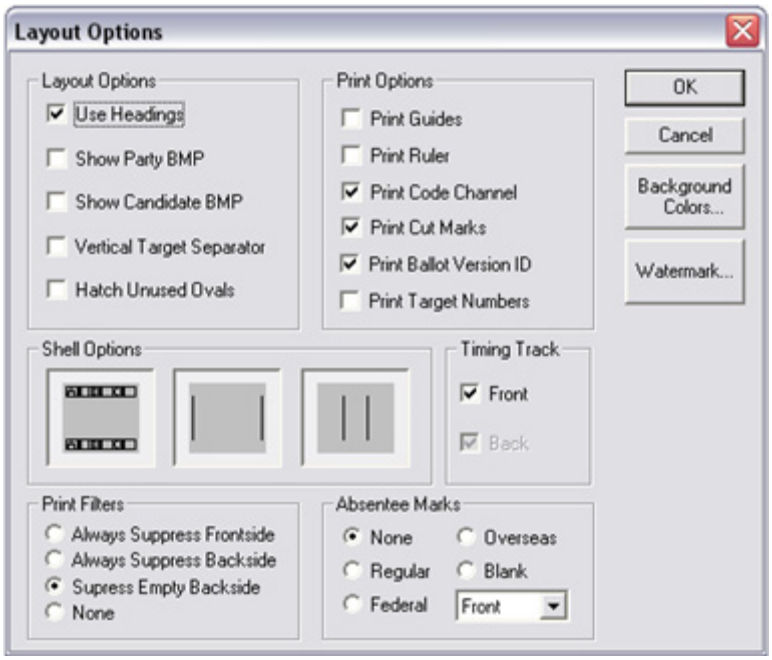
NOTE: The serial number value will increment only when batch printing ballots with Ballot on Demand.

5. Click **OK** to save your changes and return to the ESSIM main screen.

Ballot Options

Use this option to place headings, graphics and images on the ballot layout. You can also configure ballot targets, place special marks for the printer on the ballot face, select ballot shell options, place a timing track on your layout, select print filters, position Vote-By-Mail marks, and select background colors and watermarks.

1. From the **Ballot** menu, click **Options** to open the Layout Options window.



2. Under the **Layout Options** heading, click the following options to format ballot headings, graphics and ovals:
   - Click **Use Headings** to group contests under office headings such as “Judicial” or “Federal.” You cannot access the Headings style sheet under the Style Sheets menu unless you select Use Headings in this window.
   - Click **Vertical Target Separator** to place a vertical line between your ballot text and voting targets (ovals).

The **Show Party BMP**, **Show Candidate BMP**, and **Hatch Unused Ovals** options are not used in California.

3. Under the **Print Options** heading, select from the following options to format configuration marks for ES&S ballot printing services or a partner printer:

The **Print Guides** and **Print Ruler** options are not used in California.

- Click **Print Code Channel** to print the appropriate boxes in the code channel. The code channel is a column of black rectangles just to the right of the timing track on the left edge of the ballot. ES&S ballot scanners read boxes in the code channel to determine precinct and style information for individual ballots.
- Click **Print Cut Marks** to place small marks on the edges of ballots that define the area where ES&S ballot services or a partner printer should cut mass produced ballot sheet.
- Click **Print Ballot Version ID** to print the version number and compile date of the ES&S Image Manager software that produced the ballot layout in the bottom-right corner of the ballot shell.
- Using **Print Target Numbers** is optional. Click **Print Target Numbers** to place ballot target location numbers above ballot ovals for testing. Do not print target numbers on Election Day ballots.

4. From left to right, select the following three buttons under the **Shell Options** heading to format the ballot shell:
   - Click the **Black Check** button at the left of the Shell Options box to place black check marks in line with your voting targets at the top and bottom of each ballot column. ES&S scanners read black check marks to vertically align sensors with voting targets.
   - Click the **Outer Shell** button in the middle of the Shell Options box to print vertical lines that define the outer borders of the ballot layout.
   - Click the **Inner Shell** button at the right of the Shell Options box to print vertical lines that define the inner borders of ballot columns.
5. Under the **Timing Track** heading, click **Front** and **Back** to print a timing track on the front and back of your ballots. The timing track is the column of a series of black rectangles that appear in the far left margin of the ballot layout. ES&S scanners read the timing track to horizontally align sensors with voting targets. **Front** is selected by default under the **Timing Track** heading. Select **Back** if your election requires a two-sided ballot.
6. Under the **Print Filters** heading, select from the following options to configure print options for your ballots:
   - Click **Always Suppress Frontside** to leave the front page of the ballot layout blank, even if you format ballot elements to appear there. Only the back of the ballot will print.

- Click **Always Suppress Backside** to leave the back of the ballot blank even if you format ballot elements to appear. Only the front of the ballot will print.
- Click **Suppress Empty Backside** to leave the back of the ballot layout blank when you do not format ballot elements to appear there. Only the front of the ballot will print.
- Click **None** to deactivate print filters.

The options under the **Absentee Marks** heading and the **Background Colors** option are not used in California.

7. Click **Watermark** to place a watermark graphic on the ballot face.

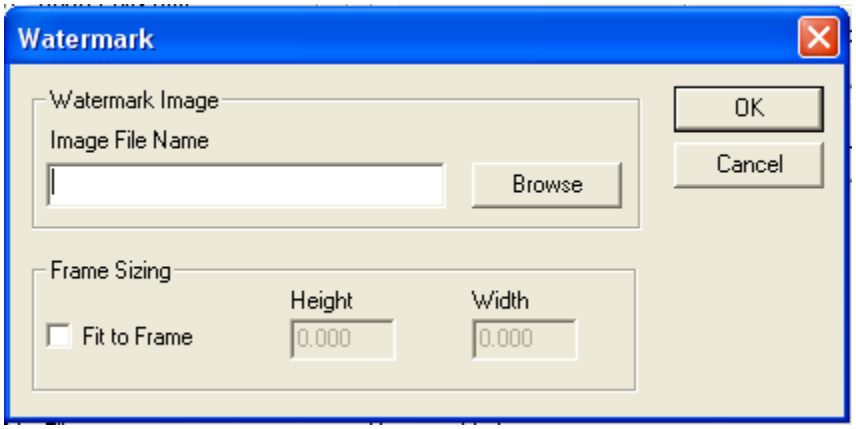
Refer to the Watermark heading in this section for information about how to place a watermark graphic on the ballot face.

8. Click **OK** to save your changes and return to the ESSIM main screen.

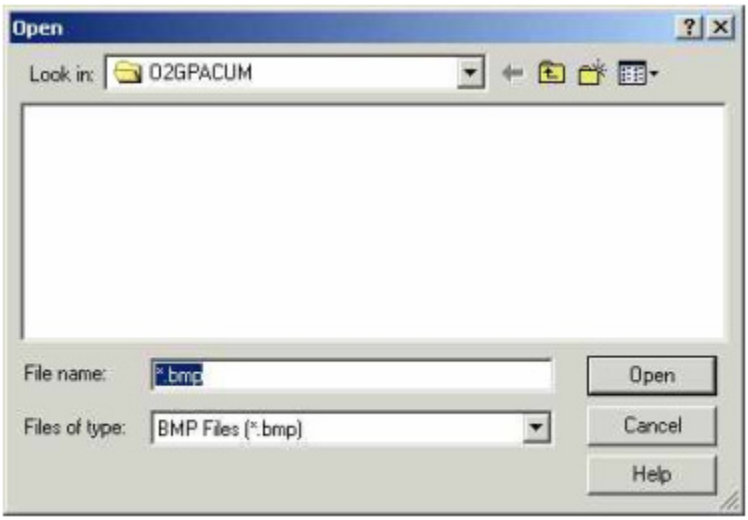
Watermark

Take the following steps to place a watermark image, such as a state seal, on the ballot layout.

1. In the Layout Options window, click **Watermark** to open the Watermark window.



2. Next to the **Image File Name** box, click **Browse** to search your computer for an image file to use as a watermark. The Open window will appear.



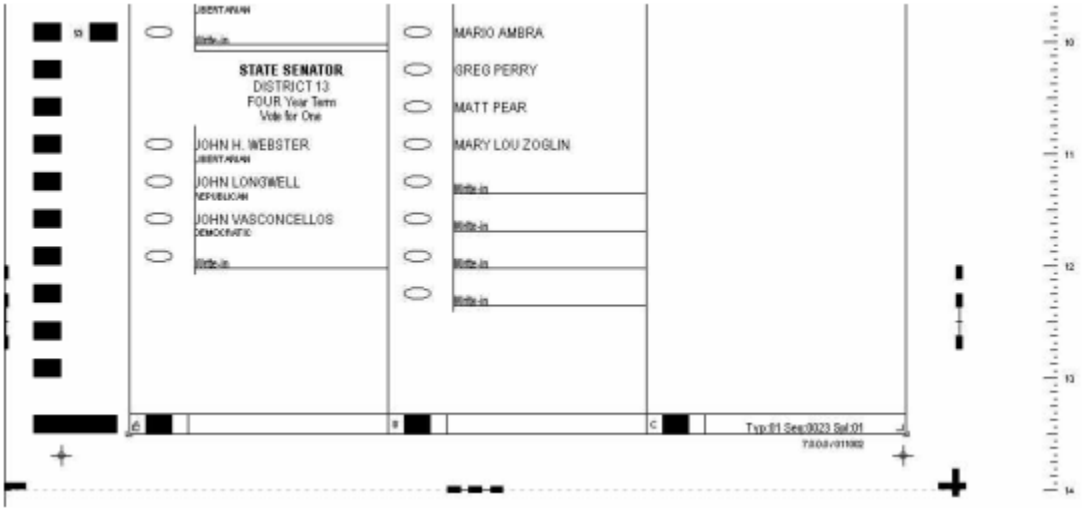
3. Use the tools in the Open window to search your files. When you locate the watermark image, select the file and click **Open** to attach the image to your ballots and return to the Watermark window. Click **Cancel** to return to the Watermark window without selecting a file.

NOTE: The image you use as a watermark in ES&S Image Manager must be saved as a bitmap file (.bmp).

4. In the Watermark window under the **Frame Sizing** heading, click **Fit to Frame** and enter frame measurements, in inches, in the **Height** and **Width** boxes to resize the ballot image.

Ballot Elements

The following graphic displays the names and locations of the typical elements that make up a ballot layout.

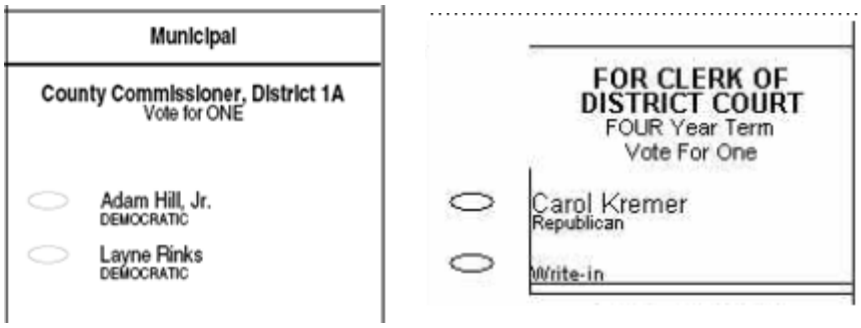


Full Column Ruling

Full column ruling extends text and graphics into the voting target area of your ballot layout. If you do not activate full column ruling in ES&S Image Manager, ballot elements cannot overlap the target area.

Full column ruling check boxes appear in the Advanced Layout window and in the style sheets windows. The **Full Column Ruling** option in the Advanced Layout window activates full column ruling for the entire ballot. The **Full Column Ruling** options in the style sheets windows activate and deactivate full column ruling for specific ballot elements. Full Column Ruling style sheet selections override the full column ruling selection in the Advanced Layout window.

The following sample contests illustrate how full column ruling affects ballot layout. The example on the left shows a ballot with full column ruling activated in the office style sheet. This example shows that the office title, office text, and top ruling line all cross into the voting target area with full column ruling activated, while the contest on the right does not use full column ruling.

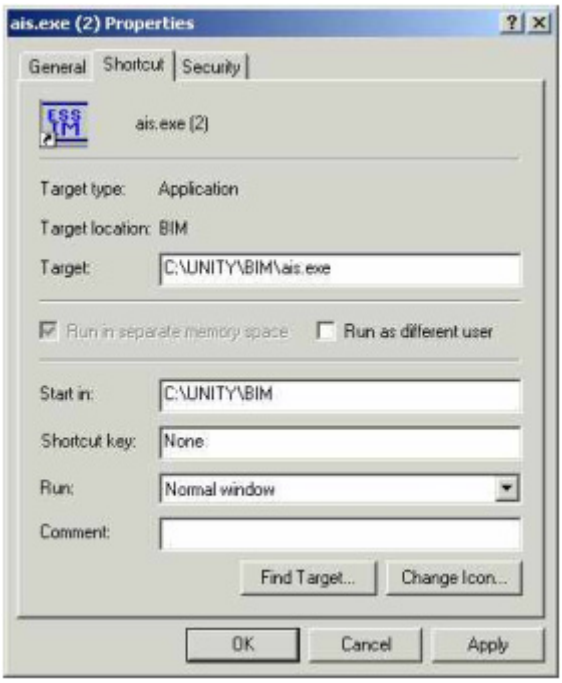


Because full column ruling can cause scanning errors if used improperly, you must enable the feature outside of ES&S Image Manager before you can activate it in the program. Take the following steps to create an ES&S Image Manager shortcut on your desktop and alter the command line for the executable file.

1. Right-click the Windows® desktop and create a new shortcut that points to the ES&S Image Manager executable file (C:\Unity\BIM\ais.exe).

NOTE: Refer to Windows Help for information about creating shortcuts.

2. Right-click the shortcut you just created and select **Properties** from the options menu. Then, select the **Shortcut** tab to alter the command line.



3. In the **Target** box, type “ FCR” with a space before the F, but without the example quotes, at the end of the command line. The full, altered command line should read “C:\Unity\BIM\ais.exe FCR” without the quotes when you finish. (The space between “exe” and “FCR” is required.)
4. Click **Apply** to activate full column ruling and then click **OK** to return to Windows.
5. Use the altered shortcut on your desktop to open ES&S Image Manager with full column ruling enabled.

4.1 Section L: Style Sheets

Use ES&S Image Manager style sheets to format specific ballot elements. Style sheet settings control the size and style of ballot text, background colors, graphics, and the margins and position of each element on the ballot. Most of ES&S Image Manager's style sheet windows contain similar configuration options but control the formatting for different ballot elements.

Each of ES&S Image Manager's style sheets corresponds to specific election information from the ballot data file generated in Election Data Manager. For example, select **Office** under the Style Sheets menu to format office information from the ballot data file.

Default Style Sheets

You cannot configure new style sheets or view ballot data until you edit the default style sheets for individual ballot elements. Default style sheet settings automatically place election information in workable positions on ballots. However, most users customize the default settings to meet the needs of their jurisdiction. View and edit the default settings for each ES&S Image Manager style sheet to configure the base format for your ballots.

NOTE: A list of ES&S default settings for each style sheet appear after the instructions for formatting each style sheet.

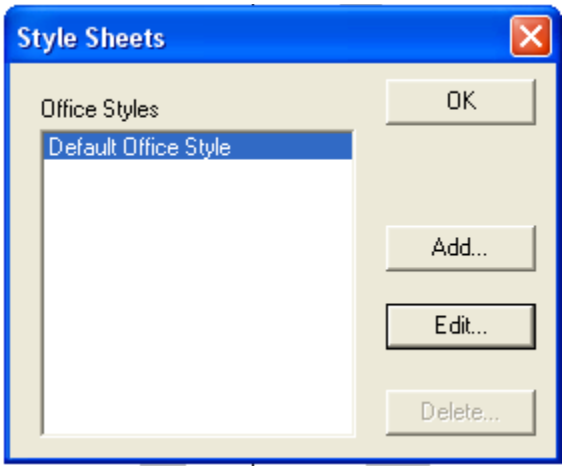
To edit, add or delete style sheets:

- To edit a style sheet, select a style sheet from the **Style Sheets** menu, select the sheet that you want to edit in the **Style Sheets** window and click **Edit**.
- To create a new style sheet, select a style sheet under the **Style Sheets** menu and click **Add** in the **Style Sheets** window.
- To delete a style sheet, select a style under the **Style Sheets** menu, select the sheet that you want to remove in the **Style Sheets** window and click **Delete**.

Office Style Sheet

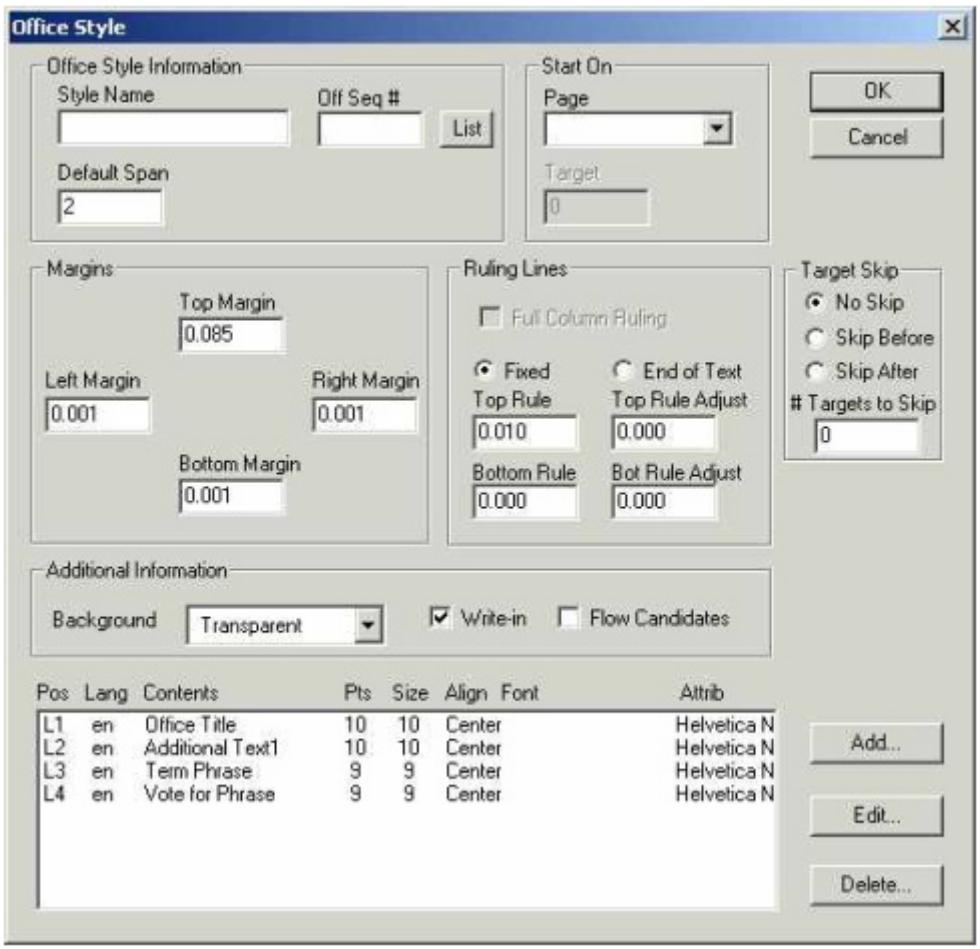
Configure an office style sheet to control the positioning and appearance of office information such as office titles, term phrases, and vote for text from the ballot data file. The office appears on ballots above candidate text and beneath contest headings.

From the Style Sheets menu, select **Office** to open the Office Style window.



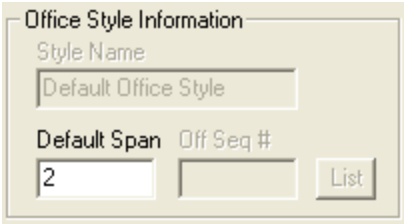
Select a style sheet from the list and click **Delete** to remove a style, click **Add** to create a new style sheet based on default settings, or click **Edit** to change an existing style sheet.

Select **Add** or **Edit** to open the Office Style window.



Office Style Information Heading

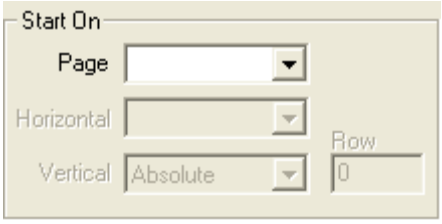
In the Office Style window, take the following steps under the **Office Style Information** heading to name your style sheet, link your style sheet to specific contests, and configure the size of the office text area.



1. In the **Style Name** box, type a name for the office style sheet. You cannot change the name of the default style sheet.
2. Type a number in the **Default Span** box to set the number of oval positions the office cell crosses on the ballot.
3. Next to the **Off Seq#** box, click **List** to open a list of available offices. Click the offices that you want to link to the style sheet. Any contests not linked to a custom style sheet automatically use the default style.

Start On Heading

Take the following steps under the **Start On** heading to select a starting ballot location for your office text.



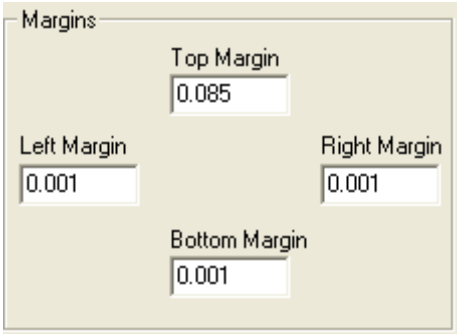
1. To begin placing office cells on a specific ballot page, select a ballot page from the **Page** list. If you do not select from the list, ES&S Image Manager places office cells in the first available ballot space in office sequence number order.

NOTE: In ES&S Image Manager, a ballot page refers to a single ballot sheet (front and back).

2. If you select a ballot page from the **Page** list, you can specify the starting location using the controls immediately below the **Page** list.
3. In the **Horizontal** list, select a column number. The columns on the back of the page follow sequentially after the front column numbers.
4. From the **Vertical** list, select one of the following options:
   - Select **Top of Col** to start the placement at the top of the selected column.
   - Select **Bottom of Col** to start placement at the bottom of the selected column.
   - Select **Absolute** to start placement in an absolute row in the selected column. Selecting this option will enable the **Row** text box, allowing you to specify the row within the selected column to start the placement.

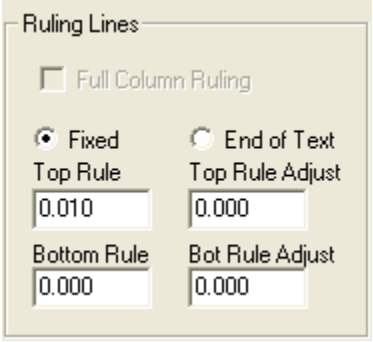
Margins Heading

Under the **Margins** heading, type measurements, in inches, in the **Top Margin**, **Right Margin**, **Bottom Margin**, and **Left Margin** boxes to set the margins for your offices.



Ruling Lines Heading

Under the **Ruling Lines** heading, take the following steps to configure ruling lines for your offices.



5. If you enabled full column ruling, select **Full Column Ruling** under the **Ruling Lines** heading to allow your office text to span the entire width of a ballot column, including the ballot target area. Deselect **Full Column Ruling** to prevent text from overlapping the target area.

Refer to the Full Column Ruling heading in 4.1 Section K: Ballot Layout File for information about using Full Column Ruling.

6. Select **Fixed** to place ruling lines in the same position for each office on the ballot. Select **End of Text** to automatically place a ruling line immediately below the office text for each contest on the ballot.
7. In the **Top Rule** box, type a measurement to set the thickness, in inches, of the line above your office text. Type 0 if you do not use a top ruling line.

NOTE: For all Rule boxes, the maximum ruling line thickness is 0.003 inches.

8. In the **Top Rule Adjust** box, type a measurement, in inches, to position the ruling line above your office cells. Type 0 for no position adjustment.

NOTE: In all **Rule Adjust** boxes, type a positive number to move the line down or a negative number to move the ruling line up on the ballot.

9. In the **Bottom Rule** box, type a value to set the thickness, in inches, of the line below your office cells. Type 0 if you do not use a bottom ruling line.
10. In the **Bottom Rule Adjust** box, type a distance, in inches, to position the line below the office cells. Type 0 for no position adjustment.

Additional Information Heading

Take the following steps under the **Additional Information** heading to select a background color for your office cell, place write-in targets on your ballots and format text to flow from the end of one column to the top of the next.

1. Select a background color for your office text from the **Background** list under the **Additional Information** heading, Available colors include white, gray, dark gray, light gray, black, red, green, and blue. Select **Custom** to mix a custom color.
2. Select **Write-in** to place write-in targets on the ballot.

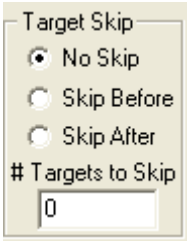
NOTE: The number of write-in targets that appear for each contest is equal to the number displayed or entered in the **Number of Write-ins** box in the Edit Office Information window of Election Data Manager. For example, if voters are allowed to vote for two candidates in a contest, two write-in lines appear at the bottom of the office cell for that contest.

Refer to the Manage Offices in the Jurisdiction Database heading in 4.1 Section B: Create a County Database for more information about editing office information.

3. Click **Flow Candidates** to continue your candidate information at the top of the next column if the text exceeds the length of a column. Clear the **Flow Candidates** box to force an entire office cell to the top of the next column if the text exceeds the length of the current column.

Target Skip Heading

Take the following steps under the Target Skip heading to place blank spaces between office cells.



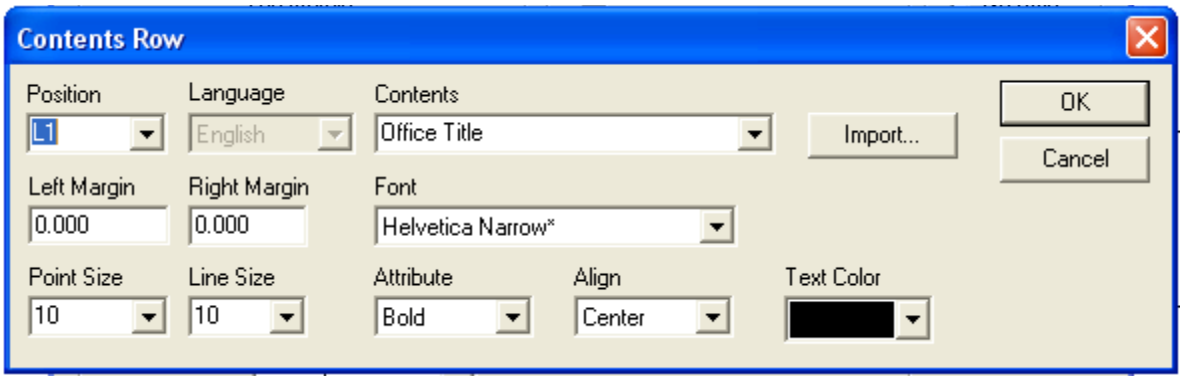
1. Select one of the following options under the **Target Skip** heading to place blank spaces between office cells:
   - Select **No Skip** if you do not want any blank spaces between office cells.
   - Select **Skip Before** to skip a set number of target positions before office text.
   - Select **Skip After** to skip a set number of target positions after the last candidate name or write-in space.
2. If you select **Skip Before** or **Skip After**, type a number in the **# of Targets to Skip** box to set the number of target positions skipped before or after your office cells.
3. If you select **Skip Before** or **Skip After**, type a number in the **# of Targets to Skip** box to set the number of target positions skipped before or after your office cells.

Contents

In the bottom portion of the Office Style window, click **Add** to add specific office information to the office cell. Select existing contents and click **Edit** to change settings or click **Delete** to remove contents from the office cell.

Pos	Lang	Contents	Pts	Size	Align	Font	Attrib
L1	en	Office Title	10	10	Cen...	Helvetica Narr...	Bold
L2	en	Additional Text1	10	10	Cen...	Helvetica Narr...	Normal
L3	en	Term Phrase	9	9	Cen...	Helvetica Narr...	Normal
L4	en	Vote for Phrase	9	9	Cen...	Helvetica Narr...	Normal

1. Click **Add** or **Edit** to open the Contents Row window.



Use the options at the top of the Contents Row window to select specific elements from the ballot data file to include in the office cells, to position the contents on your ballots, select the default language for your contents, and to place text from outside your ballot data file in the office cell.

2. From the **Contents** list, select an element from the ballot data file to place in your office cells.

NOTE: To add custom text to an office cell, type the @ symbol followed by the text in the **Contents** list.

3. From the **Position** list, select a position to orient the contents in your office cells. The position letter represents the position origin and the number represents the number of lines away from the position origin the contents appear. For example, select T1 to place contents one line from the top of the office cell or select B1 to place your contents one line from the bottom.

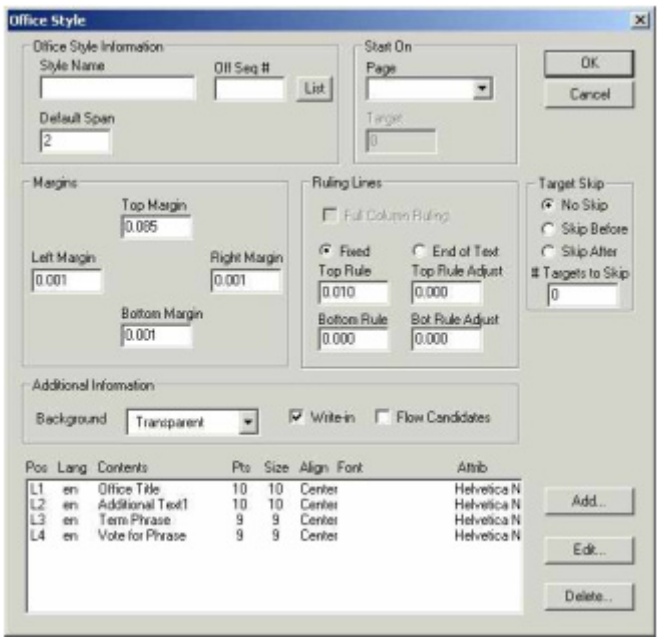
NOTE: Select an L position to place contents relative to the last element positioned in the office cell. For example, if you place contents in the T1 position and then add contents in the L1 position, the L1 contents appear one line below the T1 data. If you do not select contents before you assign an L position, the data in the L location appears relative to the top margin of the office cell.

4. From the **Lang** list, select the default language for your ballot contents.
5. Click **Import** to search your computer for ballot text not included in the ballot data file. You can only import ballot text formatted as .rtf or .txt files. Select a file and click **Open** to include the outside contents in your office cell.
6. In the **Left Margin** and **Right Margin** boxes, type measurements, in inches, to set the left and right margins for the selected ballot contents.
7. From the **Font** list, select the text style for the contents. ES&S Image Manager only recognizes PostScript fonts.
8. From the **Point Size** list, select a text size for the contents or type a measurement, in points, directly into the list to manually size the text.
9. In the **Line Size** box, select the amount of space that appears between lines of text (leading). Type a measurement, in points, directly into the list to manually set the space between lines.

NOTE: The line size for your contents at the same size or greater than your selected Point Size.

10. From the **Attribute** list, select **Normal**, **Bold**, **Italic**, or **Bold Italic** to set the text style for your ballot contents.
11. From the **Align** list, select **Left**, **Right**, **Center**, or **Justify** to position the contents in the office cell.
12. Select a color from the **Text Color** list to set the color of your ballot text. Available colors include white, gray, dark gray, light gray, black, red, green, and blue.

Recommended Office Style Sheet Settings



Default Office Style Sheet Settings

Option	Default
Style Name	Default Office Style
Target	0
Span	2
Top Margin	0.085
Left Margin	0.001
Right Margin	0.001
Bottom Margin	0.001
Ruling Lines	Fixed
Top Rule	0.003
Top Rule Adjust	0.000
Bottom Rule	0.000
Bottom Rule Adjust	0.000
Target Skip	No Skip
Background	Transparent

Default Office Style Sheet Settings *(continued)*

Option	Default
Write-in	Yes

Default Contents Row Settings

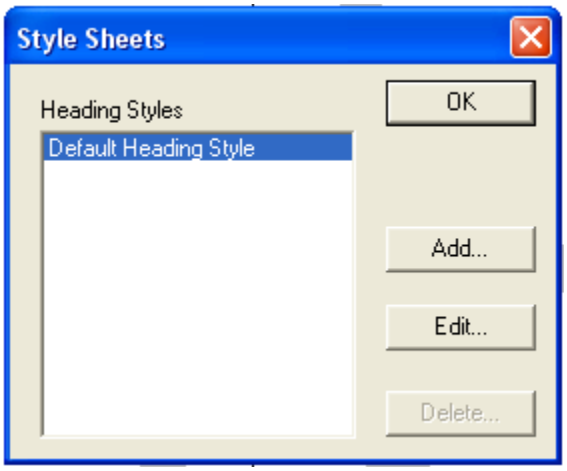
Position	Contents	Point Size	Line Size	Alignment	Font	Attribute
L1	Office Title	10	10	Center	Helvetica Narrow	Normal
L2	Additional Text 1	10	10	Center	Helvetica Narrow	Normal
L3	Term Phrase	9	9	Center	Helvetica Narrow	Normal
L4	Vote For Phrase	9	9	Center	Helvetica Narrow	Normal

Headings Style Sheet

Some jurisdictions use office headings to group contests into categories such as federal, local, or judicial. Create office headings in Election Data Manager and group your offices. Then, return to ES&S Image Manager and click **Use Headings** in the Ballot Options window to activate the headings style sheet. Office headings appear above the first contest in the heading's group.

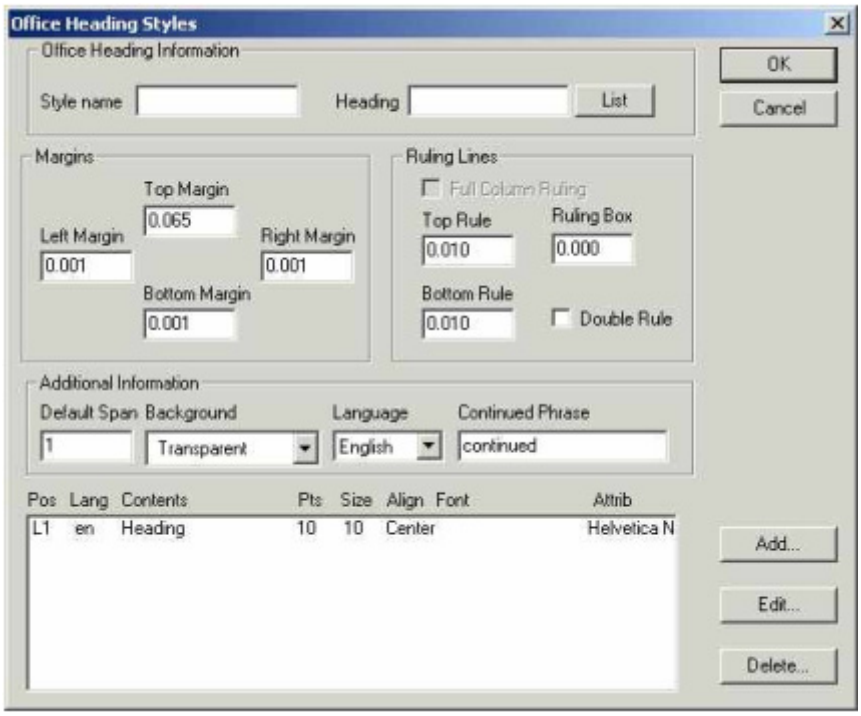
Refer to 4.1 Section B: Create a County Database for information about grouping offices

From the Style Sheets menu, select **Headings** to open the Style Sheets window.



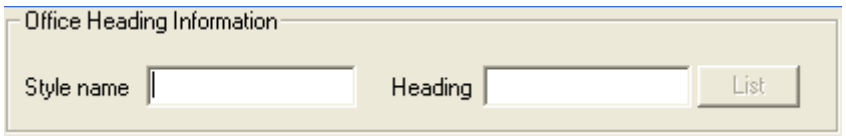
Select a style sheet from the list and click **Delete** to remove a style, click **Add** to create a new style sheet based on default settings or click **Edit** to change an existing style sheet.

Select **Add** or **Edit** to open the Office Heading Styles window.



Office Heading Information Heading

In the Office Heading Styles window, take the following steps under the Office Heading Information heading to name the style sheet and link the style to specific office headings.



1. In the **Style Name** box, type a name for the heading style sheet.

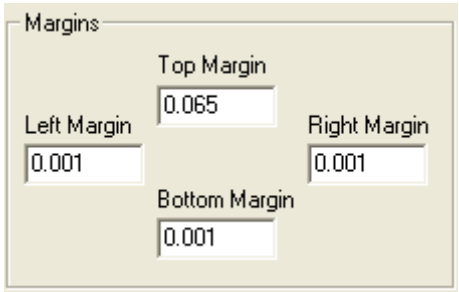
   You cannot change the name of the default style sheet.

2. Click **List** next to the **Heading** box and select headings to link the style sheet to specific office headings.

   Headings not linked to a specific style automatically link to the default style sheet.

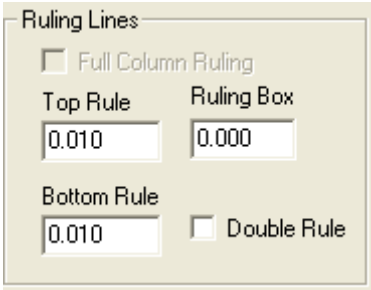
Margins Heading

Under the **Margins** heading, type measurements, in inches, in the **Top Margin**, **Right Margin**, **Bottom Margin**, and **Left Margin** boxes to set the margins for your office headings.



Ruling Lines Heading

Under the **Ruling Lines** heading, take the following steps to configure ruling lines for your headings.



1. If you enabled full column ruling, select **Full Column Ruling** under the **Ruling Lines** heading to allow your office text to span the entire width of a ballot column, including the ballot target area. Deselect **Full Column Ruling** to prevent text from overlapping the target area.

Refer to the Full Column Ruling heading in 4.1 Section K: Ballot Layout File for information about using Full Column Ruling.

2. In the **Top Rule** box, type a measurement to set the thickness, in inches, of the line above your office text. Type 0 if you do not use a top ruling line.

NOTE: For all Rule boxes, the maximum ruling line thickness is 0.003 inches.

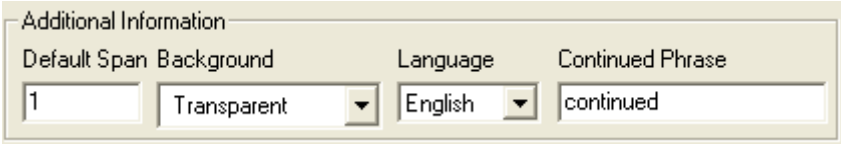
3. Under the **Ruling Box** heading, type a value to set the thickness of the box around your heading text. Type 0 if you do not place a ruling box around your headings.

NOTE: In all **Rule Adjust** boxes, type a positive number to move the line down or a negative number to move the ruling line up on the ballot.

4. In the **Bottom Rule** box, type a value to set the thickness, in inches, of the line below your office cells. Type 0 if you do not use a bottom ruling line.
5. Select **Double Rule** to place an additional line next to each of your ruling lines.

Additional Information

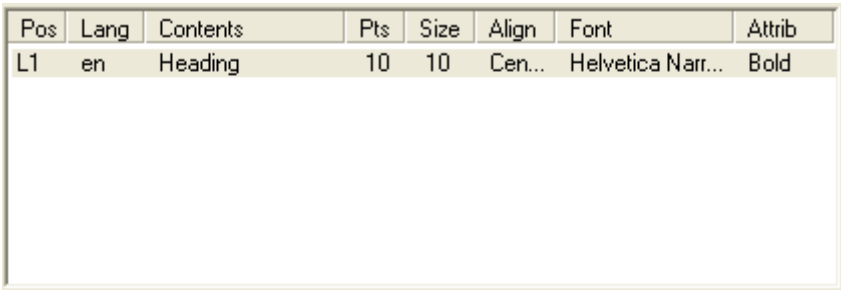
Take the following steps under the **Additional Information** heading to set the number of vertical lines the heading cell spans, select a background color for your headings, choose a default language for heading text and select a default “continued” phrase.



1. Type a number in the **Default Span** box to set the number of voting target positions your headings will cross vertically on the ballot.
2. From the **Background** list, select a background color for your office headings, Available colors include white, gray, dark gray, light gray, black, red, green, and blue. Select **Custom** to mix a custom color.
3. From the **Language** list, select a language for your office headings.
4. In the **Continued Phrase** box, type text to place a continuation message at the bottom of a ballot column when a contest exceeds the length of the column.

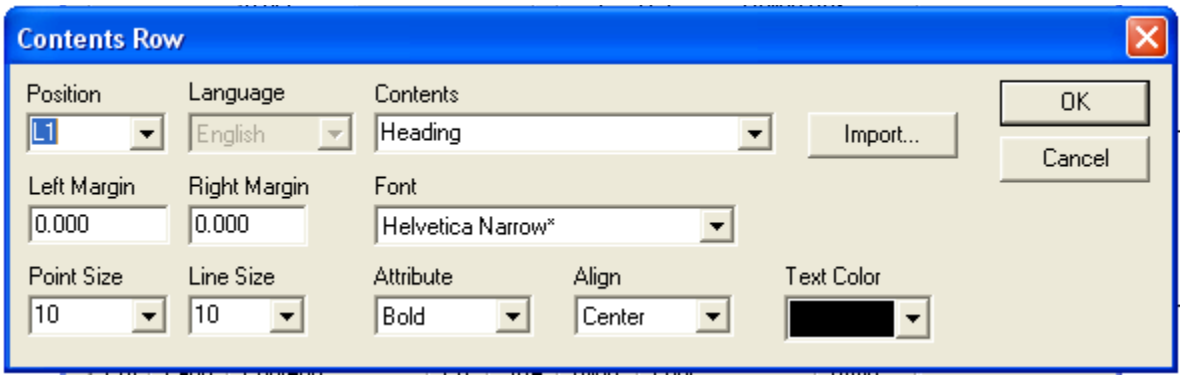
Contents

In the bottom portion of the Office Heading Style window, click **Add** to add information to the heading cell. Select existing contents and click **Edit** to change settings or click **Delete** to remove contents from the cell.



Pos	Lang	Contents	Pts	Size	Align	Font	Attrib
L1	en	Heading	10	10	Cen...	Helvetica Narr...	Bold

1. Click **Add** or **Edit** to open the Contents Row window.



Take the following steps using the options at the top of the Contents Row window to select specific elements from the ballot data file to include in the heading cell, to position the contents on your ballots, to select the default language for your contents, and to place contents from outside your ballot data file in the heading cell.

2. From the **Contents** list, select an element from the ballot data to place in your heading cells.

NOTE: To add custom text to a heading cell, type the @ symbol followed by the text in the **Contents** box.

3. From the **Position** list, select a position to orient contents in the heading cell. The position letter represents the position origin and the number represents the number of lines away from the position origin that contents appear. For example, select T1 to place contents one line from the top of the heading cell or select B1 to place contents one line from the bottom.

NOTE: Select an L position to place contents relative to the last contents positioned on your ballot. For example, if you place contents in the T1 position and then add contents in the L1 position, the L1 contents appear one line below the T1 data. If you do not select contents before you assign an L position, the data in the L location appears relative to the top margin of your heading cell.

4. From the **Language** list, select the default language for your ballot contents.
5. Click **Import** to search your computer for ballot text not included in the ballot data file. You can only import text formatted as .rtf or .txt files. Select a file and click **Open** to include outside contents in your heading cell.
6. In the **Left Margin** and **Right Margin** boxes, type measurements, in inches, to set the left and right margins for the selected ballot contents.

7. From the **Font** list, select the text style for the contents. ES&S Image Manager recognizes only PostScript fonts.
8. From the **Point Size** list, select a text size for the contents or type a measurement, in points, directly into the list to manually size the text.
9. In the **Line Size** box, select the amount of space that appears between lines of text (leading). Type a measurement, in points, directly into the list to manually set the space between lines.

NOTE: The line size for your contents must be at the same size or greater than your selected point size.

10. From the **Attribute** list, select **Normal**, **Bold**, **Italic**, or **Bold Italic** to choose a text style for your ballot contents.
11. From the **Align** list, select **Left**, **Right**, **Center**, or **Justify** to position the contents in the heading cell.
12. Select a color from the **Text Color** list to set the color of your ballot text. Available colors include white, gray, dark gray, light gray, black, red, green, and blue.

Recommended Office Headings Style Sheet Settings

Default Office Headings Style Sheet Settings

Option	Default
Top Margin	0.065
Left Margin	0.001
Right Margin	0.001
Bottom Margin	0.001
Top Rule	0.003
Ruling Box	0.000
Bottom Rule	0.003
Double Rule	No
Default Span	1
Background	Transparent

Default Office Headings Style Sheet Settings *(continued)*

Option	Default
Continued Phrase	Continued

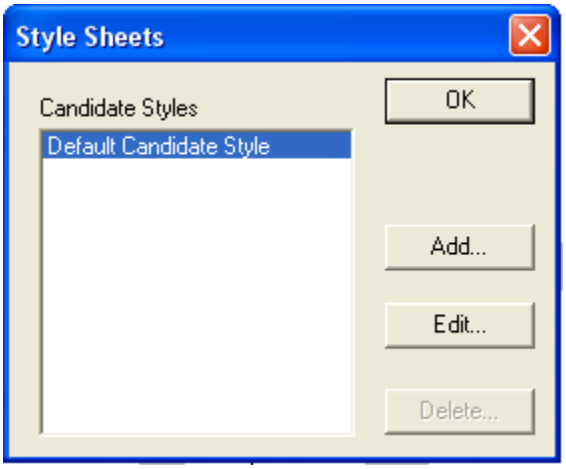
Default Contents Row Settings

Option	Default
Position	L1
Language	En
Contents	Heading
Point Size	10
Line Size	10
Alignment	Center
Font	Helvetica Narrow
Attribute	Bold

Candidate Style Sheet

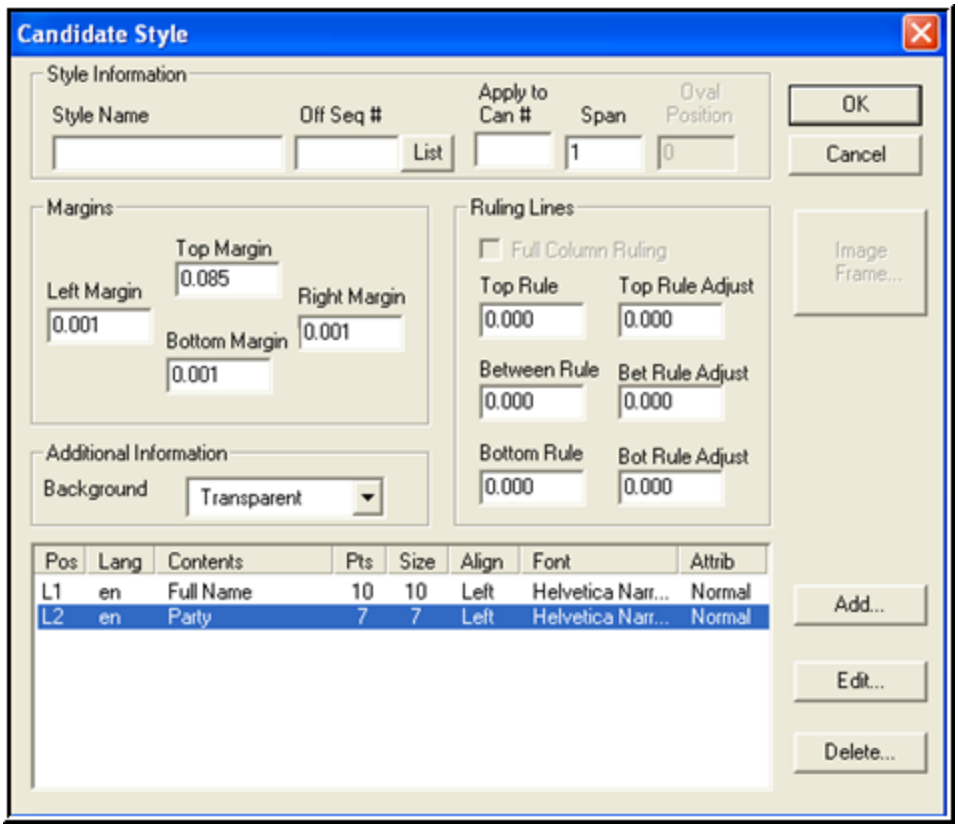
Use the candidate style sheet to format and position candidate information from the ballot data file including candidate names, party titles and additional candidate text. Candidate information appears below offices on the ballot.

From the **Style Sheets** menu, select **Candidate** to open the Style Sheets window.



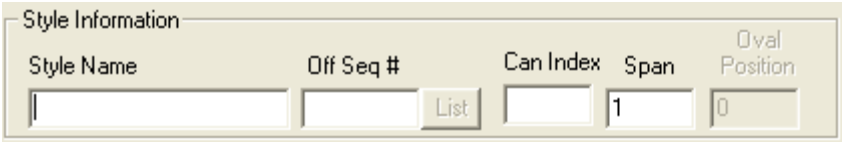
Select a style sheet from the list and click **Delete** to remove a style, click **Add** to create a new style sheet based on default settings or click **Edit** to change an existing style sheet.

Select **Add** or **Edit** to open the Candidate Style window.



Style Information

Take the following steps under the Style Information heading to name the style sheet, link the style to specific contests, configure voting targets, and group candidate records in the candidate text area.



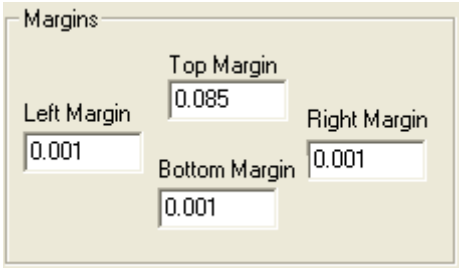
1. In the **Style Name** box, type a name for the candidate style sheet. You cannot change the name of the default style sheet.
2. Click **List** next to the **Off Seq#** box and select contest titles to link candidate style settings to specific offices. Contests not linked to a specific style use the settings from the default candidate style sheet.
3. In the **Apply to Can #** box, type a number to apply style sheet settings to a single candidate ballot position. For example, if a candidate name does not fit on the ballot, select the office where the candidate appears from the **Off Seq#** list, and then type the candidate's ballot position in the **Apply to Can #** box. You can then alter the settings for that single candidate record without changing the formatting of the other candidate names on the ballot.

NOTE: Do not format candidate names with the **Apply to Can #** box if you use candidate rotation. ES&S Image Manager applies style sheet formatting to any candidate name that appears in the ballot position indicated in the **Apply to Can #**box.

4. Type a number in the **Span** box to set the number of voting target positions that each candidate name linked to the style sheet crosses vertically on the ballot.
5. If you select a **Span** greater than 1, the **Oval Position** option becomes available. In the **Oval Position** box, type a value to position the voting ovals next to each candidate linked to the style. For example, set **Span** to 2 and type 1 in the **Oval Position** box to align voting targets with the top of the candidate record. Type 2 to align ovals with the bottom of candidate text.

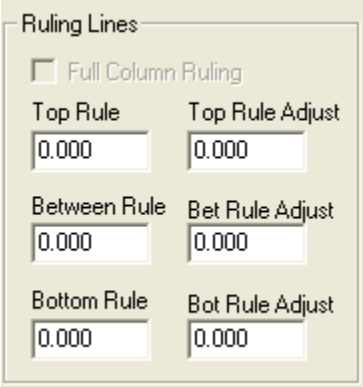
Margins Heading

Under the **Margins** heading, type measurements, in inches, in the **Top Margin**, **Right Margin**, **Bottom Margin**, and **Left Margin** boxes to set the margins for your candidates.



Ruling Lines Heading

Under the **Ruling Lines** heading, take the following steps to configure ruling lines for your candidates.



1. If you enabled full column ruling, select **Full Column Ruling** under the **Ruling Lines** heading to allow your office text to span the entire width of a ballot column, including the ballot target area. Deselect **Full Column Ruling** to prevent text from overlapping the target area.

Refer to the Full Column Ruling heading in 4.1 Section K: Ballot Layout File for information about using Full Column Ruling.

2. In the **Top Rule** box, type a measurement to set the thickness, in inches, of the line above your office text. Type 0 if you do not use a top ruling line.

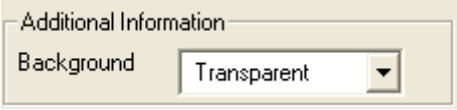
NOTE: For all Rule boxes, the maximum ruling line thickness is 0.003 inches.

3. In the **Top Rule Adjust** box, type a measurement, in inches, to position the ruling line above your office cells. Type 0 for no position adjustment.

NOTE: In all **Rule Adjust** boxes, type a positive number to move the line down or a negative number to move the ruling line up on the ballot.

4. In the **Between Rule** box, type a value, in inches, to set the thickness of the horizontal lines appearing between candidate names. Type 0 if your jurisdiction does not place lines between candidate names.
5. In the **Bet Rule Adjust** box, type a measurement, in inches, to position the lines between candidate records. Type 0 for no position adjustment.
6. In the **Bottom Rule** box, type a value to set the thickness, in inches, of the line below your office cells. Type 0 if you do not use a bottom ruling line.
7. In the **Bot Rule Adjust** box, type a measurement, in inches, to position the line below candidate text. Type 0 for no position adjustment.

Additional Information Heading



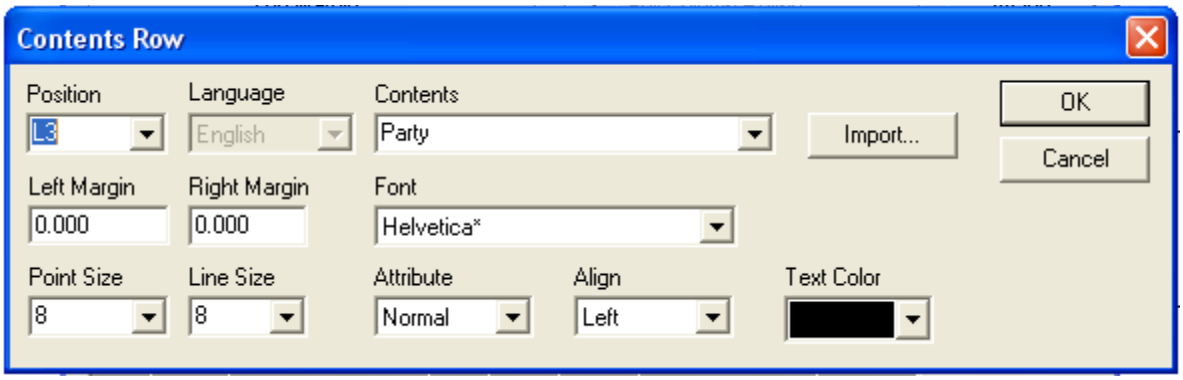
Select a background color for your candidate text from the **Background** list under the **Additional Information** heading. Available colors include white, gray, dark gray, light gray, black, red, green, and blue. Click **Custom** to mix a custom color.

Contents

In the bottom portion of the Candidate Style window, click **Add** to add specific candidate data to the candidate text area. Select existing contents and click **Edit** to change settings or click **Delete** to remove the contents from the candidate cell.

Pos	Lang	Contents	Pts	Size	Align	Font	Attrib
L1	en	Full Name	10	10	Left	Helvetica Narr...	Normal
L2	en	Party	7	7	Left	Helvetica Narr...	Normal

1. Click **Add** or **Edit** to open the Contents Row window.



2. From the **Contents** list, select an element from the ballot data file to place in the candidate text area.

NOTE: To add custom text to the candidate cell, type the @ symbol followed by the text in the **Contents** box.

3. From the **Position** list, select a position to orient contents in the candidate cell. The position letter represents the position origin and the number represents how many lines away from the origin the contents appear. For example, select T1 to place contents one line from the top of the candidate cell or select B1 to place the contents one line from the bottom of the cell.

NOTE: Select an L position to place contents relative to the last element positioned in the candidate cell. For example, if you place contents in the T1 position and then add contents in the L1 position, the L1 contents appear one line below the T1 data. If you do not select contents before you assign an L position, the data in the L location appears relative to the top margin of the office cell.

4. From the **Language** list, select the default language for your ballot contents.
5. Click **Import** to search your PC for ballot text not included in the ballot data file. You can only import ballot text formatted as an .rtf or .txt file. Select a file and click **Open** to include the outside contents in your candidate cell.
6. In the **Left Margin** and **Right Margin** boxes, type measurements, in inches, to set the left and right margins within the candidate cell for the selected ballot contents.
7. From the **Font** list, select a text style for the selected contents. ES&S Image Manager only recognizes PostScript fonts.
8. From the **Point Size** list, select a text size for the contents or type a point size directly into the list to manually size the text.
9. From the **Line Size** list, select the amount of space that appears between lines of text (leading). Type a measurement, in points, directly into the list to manually set the space between lines of text.

NOTE: Set the line size for your contents at the same size or greater than your selected Point Size.

10. From the **Attribute** list, select **Normal**, **Bold**, **Italic**, or **Bold Italic** to choose a text style for your ballot contents.
11. From the **Align** list, select **Left**, **Right**, **Center**, or **Justify** to position the selected contents in the candidate cell.
12. Select a color from the **Text Color** list to set the color of your ballot text. Available colors include white, gray, dark gray, light gray, black, red, green, and blue.

Default Candidate Style Sheet Settings

Option	Default
Name	Default Candidate Style Sheet
Span	1
Top Margin	0.085

Default Candidate Style Sheet Settings *(continued)*

Option	Default
Left Margin	0.001
Right Margin	0.001
Bottom Margin	0.001
Top Rule	0.003
Top Rule Adjust	0.000
Between Rule	0.000
Bet Rule Adjust	0.000
Bottom Rule	0.000
Bot Rule Adjust	0.000
Background	Transparent

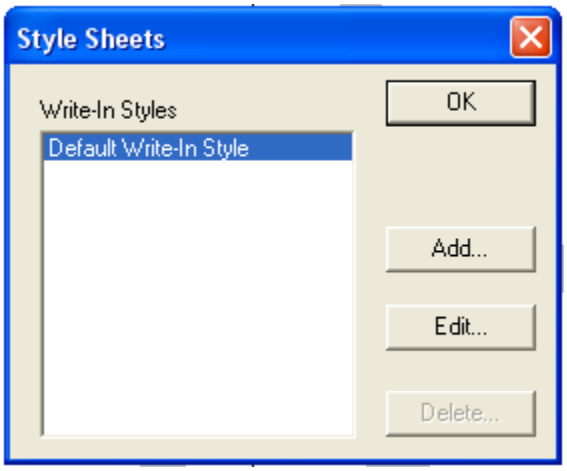
Default Contents Row Settings

Option	Default
Position	L1
Language	En
Contents	Full Name
Point Size	10
Line Size	10
Alignment	Left
Font	Helvetica Narrow
Attribute	Normal

Write-in Style Sheet

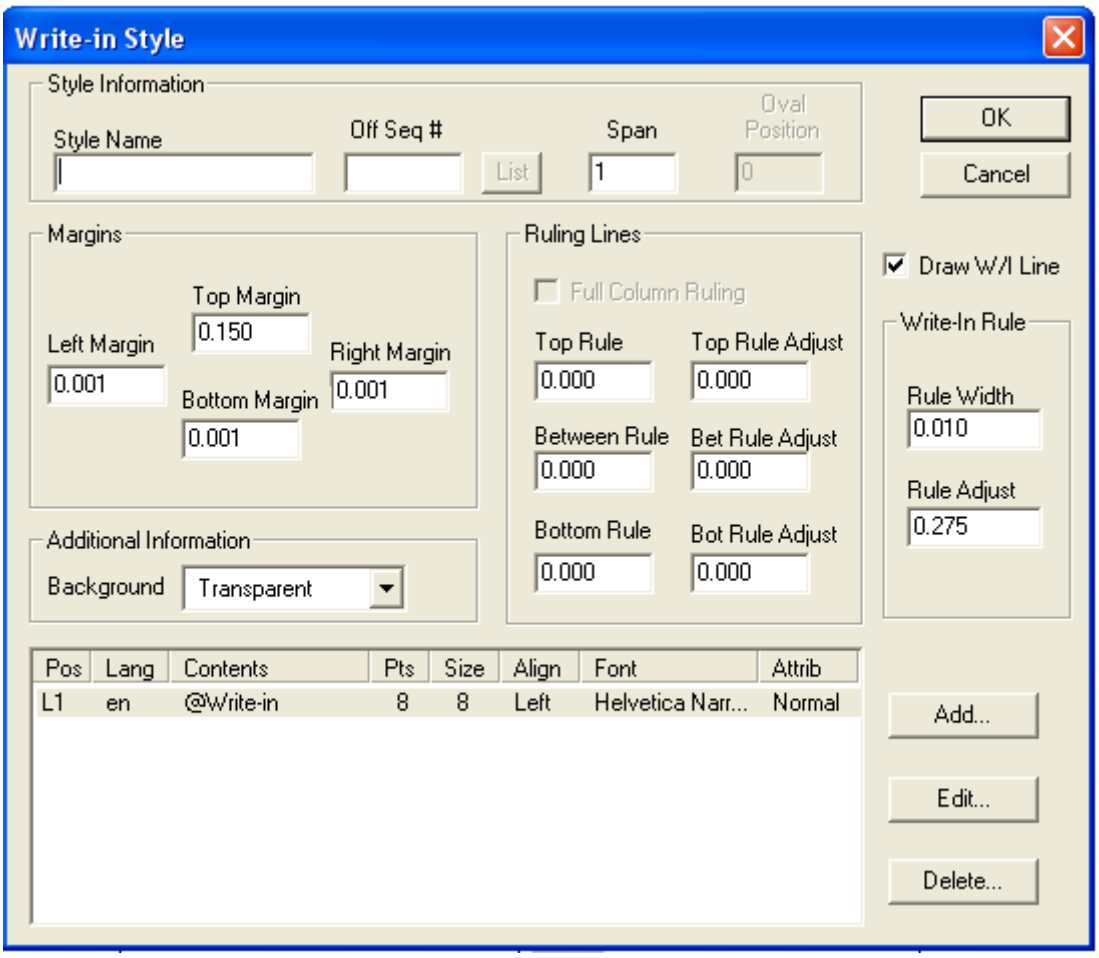
Use the write-in style sheet to control the positioning and appearance of write-in information such as write-in lines, write-in text, and voting ovals from the ballot data file. The write-in cell appears below candidate text on your ballots.

From the Style Sheets menu, select **Write-in** to open the Style Sheets window.



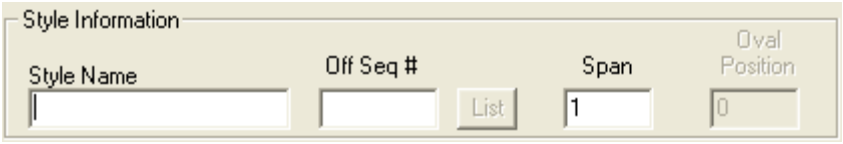
Select a style sheet from the list and click **Delete** to remove a style, click Add to create a new style sheet based on default settings or click **Edit** to change an existing style sheet.

Select **Add** or **Edit** to open the Write-in Style window.



Style Information Heading

In the Write-in Style window, take the following steps under the Office Style Information heading to name your style sheet, link your style sheet to specific contests, and configure voting targets for your write-in lines.

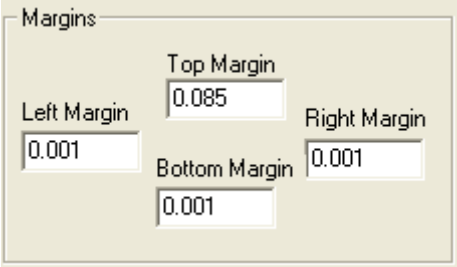


1. In the **Style Name** box, type a name for the write-in style sheet. You cannot change the name of the default style sheet.

2. Next to the **Off Seq#** box, click **List** to open a list of available offices. Select the offices that you want to link to the style sheet. Any contests not linked to a custom style sheet automatically use the default style.
3. Type a number in the **Span** box to set the number of voting target positions that each write-in line linked to the style sheet crosses vertically on the ballot.
4. If you select a **Span** greater than 1, the **Oval Position** option will be available. In the **Oval Position** box, type a value to position the voting ovals next to each write-in line linked to the style. For example, set **Span** to 2 and type 1 in the **Oval Position** box to align voting targets with the top of write-in lines. Type 2 to align ovals with the bottom of your write-in lines.

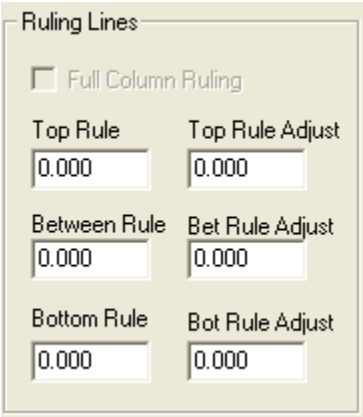
Margins Heading

Under the **Margins** heading, type measurements, in inches, in the **Top Margin**, **Right Margin**, **Bottom Margin**, and **Left Margin** boxes to set the margins for your write-ins.



Ruling Lines Heading

Under the **Ruling Lines** heading, take the following steps to configure ruling lines for write-in targets.



5. If you enabled full column ruling, select **Full Column Ruling** under the **Ruling Lines** heading to allow your office text to span the entire width of a ballot column, including the ballot target area. Deselect **Full Column Ruling** to prevent text from overlapping the target area.

Refer to the Full Column Ruling heading in 4.1 Section K: Ballot Layout File for information about using Full Column Ruling.

6. In the **Top Rule** box, type a measurement to set the thickness, in inches, of the line above your office text. Type 0 if you do not use a top ruling line.

NOTE: For all Rule boxes, the maximum ruling line thickness is 0.003 inches.

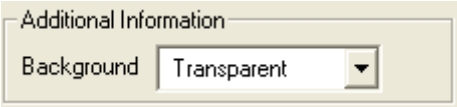
7. In the **Top Rule Adjust** box, type a measurement, in inches, to position the ruling line above the write-in lines. Type 0 for no position adjustment.

NOTE: In all **Rule Adjust** boxes, type a positive number to move the line down or a negative number to move the ruling line up on the ballot.

8. In the **Between Rule** box, type a measurement, in inches, to set the thickness of the horizontal lines appearing between write-in lines. Type 0 if your jurisdiction does not place lines between write-in text.
9. In the **Bet Rule Adjust** box, type a measurement, in inches, to position the lines between each of your write-in records. Type 0 for no position adjustment.
10. In the **Bottom Rule** box, type a value to set the thickness, in inches, of the line below your write-in cell. Type 0 if you do not use a bottom ruling line.
11. In the **Bot Rule Adjust** box, type a measurement, in inches, to position the line below candidate text. Type 0 for no position adjustment.

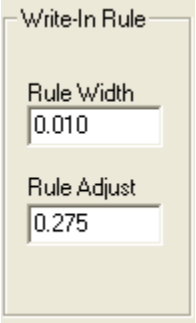
Additional Information Heading

Under the **Additional Information** heading select a background color for your write-in text from the **Background** list. Available colors include white, gray, dark gray, light gray, black, red, green, and blue. Select **Custom** to mix a custom color.



Write-In Rule Heading

Under the **Write-In Rule** heading, take the following steps to configure your write-in lines.

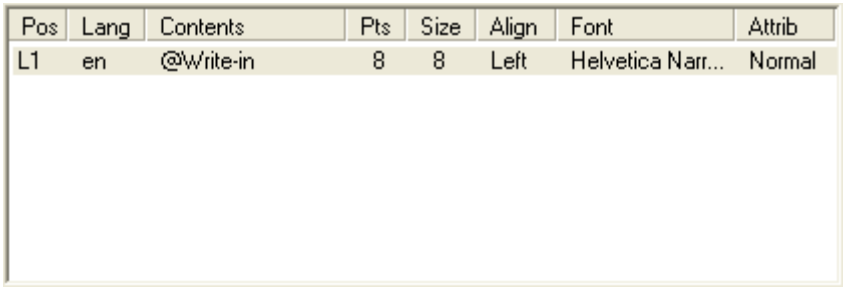


1. Click **Draw W/I** Line to place write-in lines on your ballot.
2. In the **Rule Width** box under the **Write-in Rule** heading, type a measurement, in inches, to set the thickness of your write-in lines.

3. In the **Rule Adjust** box, type a measurement, in inches, to position write-in lines next to your write-in voting targets. Type a positive number to move the line down on the ballot and a negative number to move the line up.

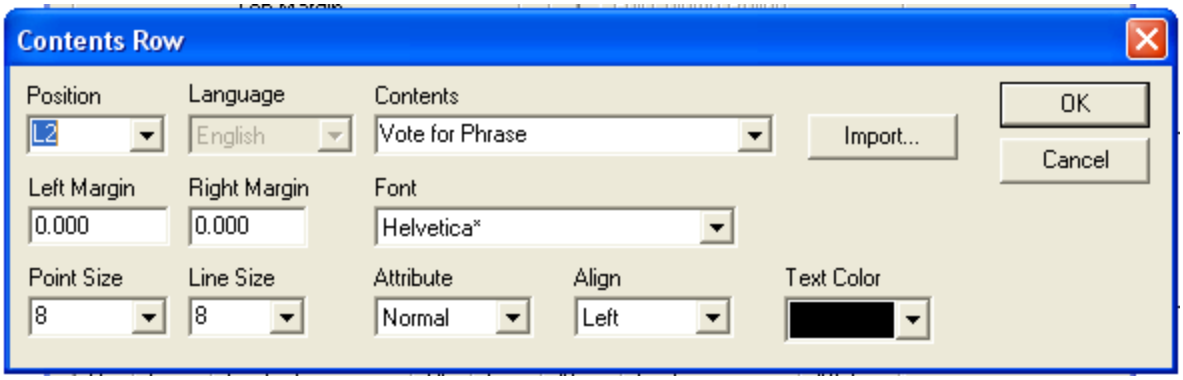
Contents

In the bottom portion of the Write-in Style window, click **Add** to add specific write-in contents to the write-in text area. Select existing contents and click **Edit** to change settings or click **Delete** to remove existing contents from the write-in cell.



Pos	Lang	Contents	Pts	Size	Align	Font	Attrib
L1	en	@Write-in	8	8	Left	Helvetica Narr...	Normal

1. Click **Add** or **Edit** to open the Contents Row window.



Take the following steps using the options at the top of the Contents Row window to select specific elements from the ballot data file to include in the write-in text area, to position the contents on your ballots, to select the default language for your contents and to import write-in text from outside of the ballot data file.

2. From the **Contents** list, select an element from the ballot data file to place in the write-in text area.

NOTE: To add custom text to a write-in cell, type the @ symbol followed by the text in the **Contents** box.

3. From the **Position** list, select a position to orient contents in the write-in cell. The position letter represents the position origin and the number represents how many lines away from the origin your contents appear. For example, select T1 to place contents one line from the top of the write-in cell or select B1 to place the contents one line from the bottom of the cell.

NOTE: Select an L position to place contents relative to the last element positioned in the write-in cell. For example, if you place contents in the T1 position and then add contents in the L1 position, the L1 contents appear one line below the T1 data. If you do not select contents before you assign an L position, the data in the L location appears relative to the top margin of the write-in cell.

4. From the **Language** list, select the default language for the write-in contents.
5. Click **Import** to search your PC for ballot text not included in the ballot data file. You can only import ballot text formatted as an .rtf or .txt file. Select a file and click **Open** to include outside contents in your write-in cell.
6. In the **Left Margin** and **Right Margin** boxes, type measurements, in inches, to set the left and right margins of the selected contents within the write-in cell.
7. From the **Font** list, select the text style for your contents. ES&S Image Manager recognizes only PostScript fonts.
8. From the **Point Size** list, select a text size for the contents or type a point size directly into the list to manually size the text.
9. From the **Line Size** list, select the amount of space that appears between lines of text (leading). Type a measurement, in points, directly into the list to manually set the space between lines of text.

NOTE: The line size for your contents must be the same size or greater than the selected **point** size you select.

10. From the **Attribute** list, select **Normal**, **Bold**, **Italic**, or **Bold Italic** to choose a text style for your ballot contents.
11. From the **Align** list, select **Left**, **Right**, **Center**, or **Justify** to position contents in the write-in area.
12. Select a color from the **Text Color** list to set the color of your ballot text. Available colors include white, gray, dark gray, light gray, black, red, green, and blue.

Default Write-In Style Sheet Settings

Option	Default
Name	Default Write-in Style
Span	1
Top Margin	0.150
Left Margin	0.001
Right Margin	0.001
Bottom Margin	0.001
Top Rule	0.000
Top Rule Adjust	0.000
Between Rule	0.000
Bet Rule Adjust	0.000
Bottom Rule	0.000
Bot Rule Adjust	0.000
Background	Transparent
Draw W/I Line	Yes
Write-in Rule Width	0.010
Write-in Rule Adjust	0.275

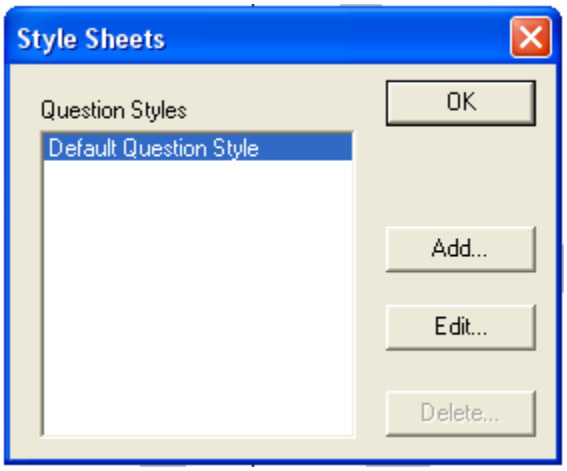
Default Contents Row Settings

Option	Default
Position	L1
Contents	@Write-in
Point Size	8
Line Size	8
Alignment	Left
Font	Helvetica Narrow
Attribute	Normal

Question Style Sheet

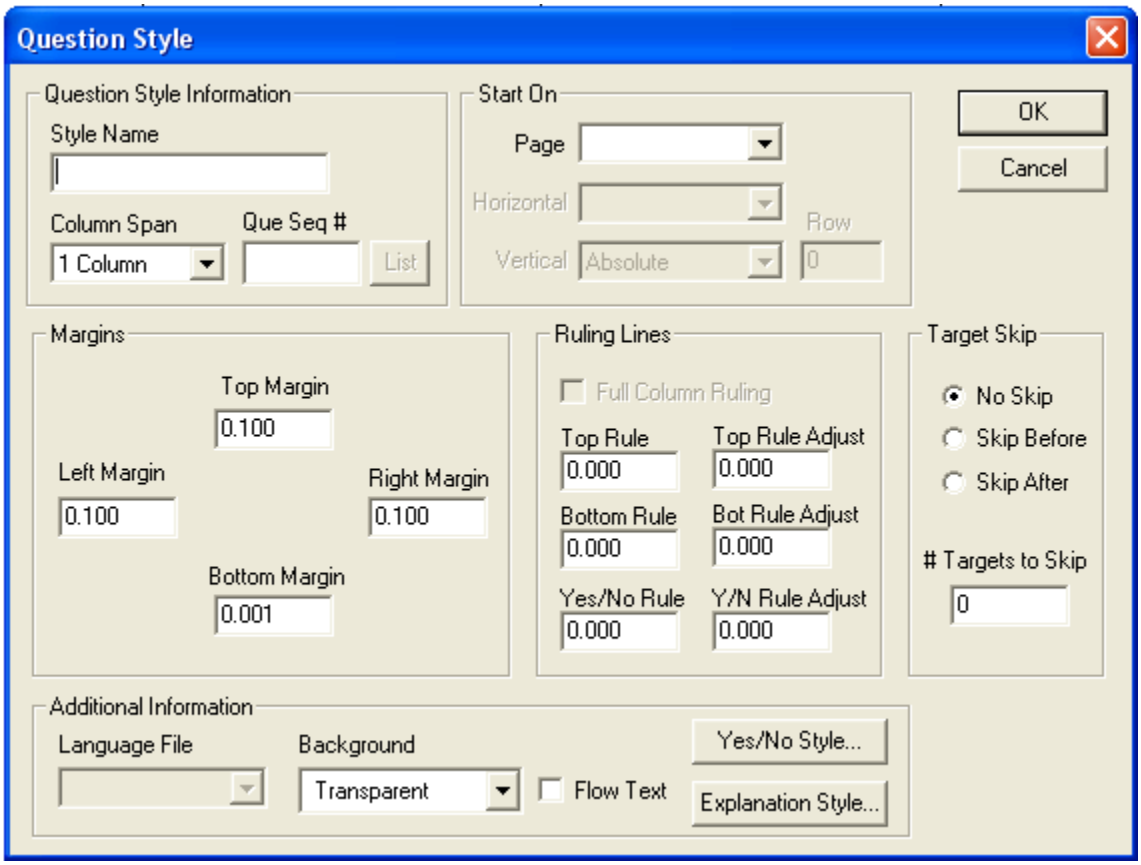
Format a question style sheet to control the positioning and appearance of questions and responses. A question cell appears in place of an office cell for ballot referendums.

From the **Style Sheets** menu, select **Question** to open the Style Sheets window.



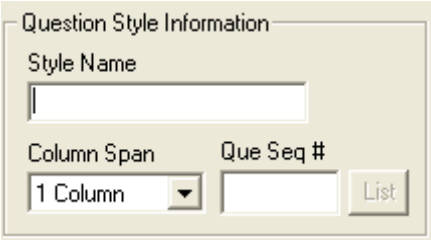
Select a style sheet from the list and click **Delete** to remove a style, click **Add** to create a new style sheet based on default settings or click **Edit** to change an existing style sheet.

Select **Add** or **Edit** to open the Question Style window.



Question Style Information Heading

In the Question Style window, take the following steps under the **Question Style Information** heading to name your style sheet, link the style to specific contests, and configure the size of the question text area.

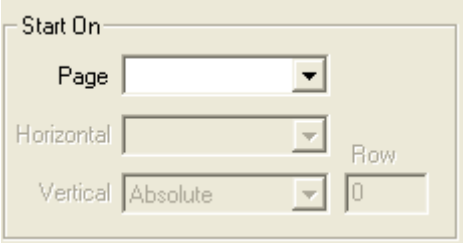


1. In the **Style Name** box, type a name for the question style sheet. You cannot change the name of the default style sheet.

2. Next to the **Que Seq #** box, click **List** to open a list of available ballot questions. Select the questions that you want to link to the style sheet. Any contests not linked to a custom style sheet automatically use the default style.
3. From the **Column Span** list, select the number of columns the question cell will cross on the ballot. Unlike the **Span** option in other style sheets, the **Column Span** list controls the width of the question cell, not the height.

Start On Heading

Configure options under the **Start On** heading to select a starting ballot location for your ballot questions.



1. To begin placing questions on a specific ballot page, select a page from the **Page** list. If you do not select from the list, ES&S Image Manager places questions in the first available ballot space in question sequence number order.

NOTE: In ES&S Image Manager, a ballot page refers to a single ballot sheet (front and back).

2. If you select a ballot page from the **Page** list, you can specify the starting location using the controls immediately below the **Page** list.
3. In the **Horizontal** list, select a column number.

   The columns on the back of the page follow sequentially after the front column numbers.

4. From the **Vertical** list, select one of the following options:
   - **Top of Col:** Select **Top of Col** to start the placement at the top of the selected column.
   - **Bottom of Col:** Select **Bottom of Col** to start placement at the bottom of the selected column.

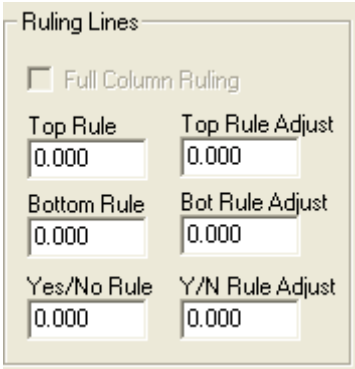
- **Absolute:** Select **Absolute** to start placement in an absolute row in the selected column. This option will enable the **Row** text box, so you can specify which row in the selected column you want to start the placement.

Margins Heading

Under the **Margins** heading, type measurements, in inches, in the **Top Margin**, **Right Margin**, **Bottom Margin**, and **Left Margin** boxes to set margins for the ballot questions.

Ruling Lines Heading

Take the following steps under the **Ruling Lines** heading, to configure ruling lines for your ballot questions.



1. If you enabled full column ruling, select **Full Column Ruling** under the **Ruling Lines** heading to allow your office text to span the entire width of a ballot column, including the ballot target area. Deselect **Full Column Ruling** to prevent text from overlapping the target area.

Refer to the Full Column Ruling heading in 4.1 Section K: Ballot Layout File for information about using Full Column Ruling.

2. In the **Top Rule** box, type a measurement to set the thickness, in inches, of the line above your office text. Type 0 if you do not use a top ruling line.

NOTE: For all Rule boxes, the maximum ruling line thickness is 0.003 inches.

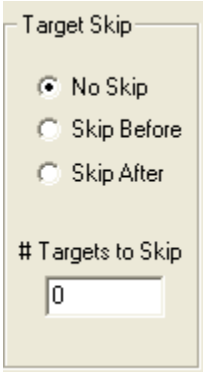
3. In the **Top Rule Adjust** box, type a measurement, in inches, to position the ruling line above your question cell. Type 0 for no position adjustment.

NOTE: In all **Rule Adjust** boxes, type a positive number to move the line down or a negative number to move the line up on the ballot.

4. In the **Bottom Rule** box, type a value to set the thickness, in inches, of the line below your question cell. Type 0 if you do not use a bottom ruling line.
5. In the **Bot Rule Adjust** box, type a distance, in inches, to position the line below the question cell.
6. In the **Yes/No Rule** box, type a measurement, in inches, to set the thickness of line that appears between question text and response text. Type 0 if you do not place a line between question and response text.
7. In the **Y/N Rule Adjust** box, type a measurement, in inches to position the line between question and response text.

Target Skip Heading

Take the following steps under the **Target Skip** heading to place blank lines between question cells.



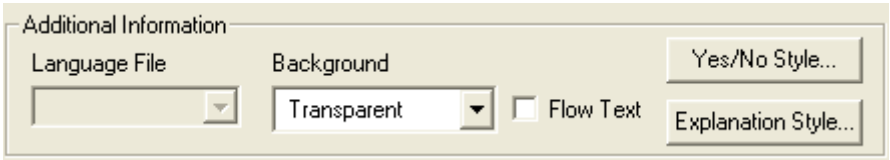
1. Select one of the following options to place blank spaces between question cells:

- Select **No Skip** to skip no target positions.
- Select **Skip** Before to skip a set number of target positions before question text.
- Select **Skip After** to skip a set number of target positions after question text.

2. If you select **Skip Before** or **Skip After**, type a number in the **# of Targets to Skip** box to set the number of target positions skipped before or after your question cells.

Additional Information Heading

Take the following steps to select a default language for your question text, chose a background color for the question cell, and format text to flow from the end of one column to the top of the next.

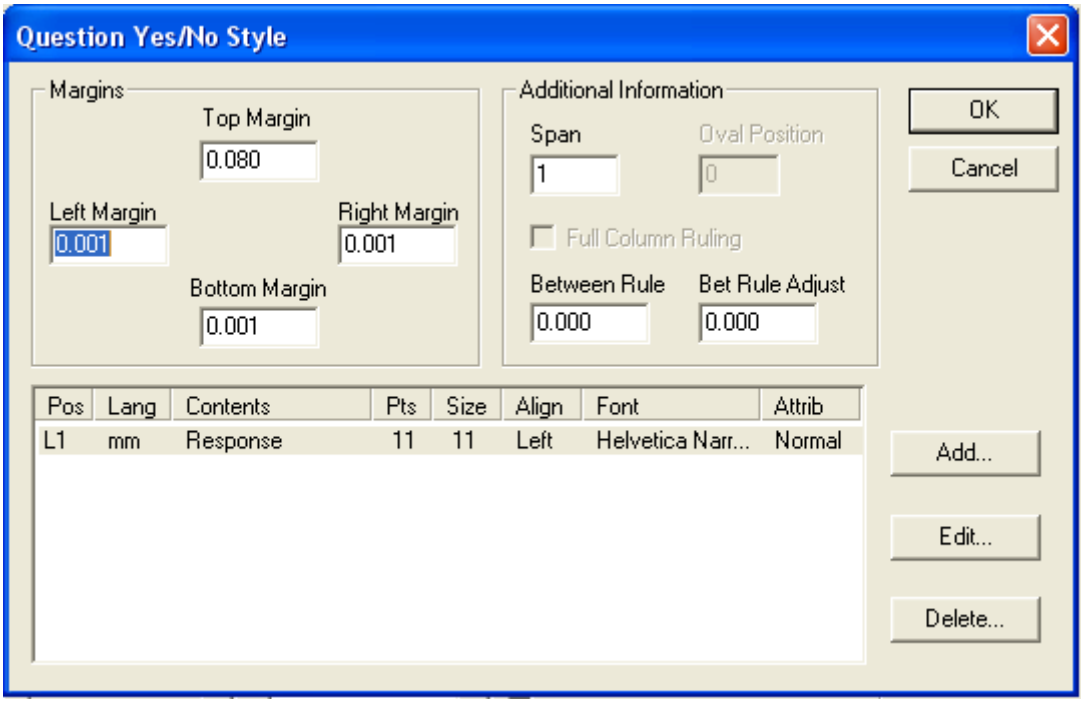


1. From the **Language File** list under the **Additional Information** heading, select a default language for your question text.
2. Select a background color for your question text from the **Background** list under the **Additional Information** heading. Available colors include white, gray, dark gray, light gray, black, red, green, and blue. Select **Custom** to mix a custom background color.
3. Click **Flow Text** to continue question text at the top of the next column if the text exceeds the length of a column. Clear the **Flow Text** box to force an entire question to the top of the next column if the text exceeds the length of the current column.

Question Yes/No Style

In the Question Style window under the Additional Information heading, take the following steps to format the response text that appears below ballot questions.

1. In the Question Style window under the **Additional Information** heading, click **Yes/No Style** to open the **Question Yes/No Style** window:



2. Under the **Margins** heading, type measurements, in inches, in the **Top Margin**, **Right Margin**, **Bottom Margin**, and **Left Margin** boxes to set the margins for your response text.
3. Type a number in the **Span** box to set the number of oval positions the response text crosses on the ballot.
4. You cannot use the **Oval Position** option unless you select a **Span** greater than 1. In the **Oval Position** box, type a value to position the voting ovals next to your response text. For example, set **Span** to 2 and type 1 in the **Oval Position** box to align voting targets with the top of each question response. Type 2 to align ovals with the bottom of the response text.
5. If you enabled full column ruling, select **Full Column Ruling** to allow response text to span the entire width of a ballot column, including the ballot target area. Deselect **Full Column Ruling** to prevent text from overlapping the target area.

Refer to the Full Column Ruling heading in 4.1 Section K: Ballot Layout File for information about using Full Column Ruling.

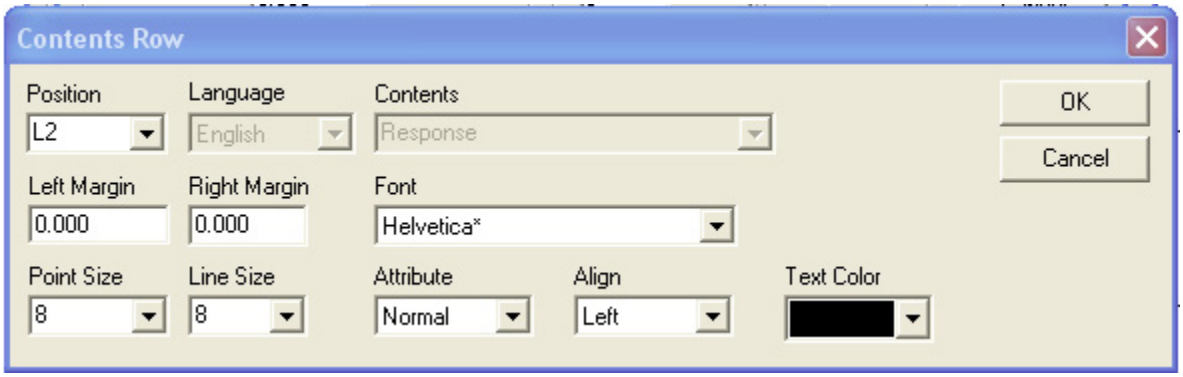
6. In the **Between Rule** box, type a value, in inches, to set the thickness of horizontal lines appearing between ballot responses. Type 0 if your jurisdiction does not place lines between responses.

7. In the **Bet Rule Adjust** box, type a measurement, in inches, to position the lines between the ballot responses.

Question Yes/No Text Contents

In the bottom portion of the **Question Yes/No Style** window, click **Add** to add specific response data to the ballot response area. Select existing contents and click **Edit** to change settings or click **Delete** to remove contents from the response area.

1. Click **Add** or **Edit** to open the **Contents Row** window.



NOTE: You cannot select specific ballot elements from the **Contents** list for ballot response text. Ballot responses are the only contents selection allowed.

2. From the **Position** list, select a position to orient response text. The position letter represents the position origin and the number represents how many lines away from the position origin the contents appear. For example, select T1 to place contents one line from the top of the response area or select B1 to place contents one line from the bottom.

NOTE: Select an L position to place contents relative to the last element positioned on the ballot. For example, if you place contents in the T1 position and then add contents in the L1 position, the L1 contents appear one line below the T1 data. If you do not select contents before you assign an L position, the data in the L location appears relative to the top margin of the response area.

3. From the **Language** list, select the default language for your ballot responses.
4. In the **Left Margin** and **Right Margin** boxes, type measurements, in inches, to set both left and right margins for the ballot response text.
5. From the **Font** list, select the text style for your contents. ES&S Image Manager recognizes only PostScript fonts.

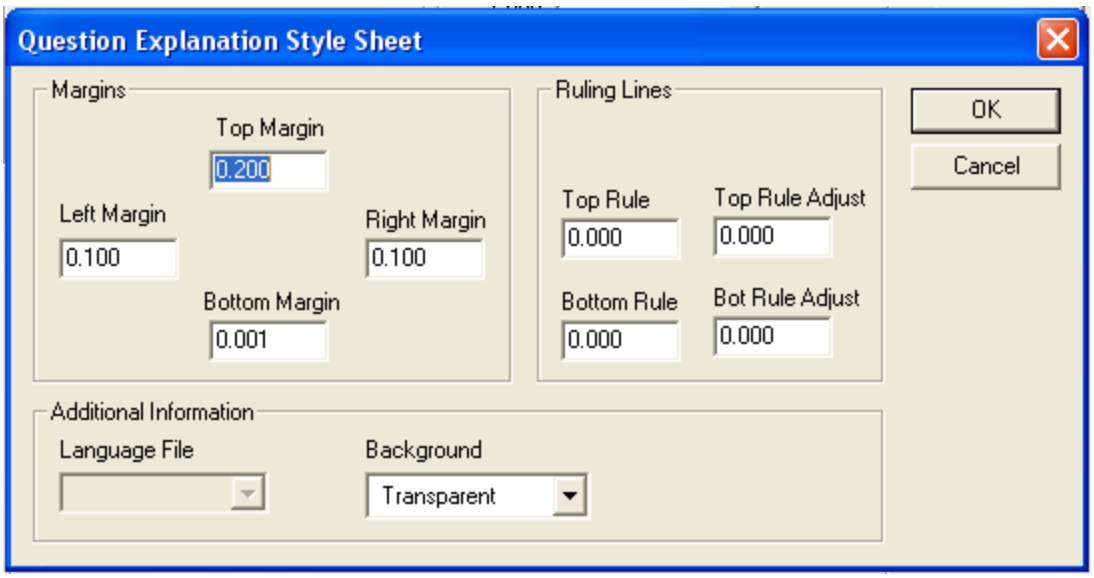
6. From the **Point Size** list, select a text size for your contents or type a point size directly into the list to manually size the text.
7. In the **Line Size** box, select the amount of space that appears between lines of text (leading). Type a measurement, in points, directly into the list to manually set the space between lines of text.

NOTE: The line size for your contents must be the same size or greater than the point size you selected.

8. From the **Attribute** list, select **Normal**, **Bold**, **Italic**, or **Bold Italic** to choose a text style for your ballot contents.
9. From the **Align** list, select **Left**, **Right**, **Center**, or **Justify** to position contents in the response cell.
10. Select a color from the **Text Color** list to set the color of your ballot text. Available colors include white, gray, dark gray, light gray, black, red, green, and blue.

Explanation Style

In the Question Style window under the **Additional Information** heading, click **Explanation Style** to format text that explains a ballot question. The Question Explanation Style Sheet window will appear.



1. Under the **Margins** heading, type measurements, in inches, in the **Top Margin**, **Right Margin**, **Bottom Margin**, and **Left Margin** boxes to set the margins for your explanation text.

2. In the **Top Rule** box, type a measurement to set the thickness, in inches, of the line above your explanation text. Type 0 if you do not use a top ruling line.

NOTE: For all Rule boxes, the maximum ruling line thickness is 0.003 inches.

3. In the **Top Rule Adjust** box, type a measurement, in inches, to position the ruling line above the explanation text. Type 0 for no position adjustment.

NOTE: In all **Rule Adjust** boxes, type a positive number to move the line down or enter a negative number to move the ruling line up on the ballot.

4. In the **Bottom Rule** box, type a value to set the thickness, in inches, of the line below the explanation text. Type 0 if you do not use a bottom ruling line.
5. In the **Bot Rule Adjust** box, type a measurement to position the line below your explanation text. Type 0 for no position adjustment.
6. Under the **Additional Information** heading, select the default language for your explanation text from the **Language File** list.
7. Select a background color for your explanation text from the **Background** list under the **Additional Information** heading. Available colors include white, gray, dark gray, light gray, black, red, green, and blue. Select **Custom** to mix a custom color.

Default Question Style Sheet Settings

Option	Default
Style Name	Default Question Style
Target	0
Span	1
Top Margin	0.100
Left Margin	0.100
Right Margin	0.100
Bottom Margin	0.001
Top Rule	0.000
Top Rule Adjust	0.000
Bottom Rule	0.000

Default Question Style Sheet Settings *(continued)*

Option	Default
Bot Rule Adjust	0.000
Yes/No Rule	0.000
Y/N Rule Adjust	0.000
Target Skip	No Skip
Background	Transparent

Default Response Text Settings

Option	Default
Top Margin	0.080
Left Margin	0.001
Right Margin	0.001
Bottom Margin	0.001
Between Rule	0.000
Bet Rule Adjust	0.000
Span	1

Default Yes/No Contents

Option	Default
Left Margin	0.000
Right Margin	0.000
Font	Helvetica Narrow
Point Size	11
Line Size	11
Attribute	Normal
Alignment	Left

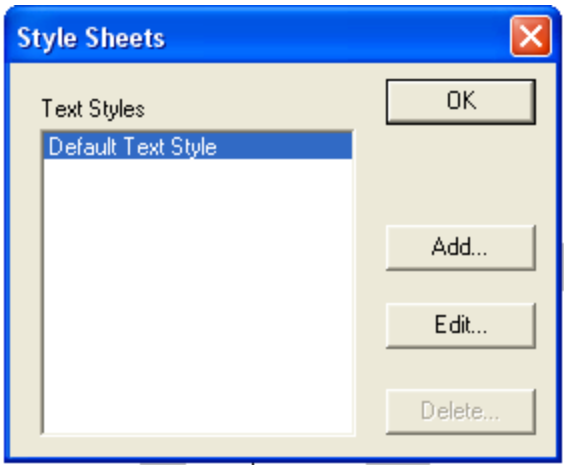
Default Explanation Settings

Option	Default
Top Margin	0.200
Left Margin	0.100
Right Margin	0.100
Bottom Margin	0.001
Top Rule	0.000
Top rule Adjust	0.000
Between Rule	0.000
Bet Rule Adjust	0.000
Language	English
Background	Transparent

Text Style Sheet

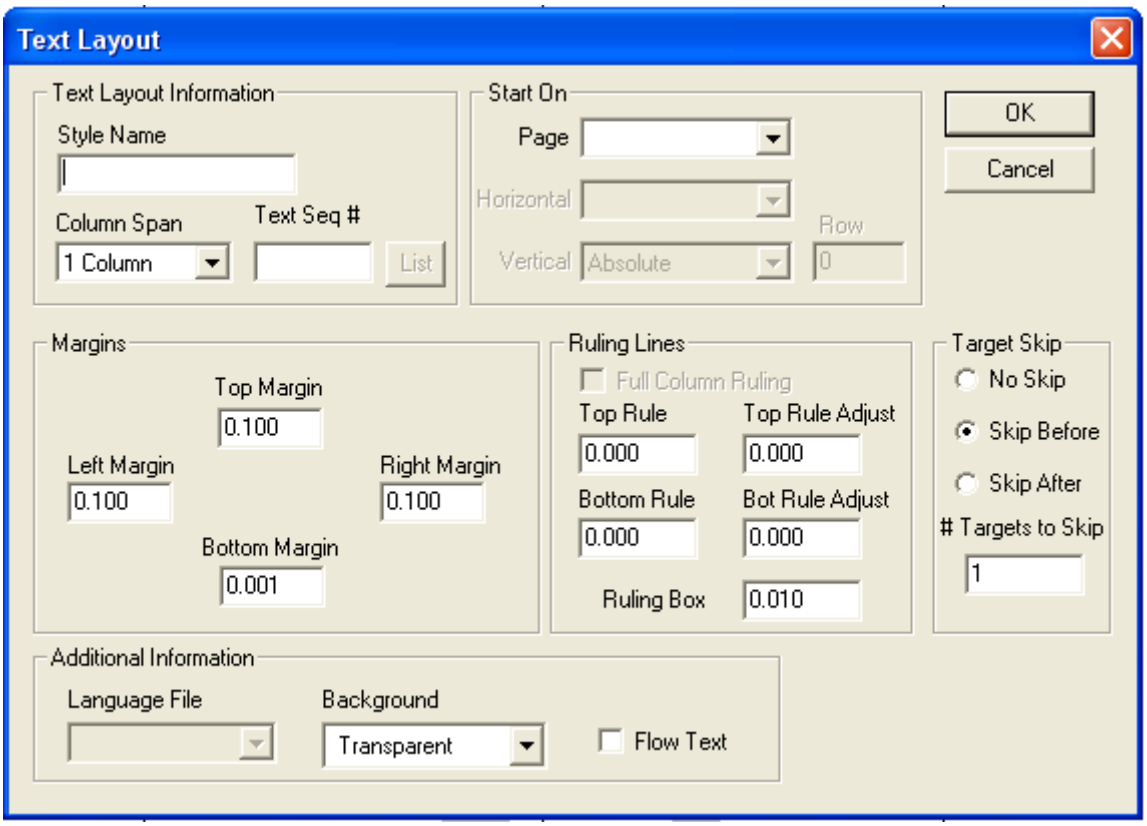
Use the text style sheet to format and position ballot text from the ballot data file such as ballot instructions and ballot messages. Ballot text appears on the ballot based on the sequence number you assigned to the text in Election Data Manager.

From the Style Sheets menu, click **Text** to open the Style Sheets window.



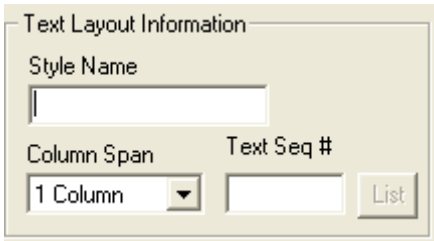
Select a style sheet from the list and click **Delete** to remove a style, click **Add** to create a new style sheet based on default settings or click **Edit** to change an existing style sheet.

Select **Add** or **Edit** to open the Text Layout window.



Text Layout Information Heading

In the Text Layout window, take the following steps using the options under the Text Layout Information heading to name your style sheet, link your style sheet to specific contests and configure the size of the text cell.



1. In the **Style Name** box, type a name for the text style sheet. You cannot change the name of the default style sheet.
2. Next to the **Text Sequence #** box, click **List** to open a list of available .txt or .rtf ballot text files. Select the text files that you want to link to the text style sheet. Any contests not linked to a custom style sheet automatically use the default style.
3. From the **Column Span** list, select a value to set the number of columns the text cell crosses on the ballot. Unlike the **Span** option in other style sheets, the **Column Span** list controls the width of the text cell, not the height.

Start On Heading

Take the following steps under the **Start On** heading to select a starting ballot location for your text.

1. To place a text cell on a specific ballot page, select a ballot page from the **Page** list. If you do not select from the list, ES&S Image Manager places the text cell in the first available ballot space in sequence number order.

NOTE: In ES&S Image Manager, a ballot page refers to a single ballot sheet (front and back).

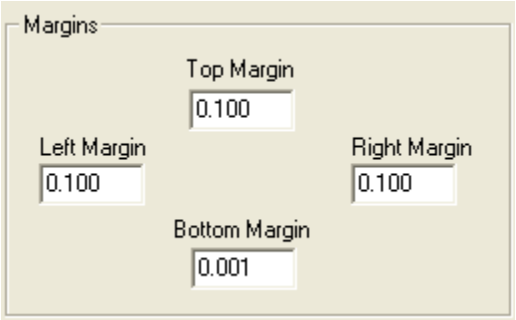
2. If you select a ballot page from the **Page** list, you will be allowed to specify the starting location using the controls immediately below the **Page** list.
3. In the **Horizontal** list, select a column number.

   The columns on the back of the page follow sequentially after the front column numbers.

4. From the **Vertical** list, select one of the three options:
   - Select **Top of Col** to start the placement at the top of the selected column.
   - Select **Bottom of Col** to start placement at the bottom of the selected column.

- Select **Absolute** to start placement in an absolute row in the selected column. Selecting this option will enable the row text box, allowing you to specify which row in the selected column to start the placement.

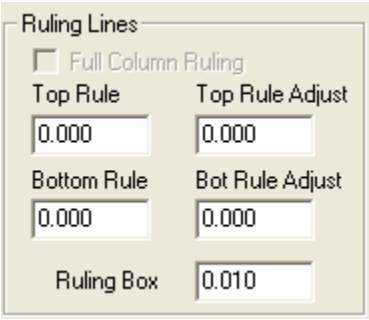
Margins Heading



Under the **Margins** heading, type measurements, in inches, in the **Top Margin**, **Right Margin**, **Bottom Margin**, and **Left Margin** boxes to set margins for ballot text.

Ruling Lines Heading

Take the following steps under the **Ruling Lines** heading, to configure ruling lines for your ballot text.



1. If you enabled full column ruling, select **Full Column Ruling** under the **Ruling Lines** heading to allow your office text to span the entire width of a ballot column, including the ballot target area. Deselect **Full Column Ruling** to prevent text from overlapping the target area.

Refer to the Full Column Ruling heading in 4.1 Section K: Ballot Layout File for information about using Full Column Ruling.

2. In the **Top Rule** box, type a measurement to set the thickness, in inches, of the line above your office text. Type 0 if you do not use a top ruling line.

NOTE: For all Rule boxes, the maximum ruling line thickness is 0.003 inches.

3. In the **Top Rule Adjust** box, type a measurement, in inches, to position the ruling line above your text cell. Type 0 for no position adjustment.

NOTE: In all **Rule Adjust** boxes type a positive number to move the line down or a negative number to move the ruling line up on the ballot.

4. In the **Bottom Rule** box, type a value to set the thickness, in inches, of the line below your text cell. Type 0 if you do not use a bottom ruling line.
5. In the **Bottom Rule Adjust** box, type a distance, in inches, to position the line below your text cell. Type 0 for no position adjustment.
6. Under the **Ruling Box** heading, type a value in the box to set the thickness, in inches, of the border around your ballot text.

Additional Information Heading

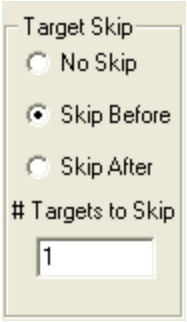
Take the following steps to select a default language for your ballot text, choose a background color for your text cell and format text to flow from the end of one column to the top of the next.

1. Select the default language for your ballot text from the **Language File** list.
2. Select a background color for your text from the **Background** list. Available colors include white, gray, dark gray, light gray, black, red, green, and blue. Select **Custom** to mix a custom color.

3. Click **Flow Text** to continue your text at the top of the next column if your text exceeds the length of a column. Clear the **Flow Text** box to force the entire text cell to the top of the next column if the text exceeds the length of the column.

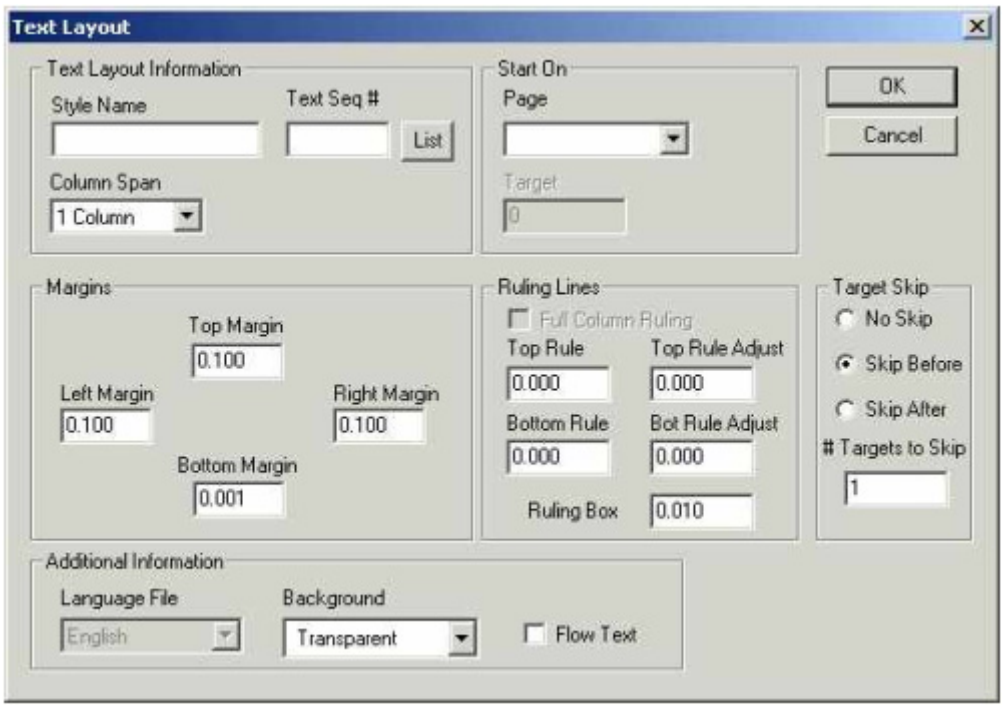
Target Skip Heading

Take the following steps under the Target Skip heading to place blank spaces between text cells.



1. Select one of the following options to place blank spaces between text cells:
   - Select **No Skip** to skip no target positions.
   - Select **Skip Before** to skip a set number of target positions before your text cell.
   - Select **Skip After** to skip a set number of target positions after the text cell.
2. If you select **Skip Before** or **Skip After**, type a number in the **# of Targets to Skip** box to set the number of target positions skipped before or after your text cell.

Recommended Text Style Sheet Settings



Default Text Style Sheet Settings

Option	Default
Name	Default Text Style
Target	0
Span	1
Top Margin	0.100
Left Margin	0.100
Right Margin	0.100
Bottom Margin	0.001
Top Rule	0.000
Top Rule Adjust	0.000
Bottom Rule	0.000
Bot Rule Adjust	0.000
Ruling Box	0.003
Target Skip	Skip Before

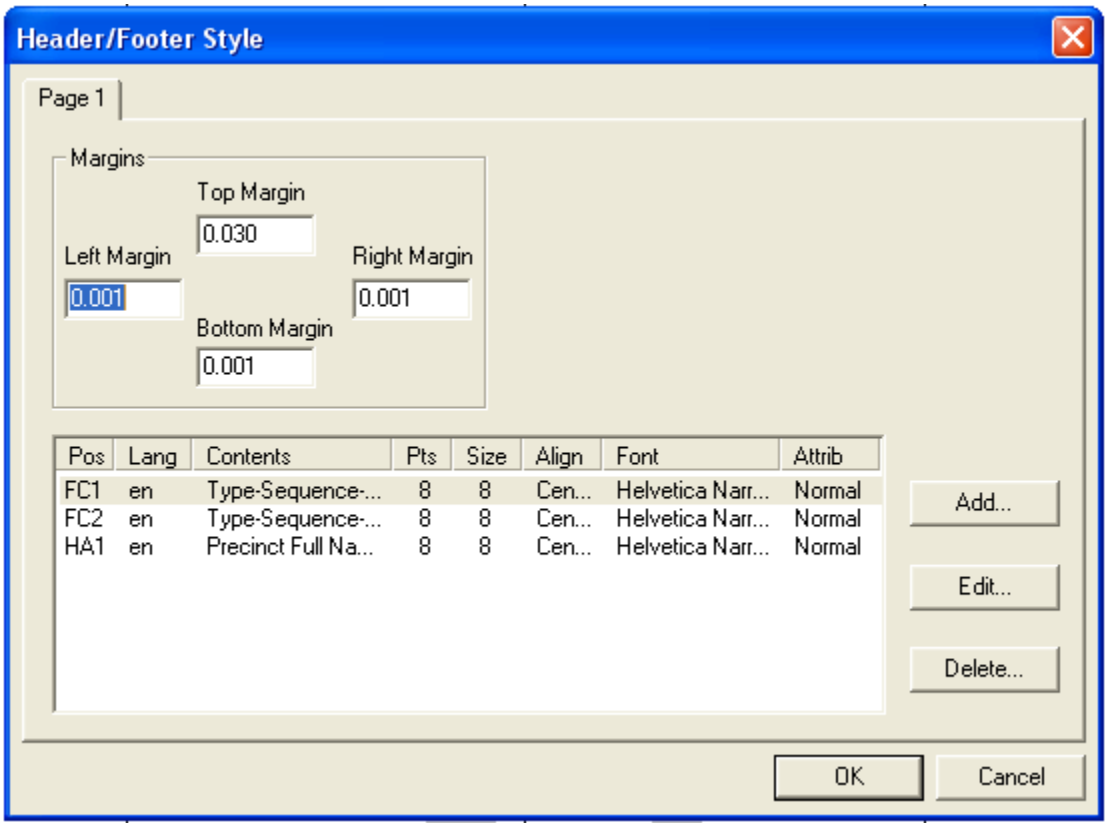
Default Text Style Sheet Settings *(continued)*

Option	Default
# Targets to Skip	1
Background	Transparent

Header/Footer Style Sheet

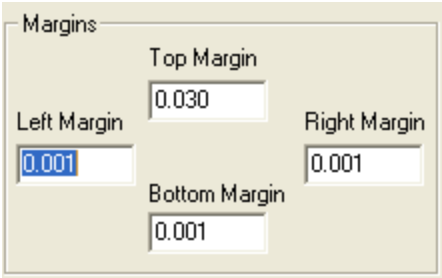
Configure a header/footer style sheet to control the positioning and appearance of ballot header and footer information such as serial numbers and precinct names from the ballot data file. Header and footer data appears in the top and bottom margins of ballot columns. They are available for each page of the ballot.

From the Style Sheets menu, select **Header/Footer** to open the Header/Footer Style window.



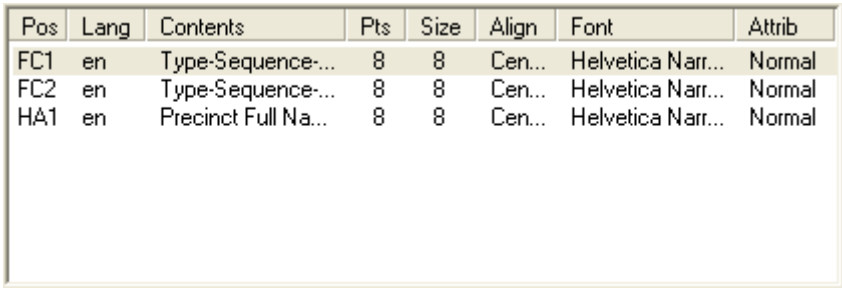
Margins Heading

Under the **Margins** heading, type measurements, in inches, in the **Top Margin**, **Right Margin**, **Bottom Margin**, and **Left Margin** boxes to set the margins for your header/footer cell.



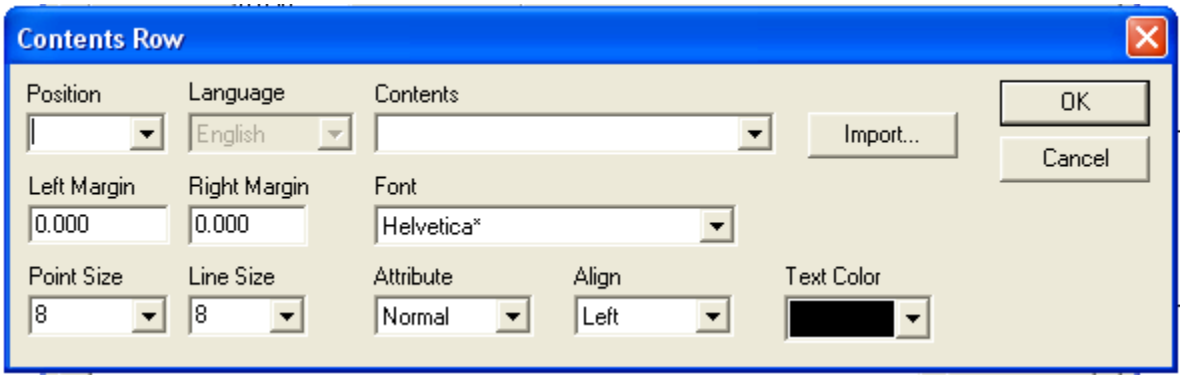
Contents

In the bottom portion of the Header/Footer Style window, click **Add** to add specific data to the header or footer cell. Select existing contents and click **Edit** to change settings or click **Delete** to remove contents from the ballot header or footer.



Pos	Lang	Contents	Pts	Size	Align	Font	Attrib
FC1	en	Type-Sequence-...	8	8	Cen...	Helvetica Narr...	Normal
FC2	en	Type-Sequence-...	8	8	Cen...	Helvetica Narr...	Normal
HA1	en	Precinct Full Na...	8	8	Cen...	Helvetica Narr...	Normal

1. Click **Add** or **Edit** to open the Contents Row window.



Take the following steps using the options at the top of the Contents Row window to select specific elements from the ballot data file to place in your ballot header or footer, to position your header or footer, to select the default language for the header/footer, to place text from outside of your ballot data file into a header or footer. Use the remaining options in the **Contents Row** window to set margins, select a font and size of your header or footer text, select a text style, text alignment, and a text color.

2. From the **Contents** list, select an element from the ballot data file to place in your header or footer.

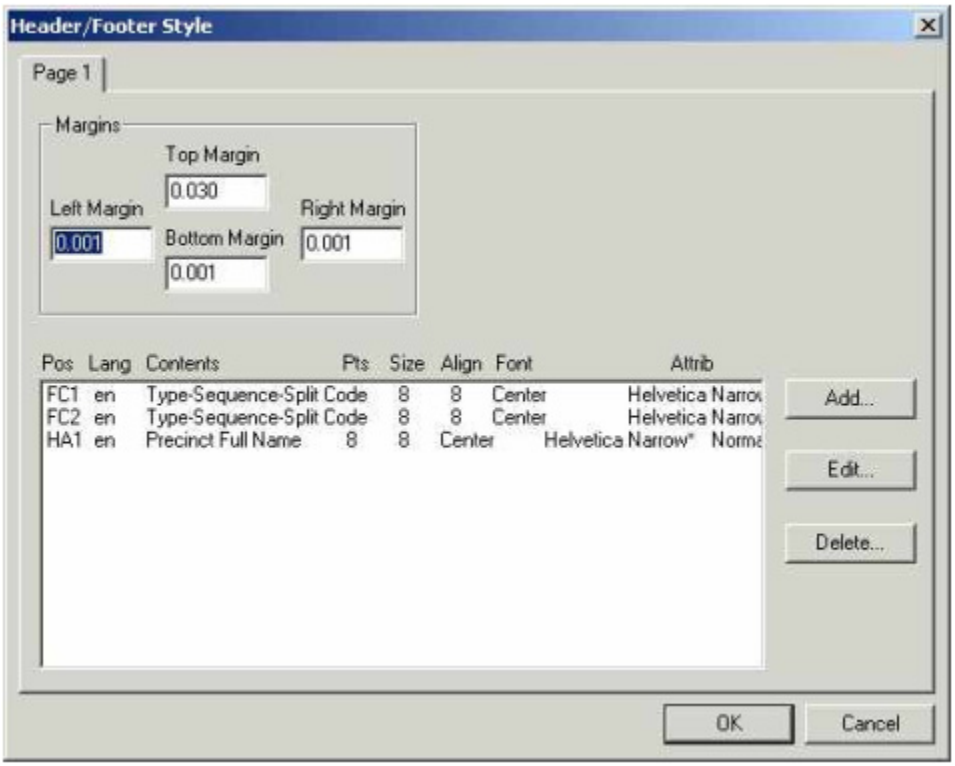
NOTE: To add custom text to a header or footer cell, type the @ symbol followed by the text in the **Contents** box.

3. From the **Position** list, select a row and column position for your header or footer data. The first letter of the position code places your selected contents in either the ballot header or footer (H or F). The second letter in the code identifies the ballot column where your contents appear (A through C). For example, select HA to place contents at the top of the page over the first ballot column. The third character in the code identifies the front or back of the ballot (1 or 2).
4. From the **Language** list, select the default language for your ballot contents.
5. Click **Import** to search your computer for ballot text not included in the ballot data file. You can only import ballot text formatted as .rtf or .txt files. Select a file and click **Open** to include the outside contents in your header or footer.
6. In the **Left Margin** and **Right Margin** boxes, type measurements, in inches, to set the left and right margins for the ballot contents within the header or footer cell.
7. From the **Font** list, select the text style for your contents. ES&S Image Manager only recognizes PostScript fonts.
8. From the **Point Size** list, select a text size for your contents or type a point size directly into the list to manually size the text.
9. From the **Line Size** list, select the amount of space that appears between lines of text (leading). Type a measurement, in points, directly into the list to manually set the space between lines of text.

NOTE: The line size for your contents must be the same size or greater than the selected point size.

10. From the **Attribute** list, select **Normal**, **Bold**, **Italic**, or **Bold Italic** to choose a text style for your header or footer contents.
11. From the **Align** list, select **Left**, **Right**, **Center**, or **Justify** to position contents in the header or footer cell.
12. Select a color from the **Text Color** list to set the color of your ballot text. Available colors include white, gray, dark gray, light gray, black, red, green, and blue.

Recommended Header/Footer Style Sheet Settings



Default Header/Footer Style Sheet Settings

Option	Default
Top Margin	0.030
Left Margin	0.001
Right Margin	0.001
Bottom Margin	0.001

Default Contents Row Settings

Position	Contents	Point Size	Line Size	Alignment	Font	Attribute
FC1	Type-Sequence-Split Code	8	8	Center	Helvetica Narrow	Normal
FC2	Type-Sequence-Split Code	8	10	Center	Helvetica Narrow	Normal
HA1	Precinct Full Name	8	8	Center	Helvetica Narrow	Normal

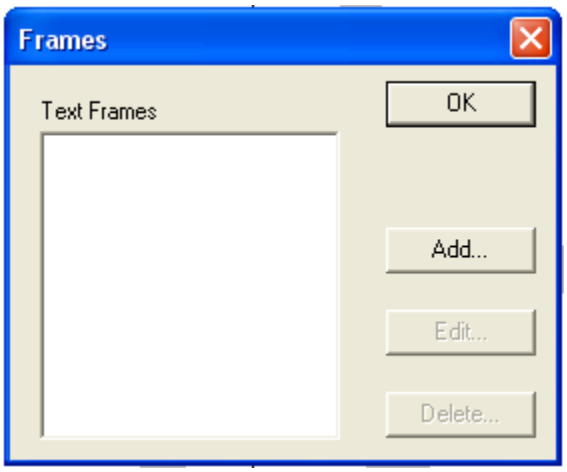
4.1 Section M: Ballot Frames

Frames enable you to place text, graphics, and production information on your ballots. You can assign frames exact ballot positions or position frames by column. You can format election data to flow around or through your frames. Use a text frame to place instructions and text on your ballots. Configure a graphic frame to place an image on your ballot. Use a production frame to place variable information, such as precinct names and identification numbers, on your ballots. This chapter contains information about the following topics.

Text Frames

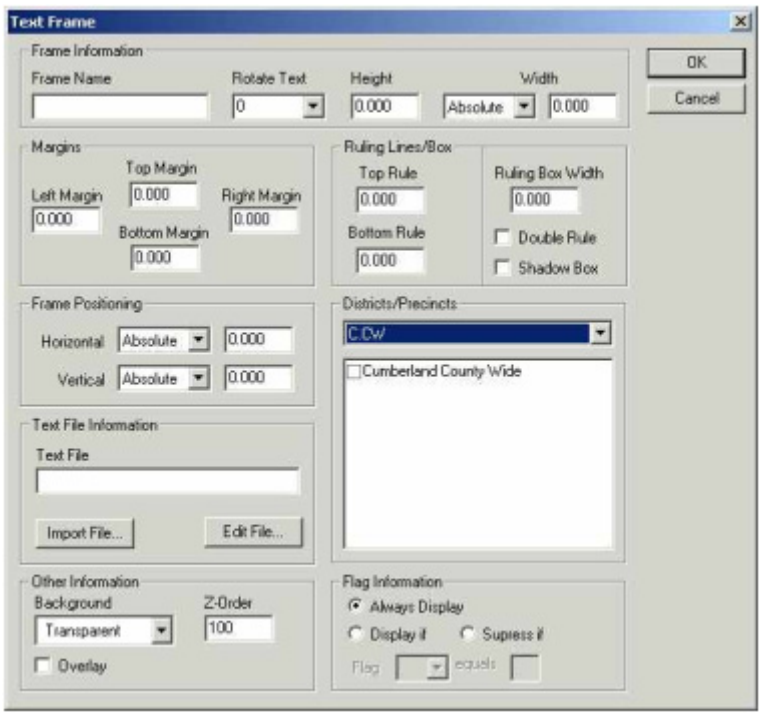
Use a text frame to control the placement and appearance of instructions or descriptive text on your ballots. Create instructional text for the top or bottom margins of your ballots or create descriptive text for the ballot face. Unlike ballot data formatted with style sheets, text frames appear in the same position on all ballots and do not affect the placement of office, candidate, or question data.

From the **Frames** menu, click **Text** to open the Frames window.



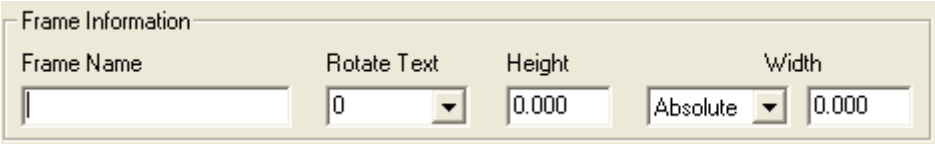
Select an existing frame and click **Edit** to change the settings for a frame or click **Delete** to remove the frame. Click **Add** to create a new text frame.

Select **Add** or **Edit** to open the Text Frame window.



Frame Information Heading

Take the following steps using the options under the **Frame Information** heading to name the text frame, rotate the frame, and set the frame's dimensions.



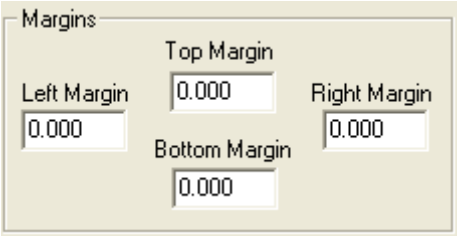
1. In the **Frame Name** box, type a name for the text frame.
2. In the **Rotate Text** box, type a value, in degrees, to rotate the text frame on the ballot face. For example, type 90 (90 degrees) in the **Rotate Text** box to turn your frame on its side.
3. In the **Height** box, type a measurement, in inches, to set the vertical size of your frame.

   ES&S Image Manager automatically sets the vertical size of your frame to fit the selected frame text unless you type a value in the **Height** box.

4. Select a column width from the **Width** list to set the horizontal size of your frame. Select **Absolute** and type a measurement, in inches, in the **Width** box to manually select the horizontal size of the text frame.

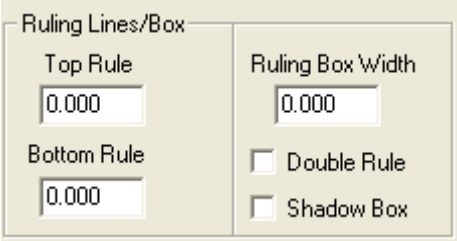
Margins Heading

Under the **Margins** heading, type measurements, in inches, in the **Top**, **Bottom**, **Left**, and **Right** boxes to set the inside margins of your text frame.



Ruling Lines/Box

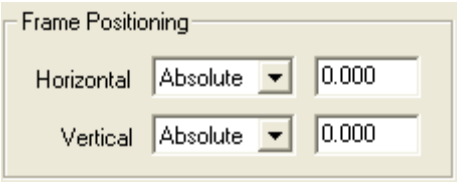
Take the following steps under the **Ruling Lines/Box** heading, to configure ruling lines for the text frame.



1. In the **Top Rule** box, type a measurement to set the thickness, in inches, of the line above your text frame. Type 0 if you do not want to use a top ruling line.
2. In the **Bottom Rule** box, type a measurement, in inches, to set the thickness of the line below your frame. Type 0 if you do not use a bottom ruling line.
3. In the **Ruling Box Width** box, type a measurement, in inches, to set the thickness of a box around your frame. Type 0 if you do not want to place a box around your text frame.
4. Click **Double Rule** to configure your ruling box with double lines.
5. Click **Shadow Box** to place a shadow effect around the ruling box.

Frame Positioning Heading

Take the following steps using the options under the **Frame Positioning** heading to place the text frame on your ballots. ES&S Image Manager positions frames horizontally from the left edge of the ballot and vertically from the top of the ballot.



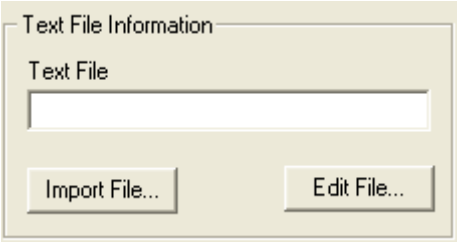
1. Under the **Frame Positioning** heading, select a column from the **Horizontal Positioning** list to orient the frame horizontally. Select **Absolute** and type a measurement, in inches, in the box to manually position the frame. Type a positive number to move the frame right or a negative value to move the frame left.

NOTE: If you select **Absolute** from the **Horizontal** and **Vertical** lists, you can you can click and drag the frame in the main view to reposition the frame.

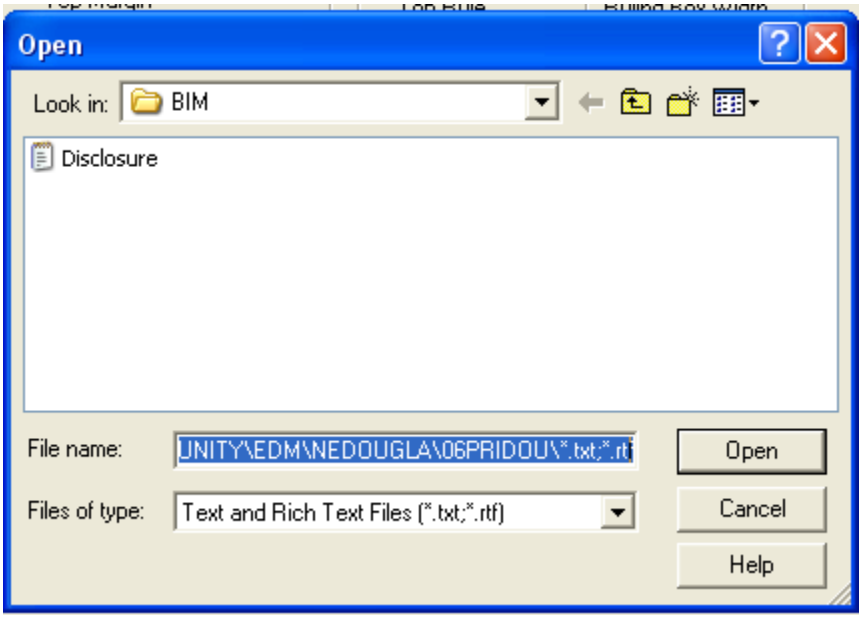
2. From the **Vertical** list, select **Top** or **Bottom** to place the frame at the top or bottom margin of the ballot face. Select **Absolute** and type a measurement, in inches, in the box to manually position the frame. Type a positive number to move the frame down or a negative value to move the frame up.

Text File Information Heading

Take the following steps using the options under the **Text File Information** heading to select or create text for the text frame. You can import existing text from an outside folder or create original text with ES&S Image Manager's text editor.



1. Click **Import File** below the **Text File** box to search your computer for ballot text files.



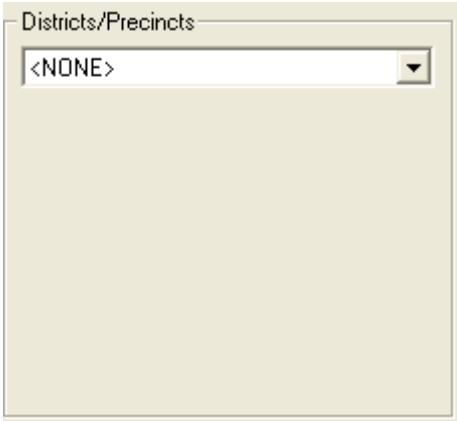
2. Select a file in the browse window and click **Open** to link the text to your frame.

NOTE: ES&S Image Manager recognizes only ballot text formatted as .rtf or .txt files.

3. Import a file and click **Edit File** to change the contents of an existing ballot text file or click **Edit File** without importing text to create a new file with ES&S Image Manager's text editor. Click **Close** to return to the Text Frame window

Districts/Precincts Heading

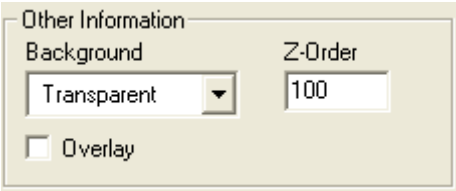
Select a district type from the **Districts/Precincts** list to link the text frame to ballots for specific districts.



A second list that contains district names appears below the **Districts/Precincts** list after you select a district type. Select **<Local>** from the **Districts/Precincts** list and click precinct names in the second list to link the text frame to ballots for specific precincts.

Other Information Heading

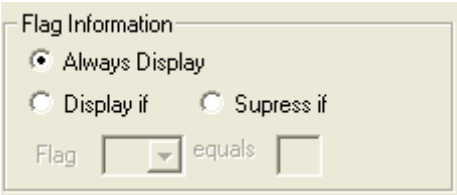
Use the options under the **Other Information** heading to select a background color for your frame, set the relative depth of the frame, and configure the frame as a ballot overlay.



1. Select a background color for your text frame from the **Background** list. Available colors include white, gray, dark gray, light gray, black, red, green, and blue. Select **Custom** to mix a custom color.
2. In the **Z Order** box, select a value to set the relative page depth for your frame. Items with high Z orders overlay page elements with lower Z orders.
3. Select **Overlay** to allow ballot data to flow through your frame.

Flag Information Heading

Use the options under the **Flag Information** heading to place elements on ballots for specific situations, such as special instructions for select precincts or bilingual instruction text. Use the precinct creation options in Election Data Manager to configure flags. Then, select from the following options when you set up your frame in ES&S Image Manager to specify when the frame appears on a ballot.

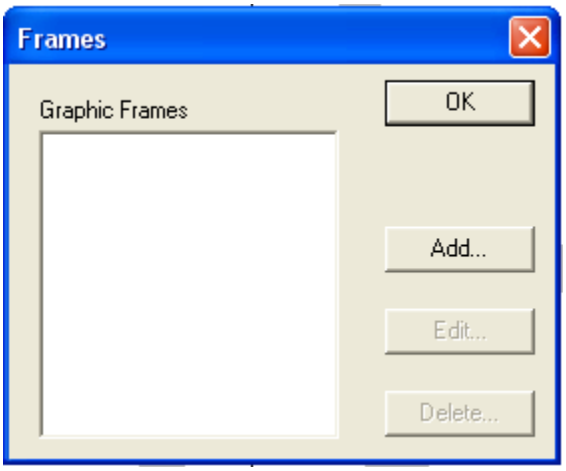


- Select **Always Display** to place the frame on all ballots regardless of flag information.
- Select **Display If** to place the frame on flagged ballots. Select a number from the **Flag** list and type the flag code that activates the frame in the equals box. For example, to place instructions on ballots in specific polling locations, open Election Data Manager and assign flag codes to the precincts where you want flagged ballot information to appear. Return to ES&S Image Manager's Text Frame window and select a text file under the **Text File Information** heading. Then, click **Display If** under the Flag Information heading; select the same flag number that you assigned in Election Data Manager from the **Flag** list and type the Election Data Manager flag code in the equals box.
- Click **Suppress If**, select a **Flag** identification number from the **Flag** list and type a Election Data Manager flag code in the equals box to leave information off of specific ballots when ES&S Image Manager detects a ballot flag.

Graphic Frame

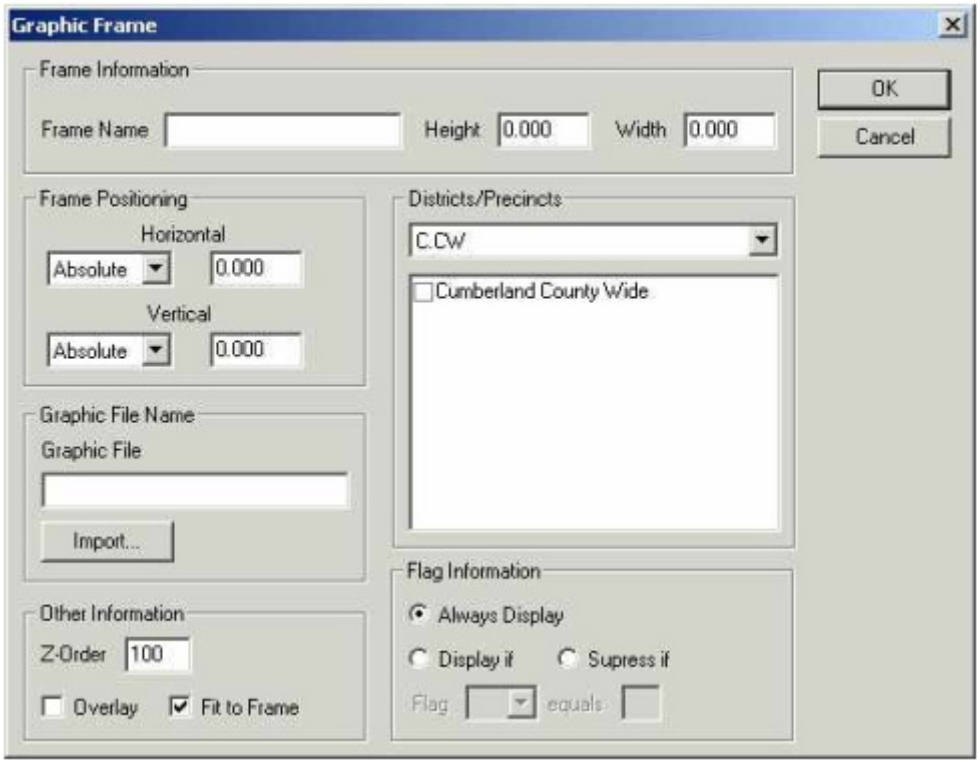
Use a graphic frame to control the placement and appearance of ballot images, such as party graphics for primary ballots. Graphic frames appear in the same position on all ballots and do not affect the placement of office, candidate, or question data.

Under the **Frames** menu, select **Graphic** to open the Frames window.



Select an existing frame and click **Edit** to change the settings for a frame or click **Delete** to remove a frame. Click **Add** to create a new frame.

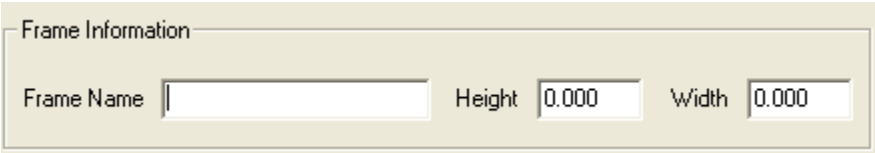
Select **Add** or **Edit** to open the Graphic Frame window.



NOTE: ES&S Image Manager only recognizes bitmap (.bmp) graphic files.

Frame Information Heading

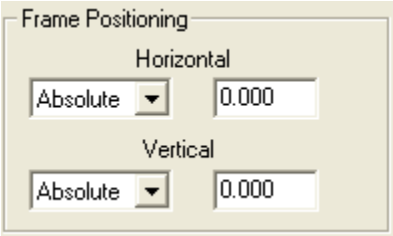
In the Graphic Frame window, take the following steps under the **Frame Information** heading to name the graphic frame and configure the frame's height and width.



1. In the **Frame Name** box, type a name for the graphic frame.
2. In the **Height** box, type a measurement, in inches, to set the vertical size of the graphic frame. ES&S Image Manager automatically sets the vertical size of the frame to fit your selected graphic if you do not type a value in the Height box.
3. Type a measurement, in inches, in the **Width** box to set the horizontal size of the graphic frame.

Frame Positioning Heading

Configure options under the Frame Positioning heading to place the graphic frame on your ballots. ES&S Image Manager orients the frame horizontally from the left edge of the ballot and vertically from the top edge of the ballot face.



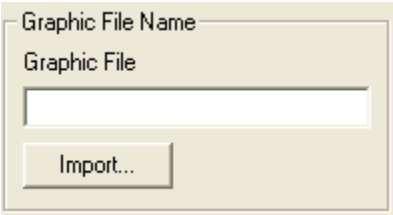
1. Under the **Frame Positioning** heading, select a column from the **Horizontal Positioning** list to orient your frame along the left margin of the selected ballot column. Select **Absolute** and type a measurement, in inches, in the available box to manually position the frame. Type a positive number to move the frame right or a negative value to move the frame left.

NOTE: After you set the initial position of the frame, you can change the frame's position by clicking and dragging the graphic frame in the ES&S Image Manager main view.

2. From the **Vertical Positioning** list, select **Top** or **Bottom** to orient the frame along the top or bottom margin of the ballot face. Select **Absolute** and type a measurement, in inches, in the box to manually set the vertical position of your frame. Type a positive number to move the frame down on the ballot or a negative number to move the frame up.

Graphic File Name Heading

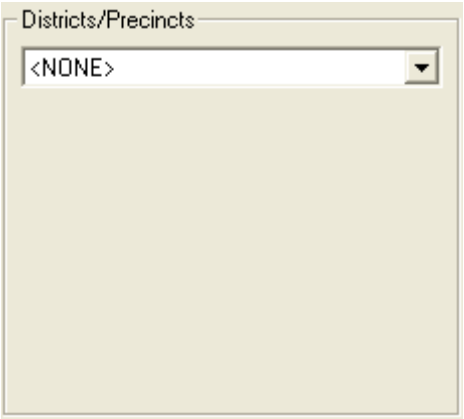
In the **Graphic Frame** window, use the options under the **Graphic File Name** heading to select the graphic that appears in the frame.



In the **Graphic File** box, type the folder location of the ballot graphic or click **Import** to open a browse window and search your computer for graphic files. Select the file and click **Open** to link the graphic to your frame. ES&S Image Manager allows only graphics formatted as bitmap files (.bmp) to be placed on ballots.

Districts/Precincts Heading

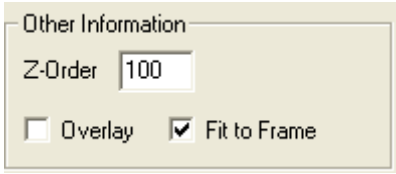
Select a district type from the **Districts/Precincts** list to link your graphic frame to ballots for specific districts.



A second list that contains district names appears below the **Districts/Precincts** list after you select a district type. Select **<Local>** from the **Districts/Precincts** list and click precinct names in the second list to link your frame to ballots for specific precincts.

Other Information Heading

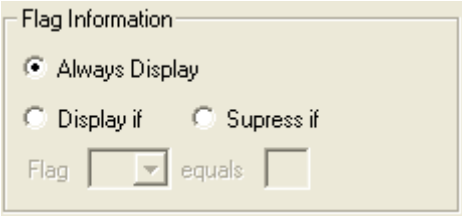
Take the following steps using the options under the **Other Information** heading to set the relative depth of the frame, configure the frame as a ballot overlay or format the ballot graphic to automatically resize to fit the graphic frame.



1. In the **Z-Order** box, type a value to set the relative page depth for your frame. Items with high Z orders overlay page elements with lower Z orders.
2. Select **Overlay** to allow ballot data to flow through your frame.
3. Click **Fit to Frame** to automatically size your ballot graphic to fit the frame size that you specified in the **Height** and **Width** boxes under the **Frame Information** heading. If you do not select **Fit to Frame**, the **Height** and **Width** boxes will not be available. Instead, ES&S Image Manager automatically sizes the frame to match the dimensions of your ballot graphic.

Flag Information Heading

Use the options under the **Flag Information** heading to place elements on ballots for specific situations such as a wheelchair graphic on ballots for polling places with wheelchair access ramps. Use the precinct creation options in Election Data Manager to configure flags.



Select from the following options when you set up your frame in ES&S Image Manager to specify when the frame appears on a ballot.

- Select **Always Display** to place the frame on all ballots regardless of flag information.
- Select **Display If** to place the frame on flagged ballots.
  - Select a number from the **Flag** list and type the flag code that activates the frame in the equals box. For example, to place a graphic on ballots in specific polling locations, open Election Data Manager and assign flag codes to the precincts where you want the flagged ballot graphic to appear.
  - Return to ES&S Image Manager's **Text Frame** window and select a graphic in the **Graphic File** box.
  - Click **Display If** under the **Flag Information** heading. Select the same flag number that you assigned in Election Data Manager from the **Flag** list and type the Election Data Manager flag code in the **equals** box.
- Click **Suppress If** and select a flag identification number from the **Flag** list and type a Election Data Manager flag code in the equals box to leave information off of specific ballots when ES&S Image Manager detects a ballot flag.

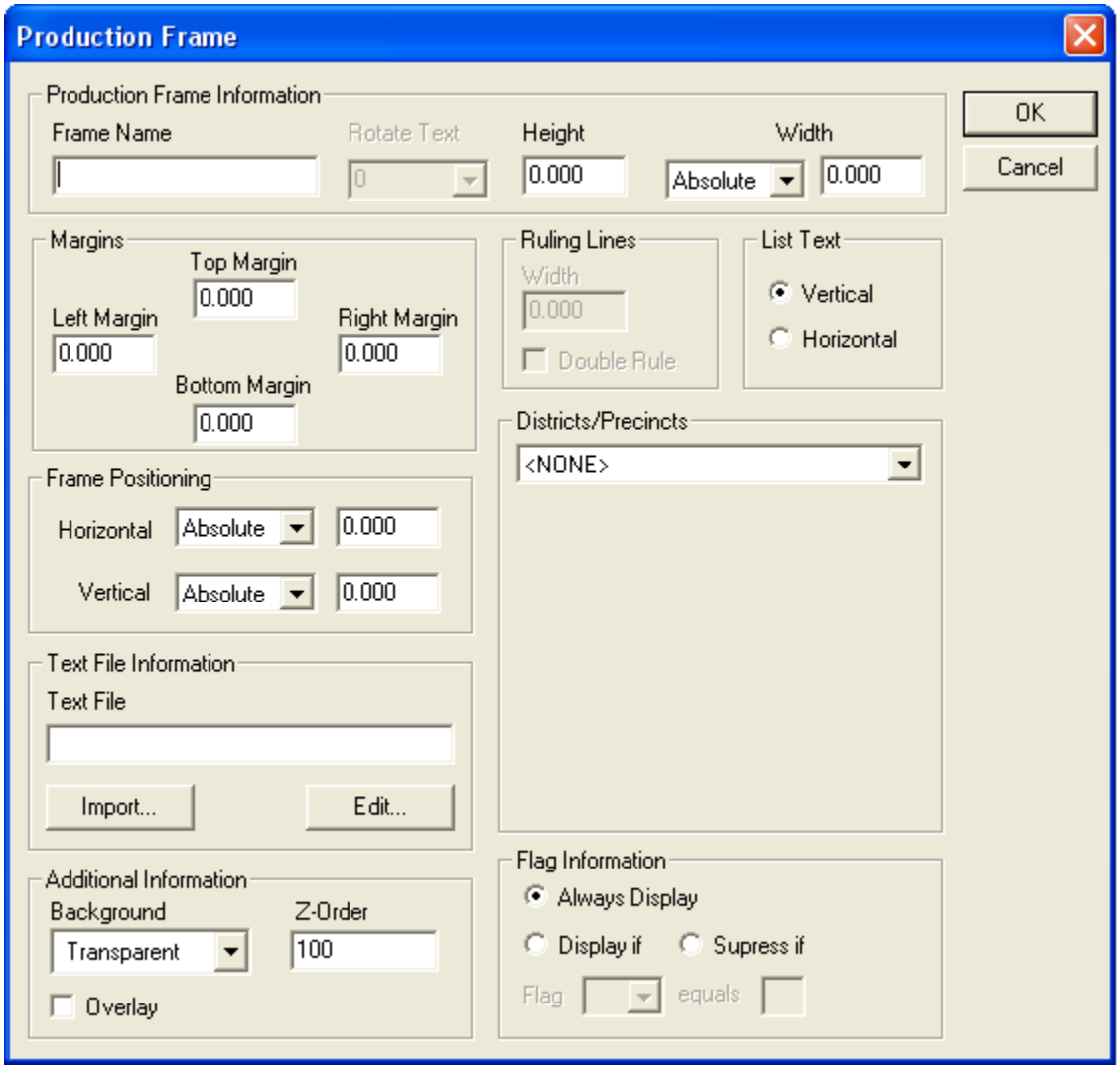
Production Frame

Production frames control the placement and appearance of variable ballot text, such as ballot identification numbers and precinct names. Production frames can appear anywhere on the ballot, though most jurisdictions place production information at the top or bottom edges of the ballot. Unlike ballot data formatted with style sheets, production frames appear in the same position on all ballots and do not affect the placement of office, candidate, or question data.

Under the **Frames** menu, click **Production** to open the Frames window.

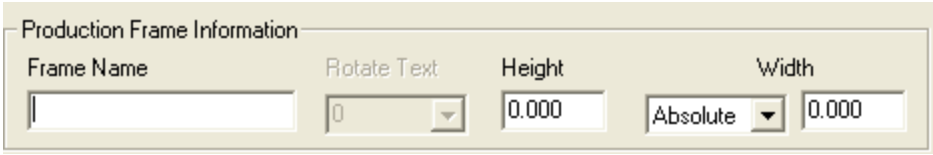
Select an existing frame and click **Edit** to change the settings for a frame or click **Delete** to remove the frame. Click **Add** to create a new text frame.

Select **Add** or **Edit** to open the **Production Frame** window.



Production Frame Information Heading

In the Production Frame window use the options under the **Production Frame Information** heading to name the production frame, rotate the frame, and set the frame's height and width.



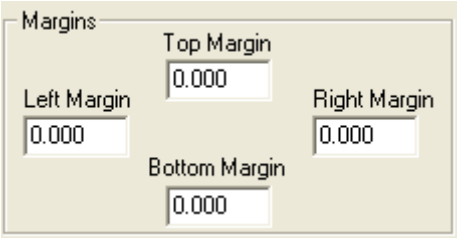
1. In the **Frame Name** box, type a name for the production frame.
2. In the **Rotate Text** box, type a value, in degrees, to rotate the frame on the ballot face. For example, type 90 (90 degrees) in the **Rotate Text** box to turn your frame on its side.
3. In the **Height** box, type a measurement, in inches, to set the vertical size of your frame.

   ES&S Image Manager automatically sets the vertical size of your frame to fit the selected frame text unless you type a value in the **Height** box.

4. Select a column width from the **Width** list to set the horizontal size of the frame. Select **Absolute** and type a measurement, in inches, in the **Width** box to manually set the horizontal size of the production frame.

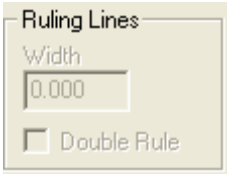
Margins Heading

Under the **Margins** heading, type measurements, in inches, in the **Top**, **Bottom**, **Left**, and **Right** boxes to set the margins of the production frame.



Ruling Lines Heading

Take the following steps under the **Ruling Lines** heading to configure ruling lines for the production frame.

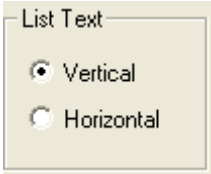


1. Type a measurement, in inches, in the **Width** box to set the thickness of the lines that border your production frame. Type 0 if you do not place a border around your frame.
2. Click **Double Rule** to use double lines to border your frame.

NOTE: Options under the **Ruling Lines** heading are only available if you select **Horizontal** under the **List Text** heading.

List Text Heading

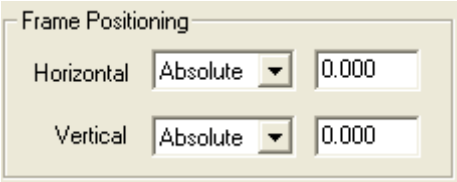
Select a List Text option to set how ES&S Image Manager sizes the production frame.



Select **Vertical** to have ES&S Image Manager automatically set the vertical size of your frame. For example, if the text in your production frame spans more than one line in a ballot column, selecting **Vertical** automatically adjusts the size of the frame to fit all of the text. If you select **Horizontal**, you must adjust the frame's height manually. You cannot rotate text or place ruling lines around the production frame unless you select **Horizontal** under the **List Text** heading.

Frame Positioning Heading

Take the following steps under the **Frame Positioning** heading to place the production frame on your ballots. ES&S Image Manager positions frames horizontally from the left edge of the ballot and vertically from the top edge of the ballot.



1. Under the **Frame Positioning** heading, select a column from the **Horizontal Positioning** list to place your frame along the left margin of the selected column.

   Select **Absolute** and type a measurement, in inches, in the available box to manually position the frame. Type a positive value to move the frame right or a negative value to move the frame left.

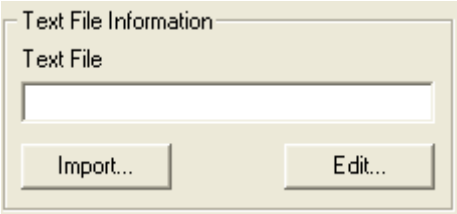
2. From the **Vertical Positioning** list, select **Top** or **Bottom** to orient the frame along the top or bottom of the ballot page.

   Select **Absolute** and type a measurement, in inches, in the box to manually set the vertical position of the frame. Type a positive number to move the frame down on the ballot or a negative value to move the frame up.

Text File Information Heading

Take the following steps under the Text File Information heading to select or create text for the production frame. You can input existing text from an outside folder or create original text with ES&S Image Manager's text editor. Use variable names to include ballot information that changes from ballot style to ballot style, such as precinct names and identifiers.

Refer to Appendix D: Hard Codes and Variable Names for a complete list of variable names you can use in ES&S Image Manager.



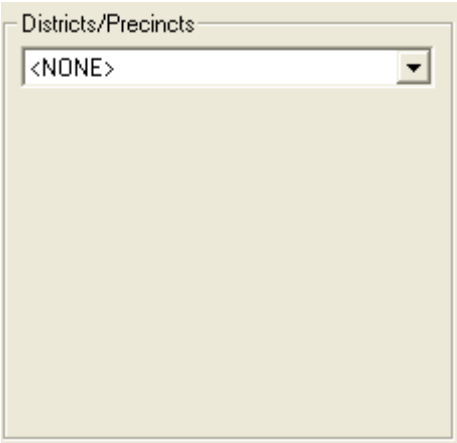
1. Click **Import** next to the **Text File** box to search your computer for ballot text files.
2. Select a file and click **Open** to link the selected text to the frame.

NOTE: ES&S Image Manager recognizes only ballot text formatted as .rtf or .txt files.

3. **Import** a file and click **Edit** to change the contents of an existing ballot text file or click **Edit** without importing text to create a new file with ES&S Image Manager's text editor. Click **Close** to return to the Production Frame window.

Districts/Precincts Heading

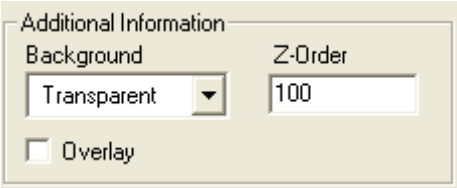
Select a district type from the **Districts/Precincts** list to link the production frame to ballots for specific districts.



A second list that contains district names appears below the **Districts/Precincts** list after you select a district type. Select **<Local>** from the **Districts/Precincts** list and click precinct names in the second list to link your production frame to ballots for specific precincts.

Additional Information Heading

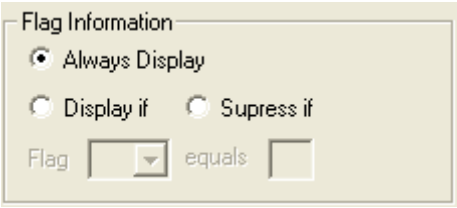
Use the options under the **Additional Information** heading to select a background color for your frame and set the relative depth of the frame and configure the frame as a ballot overlay.



1. Select a background color for your frame from the **Background** list. Available colors include white, gray, dark gray, light gray, black, red, green, and blue. Select **Custom** to mix a custom color.
2. In the **Z Order** box, select a value to set the relative page depth for your frame. Items with high Z orders overlay page elements with lower Z orders.
3. Select b to allow ballot data to flow through your frame. ES&S Image Manager forces ballot data to flow around your frame if you do not click **Overlay**.

Flag Information Heading

Use the options under the **Flag Information** heading to place elements on ballots for specific situations, such as special ballot identifiers for split precincts. Use the precinct creation options in Election Data Manager to configure flags. Then, select from the following options when you set up your frame in ES&S Image Manager to specify when the frame appears on a ballot.



- Select **Always Display** to place the frame on all ballots regardless of flag information.
- Select **Display If** to only place the frame on flagged ballots. Select a number from the **Flag** list and type the flag code that activates the frame in the equals box. For example, to place split codes on ballots for specific precincts, open Election Data Manager and assign flag codes to the precincts where you want flagged ballot information to appear. Return to ES&S Image Manager's Production Frame window and select a text file under the **Text File Information** heading. Then, click **Display If** under the **Flag Information** heading; select the same flag number that you assigned in Election Data Manager from the **Flag** list and type the Election Data Manager flag code in the equals box.
- Click **Suppress If**, select a **Flag** identification number from the **Flag** list and type a Election Data Manager flag code in the equals box to leave information off of specific ballots when ES&S Image Manager detects a ballot flag.

4.1 Section N: Interface Files

Unity software uses interface files to transfer information between different programs in the software suite. Election Data Manager generates an intermediate interface file (.iff file) and a ballot set collection file (.bsc file) when you merge an election database to create a ballot data file. ES&S Image Manager uses the ballot data file (.bdf), ballot set collection file and the intermediate interface file to transfer election database information onto ballots. ES&S Image Manager generates another interface file (.ifc file) after you set your office positions that Hardware Programming Manager uses to create election definitions for ballot scanners.

Set Office Positions

1. After you finalize ballot layouts, select from the following options under the **IFC** menu to set office positions for each of your ballot sets:
   - After you configure a ballot layout, select **Set Office Positions (No Float)** to place each contest in exactly the same voting target location on every ballot in your jurisdiction. If a contest appears on ballots for one precinct but not another, blank space appears in the ballot position vacated by the unused contest.
   - Select **Set Office Positions (Float)** to create ballots with candidate rotations or ballots for a closed primary election. Setting offices to float allows contests and candidates to shift positions for different ballot styles. If a contest appears on ballots for one precinct but not another, the next contest fills the ballot position vacated by the unused office.
2. If you must edit a ballot layout after you set office positions, select **Clear Office Positions (Float)** to edit the ballot without corrupting scanner files. Remember to reset offices after you make changes.

Review Ballot Information

After you set office positions, use the **Validate** command under the **IFC** or the **Ballot Validation Report** command under the **Reports** menu to ensure that all election data fits properly on your ballots. Click **Ballot Style Report** under the **Reports** menu to review the contest positioning information for each layout in your ballot file.

Validate Ballot Contents

After you set office positions, click **Validate** under the **IFC** menu or **Ballot Validation Report** under the **Reports** menu to scan ballot contents and generate a report that confirms whether election information from the ballot data file fits on each of the ballots in your layout file. After you view the validation report, manually check your ballots to make sure the formats are correct.

```
C:\elecdata\02pnelan\INLIBBAL.edf Validation Log

Ballot Style - 1-1-1 1 A Fit SUCCESSFUL

Ballot Style - 2-2-1 1 A-1 Fit SUCCESSFUL

Ballot Style - 3-3-1 1 B Fit SUCCESSFUL

Ballot Style - 4-4-1 1 C Fit SUCCESSFUL

Ballot Style - 5-5-1 1 D-1 Fit SUCCESSFUL

Ballot Style - 6-6-1 1 D-2 Fit SUCCESSFUL

Ballot Style - 7-7-1 1 D-3 Fit SUCCESSFUL

Ballot Style - 8-8-1 1 D-4 Split 1 Fit SUCCESSFUL

Ballot Style - 9-9-1 1 D-4 Split 2 Fit SUCCESSFUL
```

The top line of the validation report shows the folder location of the report file. A list of each of the ballot styles, organized by type, sequence and split number, contained in the layout appears below the report file location. A message appears next to each ballot style listing that indicates whether ballot information successfully fits on ballots for that style.

Ballot Style Report

Click **Ballot Style Report** under the **Reports** menu after you set office positions to review contest-positioning information for each ballot style included in your layout file.

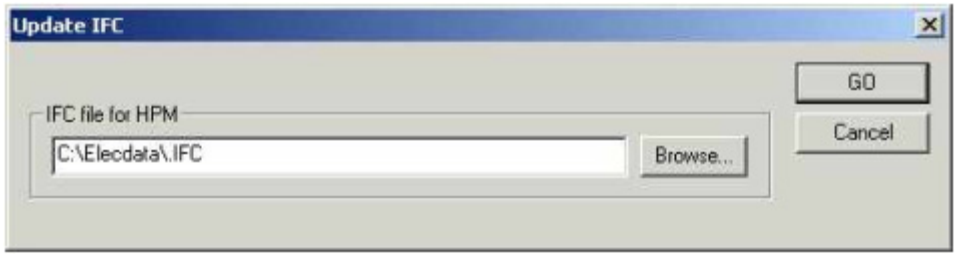
```
                    Ballot Style Report
                            for
                LANCASTER COUNTY, NEBRASKA
                 March 09, 2004  11:23 AM
            Ballot Type: 7  Seq: 1  Split: 1

CON ROT BAL
NO. NO. POS CONTEST TITLE
100  01 001  UNITED STATES SENATOR
150  01 005  MEMBER OF THE U.S. HOUSE OF REPRESENTATIVES
200  01 009  GOVERNOR
250  01 013  SECRETARY OF STATE
300  01 017  AUDITOR OF PUBLIC ACCOUNTS
350  01 021  ATTORNEY GENERAL
400  01 025  STATE TREASURER
450  01 029  CONSOLIDATED OFFICE OF ASSESSOR
500  01 033  COUNTY ATTORNEY
550  01 037  COUNTY CLERK
600  01 041  COUNTY SHERIFF
650  01 045  COUNTY ENGINEER
700  01 049  COUNTY TREASURER
750  01 053  CLERK OF THE DISTRICT COURT
800  01 057  PUBLIC DEFENDER
1275 01 078  MEMBER BOARD OF REGENTS  - REGENT DISTRICT 1
1450 01 083  MEMBER OF BOARD OF GOVERNORS  - SECC DISTRICT 5
1625 01 089  DIRECTOR LOWER PLATTE SOUTH  - LPS NRD DISTRICT 5
1800 01 094  DIRECTOR LOWER PLATTE SOUTH  - AT LARGE
1825 01 100  DIRECTOR NEBRASKA PUBLIC POWER DISTRICT  - 2

PRECINCT ID   PRECINCT NAME
1             1 A
```

The ballot style type, sequence and split numbers appear below the county name. A list of contests sorted by contest number, rotation, and ballot position follows the ballot style identification information. The precinct identification number and precinct name code appear at the bottom of the report. Check the ballot style report to make sure that the correct contests appear on the correct ballot styles in the proper order.

Create a Ballot Interface File

After you set ballot positions, validate ballot data and confirm contest positioning, use the **Set Code Channel** command under the **IFC** menu to generate a ballot interface file for Hardware Programming Manager. Take the following steps to create a ballot interface file

1. Review your ballot layouts and then click **Set Code Channel and Update IFC** under the **IFC** menu to open the Update IFC window.



NOTE: The Set Code Channel and Update IFC command is unavailable until you set office positions.

2. Click **Browse** next to the **IFC for HPM** box to select a save location and name for your interface file. The default folder for .ifc files is C:\Elecdata\IFC. Give your .ifc file the same name as the .iff file that you created in Data Manager. Click **Open** to close the browse window and return to the Update IFC window.
3. Click **GO** in the Update IFC window to generate the .ifc file.

Combine Interface Files

ES&S designed Hardware Programming Manager to read only one interface file (.ifc file) for each election. If you create multiple interface files in the same election database, ES&S Image Manager automatically combines the .ifc files when you select **Set Code Channel and Update IFC** under the **IFC** menu. Some jurisdictions must combine .ifc files generated from different election databases in Data Manager or different ballot layouts in ES&S Image Manager to properly configure election equipment. If you create ballots for a jurisdiction that must combine interface files from different databases, use the **Combine IFCs** command under the **IFC** menu to manually create a single interface file for Hardware Programming Manager.

4.1 Section O: Generate a PDF File

Save your finished ballot files as Portable Document Format (.pdf) files for ES&S export to ES&S ballot printing services or a partner printer. Portable Document Format (PDF) is a file format that captures all the elements of a printed document as an electronic image. ES&S Image Manager creates PDF files with Adobe Acrobat Distiller. Always convert ballot layouts into PDF files to preserve the original graphic appearance of the ballot layout after a printer transfers the electronic layout to a printed page. Converting to layout files to PDF also reduces the size of the files making them easier to share electronically.

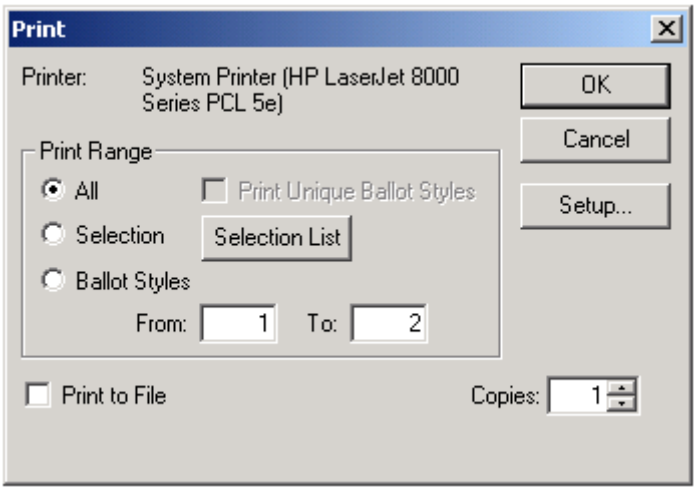
NOTE: For use with this system, the California Secretary of State has approved only Adobe Acrobat Standard 7.0.

NOTE: Do not overwrite an existing .pdf file. You cannot create and save a .pdf file with the same file name that you already created. Delete the old file before you attempt to create the .pdf again.

Generate a Ballot PDF File Using Acrobat Distiller

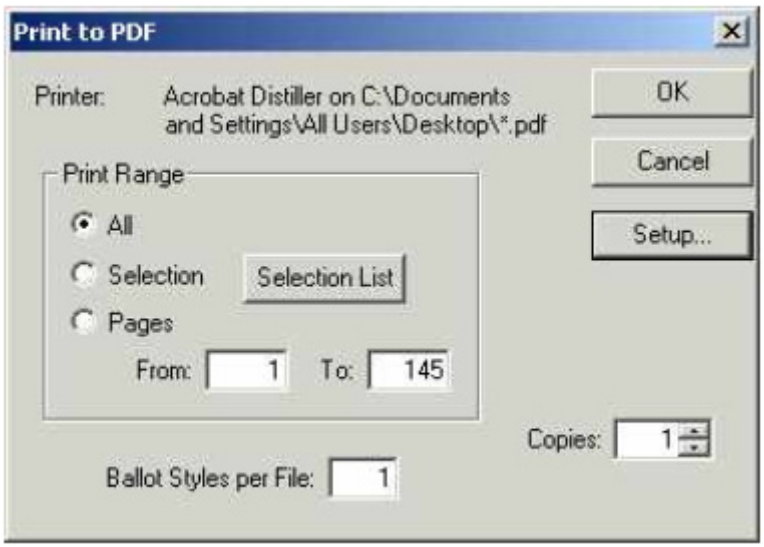
Double-check your ballot data and layout for accuracy before you create a ballot PDF file. Click **View Data** on the toolbar to display ballot data in the ES&S Image Manager main window. To configure settings for a ballot PDF file, click **File** on the menu bar and select **Print** to open the Print window.

Election Security Requirement: The ES&S Image Manager PDF generation feature provides security for your election. Print the PDFs that you generate, and archive them physically and electronically to enhance your election security.



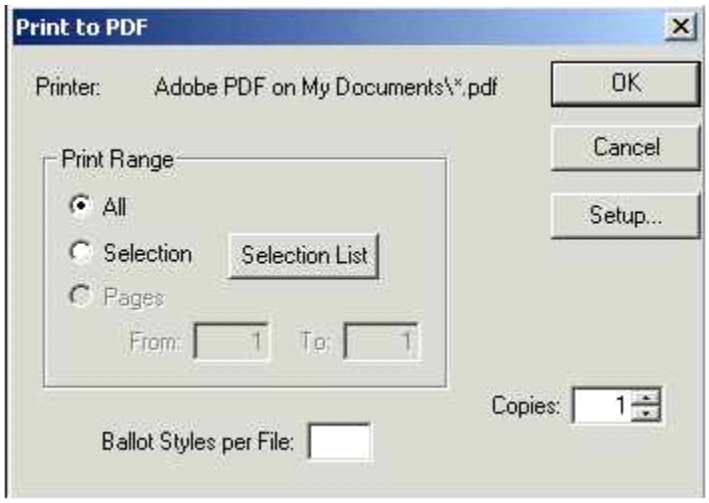
Generate a Ballot PDF File

Double-check your ballot data and layout before you create a ballot PDF file. Click **View Data** on the toolbar to display ballot data in the ES&S Image Manager main window before you create a PDF file. To configure the settings for your ballot PDF file, click **File** on the menu bar and select **Print to PDF** to open the Print to PDF window.



Generate a Ballot PDF File Using Adobe Acrobat 7.0

Double-check your ballot data and layout before you create a ballot PDF file. Click **View Data** on the toolbar to display ballot data in the ES&S Image Manager main window before you create a PDF file. To configure the settings for your ballot PDF file, click **File** on the menu bar and select **Print**:



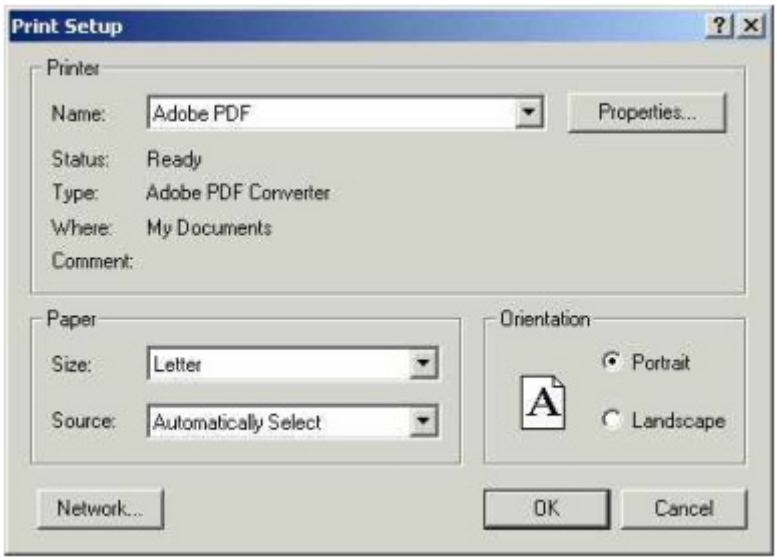
Print Setup

Click **Setup** to configure print settings for ballot PDF files. Use the setup options to select a printer, set the page size for your ballots and select a page orientation. Take the following steps to configure print preferences.

NOTE: This menu can also be accessed by choosing **Print Setup** under the **File** menu.

1. In the **File** menu, click **Print Setup** to open the Print Setup window:

2. From the **Name** list, select your PDF Generator.

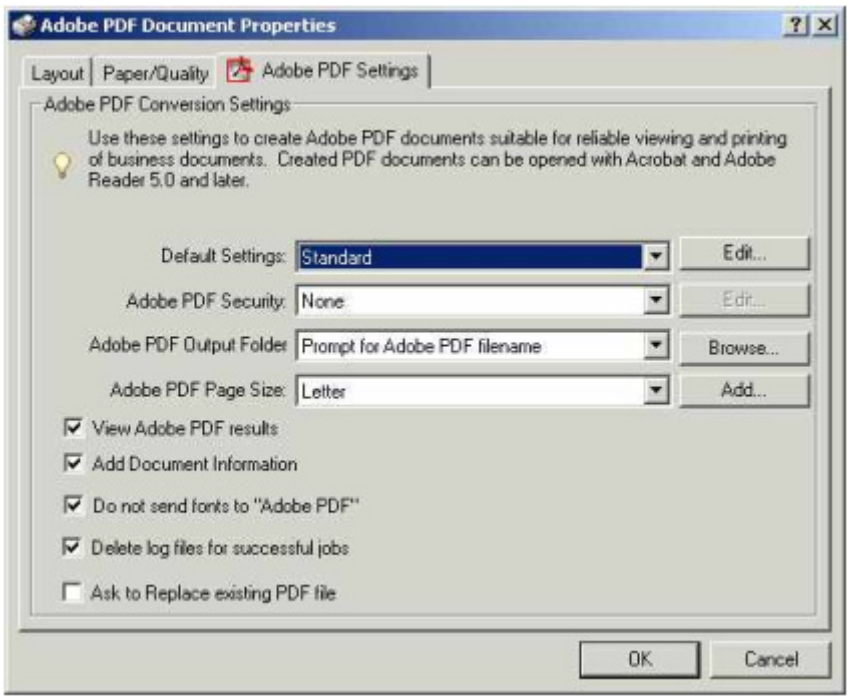


3. Under the **Paper Size** heading, select **Letter** or **Legal** if your ballot is one of those sizes. Otherwise select **PostScript Custom Page Size** from the **Size** list if you need to specify a ballot size.
4. From the **Source** list, select **Automatically Select**.
5. Click **Portrait** under the **Orientation** heading.

PDF Properties

Clicking **Properties** in the Print Setup window will bring up the Adobe PDF Document Properties Window, where you can select the page orientation for your ballots, configure the number of ballot faces that appear on each ballot page and set the dimensions for your printed ballots. Take the following steps to select PDF properties.

1. In the Print Setup window, click **Properties** to open the Acrobat PDF Document Properties window.



2. Under the **Page Size** heading, select **Letter** for your page size if you are using the standard ballot size of 8.5 inches by 11 inches.

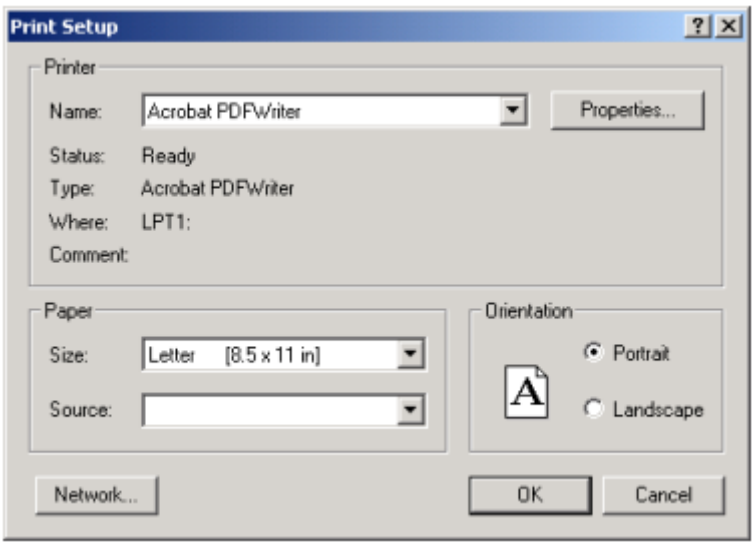
   If you need a different ballot size, go to the **Paper/Quality** tab and click **Advanced**. Under **Paper/Output**, click the **Edit Custom Page Size** button. Type the dimensions of your ballot and select **OK**. Add up to an extra inch to the ballot height and width to ensure that all of your election data appears on the ballot. Remember to add length to your ballot dimensions for any ballot stubs.

3. Use the default settings for the rest of the options in the Page Size heading.
4. Click **OK** to save your page size and then return to the Print Setup window.
5. In the Print Setup window, click **OK.**

PDF Print Preferences

In the **File** menu, click **Print Setup** to configure print settings for ballot PDF files. Use the setup options to select a printer, set the page size for your ballots and select a page orientation. Take the following steps to configure print preferences.

1. In the **File** menu, click **Print Setup** to open the Print Setup window.

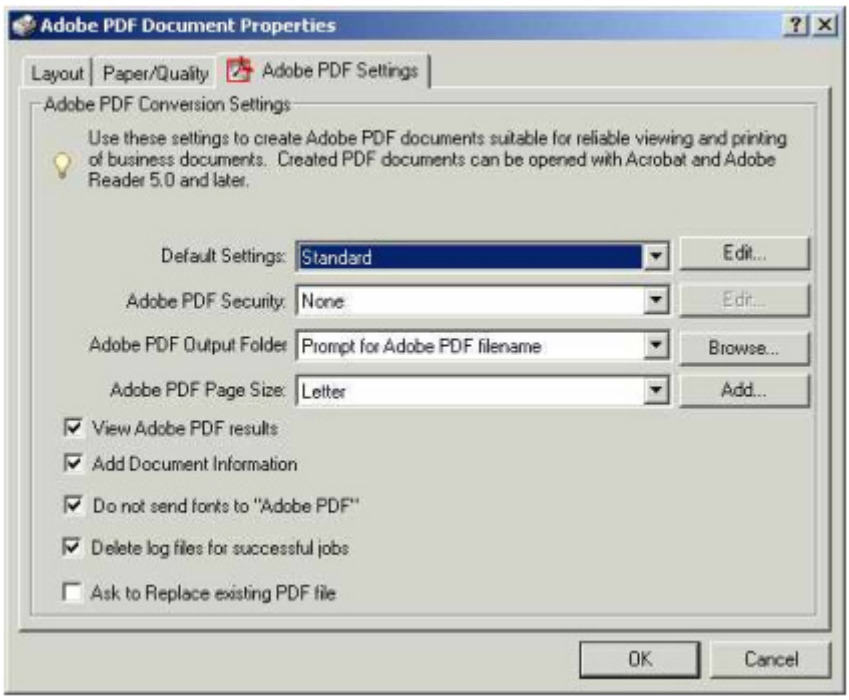


2. From the **Name** list, select your PDF Generator.
3. Under the **Paper Size** heading, select **PostScript Custom Page Size** from the **Size** list.
4. From the **Source** list, select **Automatically Select**.
5. Click **Portrait** under the **Orientation** heading.

PDF Properties

Clicking **Properties** in the Print Setup window will bring up the Adobe PDF Document Properties Window, where you can select the page orientation for your ballots, configure the number of ballot faces that appear on each ballot page and set the dimensions for your printed ballots. Take the following steps to select PDF properties.

1. In the Print Setup window, click **Properties** to open the Acrobat PDF Document Properties window.



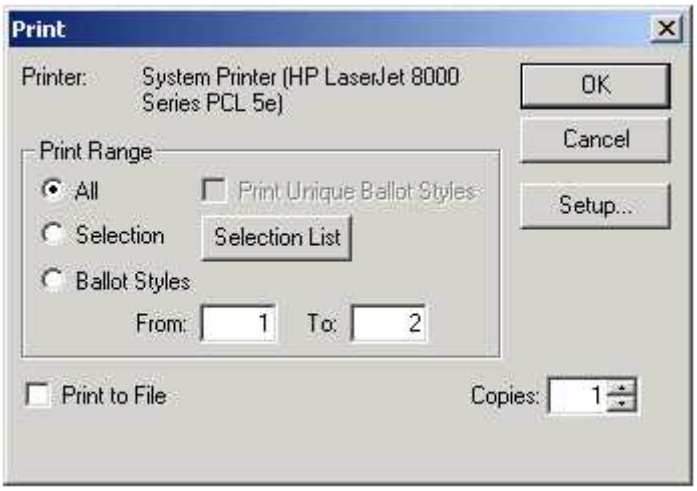
2. Under the **Page Size** heading, select **Letter** for your page size if you are using the standard ballot size of 8.5 inches by 11 inches.

   If you need a different ballot size, go to the **Paper/Quality** tab and click **Advanced**. Under **Paper/Output**, click **Edit Custom Page Size** button. Type the dimensions of your ballot and select **OK**. Add up to an extra inch to the ballot height and width to ensure that all of your election data appears on the ballot. Remember to add length to your ballot dimensions for any ballot stubs.

3. Use the default settings for the rest of the options in the Page Size heading. Click **OK** to save your page size and return to the Print Setup window.
4. In the Print Setup window, click **OK.**

Create a PDF Ballot File

After you configure your print settings, return to the Print window to select a print range, choose the number of ballot styles to allow in each PDF file and select the number of copies that you want to print for each of your ballot layout files. Take the following steps to generate a ballot PDF file.



1. In the Print window, select one of the following options to choose the range of ballots included in your PDF file:
   - Click **All** to include all of the ballot layouts in your ES&S Image Manager file in the PDF file for your jurisdiction's printer.
   - Click **Selection** to generate ballot PDF files by district. Click **Selection List** to open the Print Selection list window and choose the districts whose ballots you want to include in your print file. Select districts and click **OK** in the Print Selection window to save your settings and return to the Print window.
   - Click **Ballot Styles** and type a page range in the **From** and **To** boxes to print groups of ballots by ballot style.
2. Enable the **Print to File** checkbox if you want to create a .prn file.
3. From the **Copies** list, select the number of identical PDF files that you want to generate for each of your selected ballot layouts or styles.
4. Click **OK** to open the Save PDF as window and generate your file.

Check PDF Files for Errors

View each of your ballot PDF files in Acrobat and print copies of your ballots to make sure that the on-screen images match the paper ballot. Reconfigure ballot options, ballot dimensions and PDF options to fix any formatting errors and regenerate your PDF files. Transfer corrected ballot PDF files to your printer for final production.

4.1 Section P: Ballot On Demand

Ballot on Demand (BOD) is a ES&S Image Manager accessory program that you can use to print individual, Election Day ballots directly from ES&S Image Manager. Instead of printing a ballot for each registered voter, many jurisdictions base ballot orders from ES&S ballot services or a partner printer on voter turnout statistics from the previous year. If ballots run short, the jurisdiction can use Ballot on Demand to print additional ballots for specific precincts and polling places. Contact an ES&S sales representative for more information about Ballot on Demand.

Use Ballot on Demand to print individual ballots directly from a desktop computer. Select the **BOD Setup** command under the **Ballot** menu to save ballot formats for Ballot on Demand.

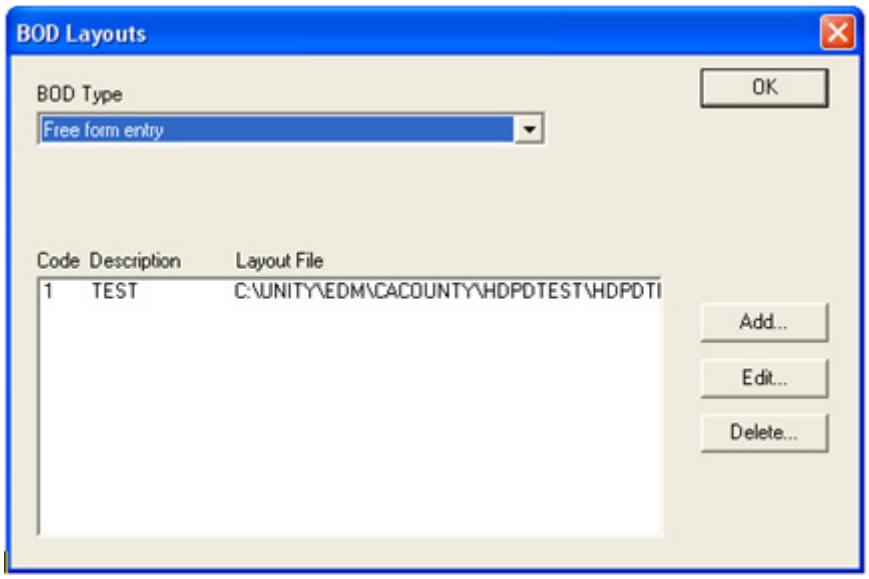
BOD Layouts

Use the **BOD Layouts** command to organize and save ES&S Image Manager ballot layouts for use with Ballot on Demand. Take the following steps to save a ballot layout.

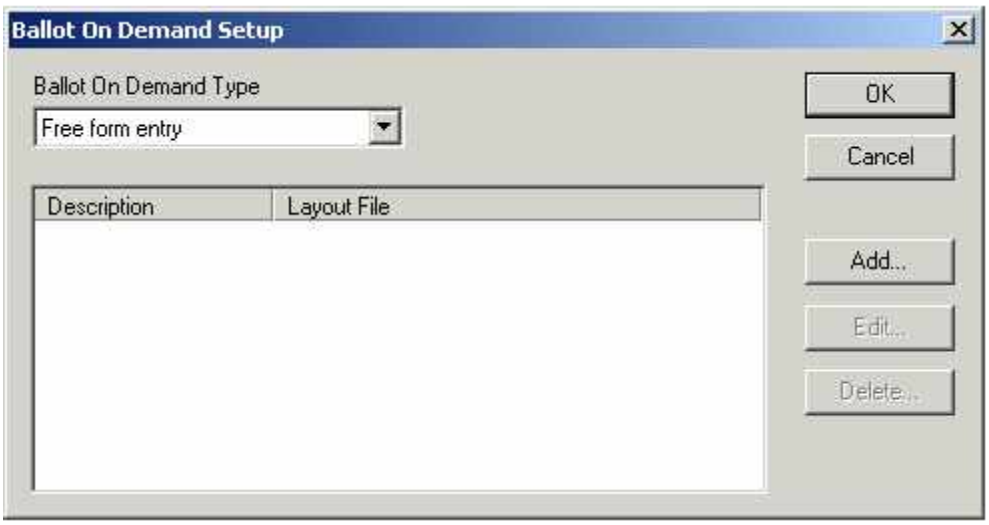
1. Under the **Ballot** menu, select **BOD Setup** to open the ballot layout window.

NOTE: The ballot layout window varies depending on whether you are using Unity 2.4.3.1 or Unity 3.0.1.1. Following are examples of both windows.

BOD Layouts Window for Unity 2.4.3.1



Ballot On Demand Setup Window for Unity 3.0.1.1



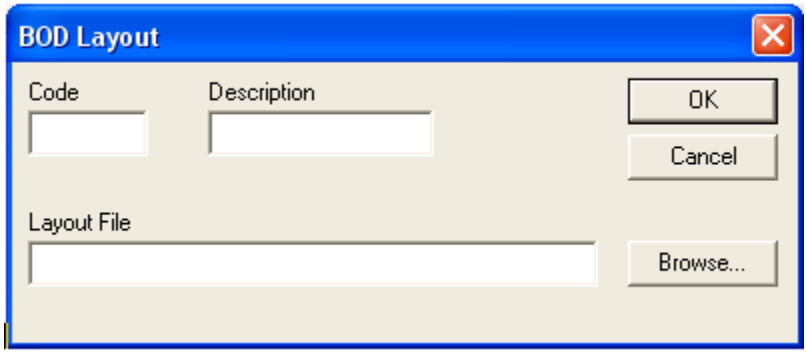
2. From the **Ballot on Demand Type** list, select one of the following ballot formats to organize your layouts for Ballot on Demand:
   - Select **Free Form Entry** to create a custom ballot layout group.
   - Select **Precinct-Split-Party** to create a ballot layout group organized first by precinct, then by the split number and then by party sequence number.
   - Select **Precinct ID Format 1** to organize your ballots by six-digit precinct number with a dash before the last two digits (0000-00).
   - Select **Precinct ID Format 2** to organize your ballots by six-digit precinct number (000000).

- Select **Precinct ID-Party** to organize your ballot first by the precinct ID number and then by the party sequence number.
- Select **Precinct ID-Language** to organize your ballots first by precinct ID and then by ballot language.
- Select **VR Interface** to create a ballot style file for ES&S voter registration software. See the user's manual for your ES&S voter registration software for more information about transferring ballot information to your Voter Registration program.

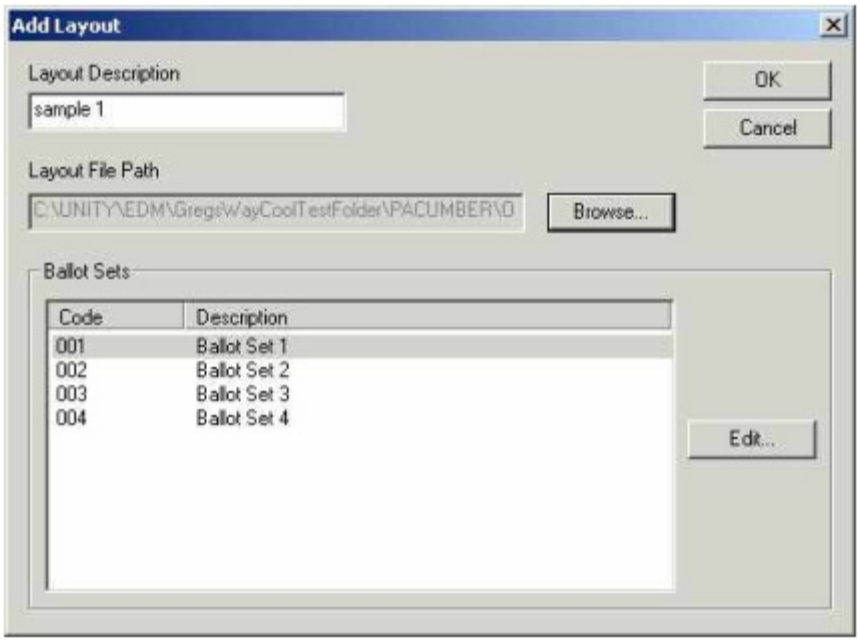
3. Click **Add** to create a new ballot layout group or click **Edit** to format an existing group. The add layout window appears.

NOTE: The layout window varies depending on whether you are using Unity 2.4.3.1 or Unity 3.0.1.1. Following are examples of both windows.

BOD Layout Window for Unity 2.4.3.1



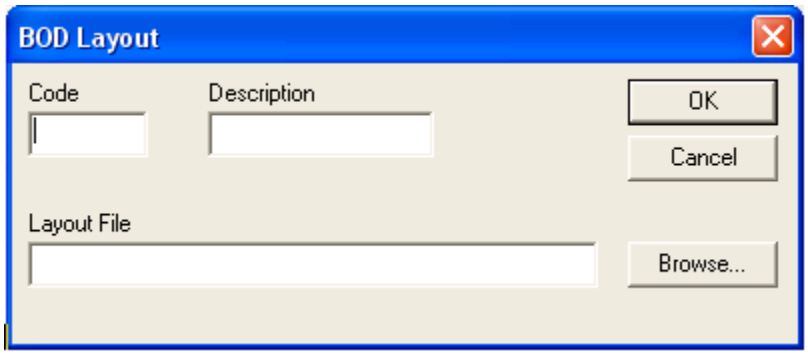
Add Layout Window for Unity 3.0.1.1



4. In the **Layout Description** box, type a name (15 characters maximum) for your ballot layout group.
5. Click **Browse** next to the **Layout File** box to search your PC for the ballot layout file (.ais file) that contains the ballots that you want to print with Ballot on Demand. The names of the ballot sets linked to the selected layout file appear in the **Ballot Sets** list.
6. Select one of the ballot sets linked to the layout file and click **Edit** to change the settings for that ballot set.

NOTE: The window that appears varies depending on whether you are using Unity 2.4.3.1 or Unity 3.0.1.1. Following are examples of both windows.

BOD Layout Window for Unity 2.4.3.1



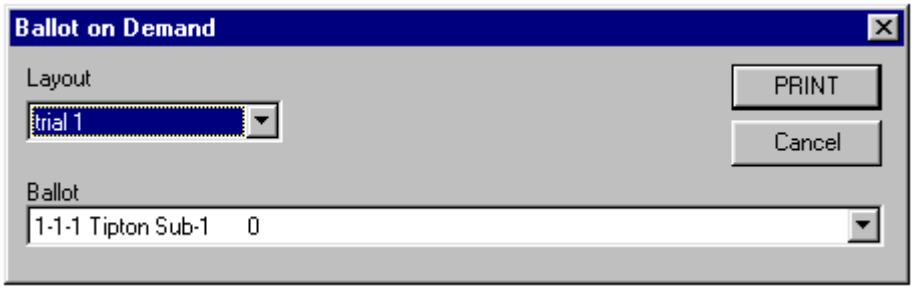
Edit Ballot Set Properties Window for Unity 3.0.1.1

7. In the **Ballot Set Code** box, type a three-digit ballot code to set he order that ballot sets are listed in Ballot on Demand. You can use the Code number to quickly select and open ballot set layouts in Ballot on Demand.
8. Edit the name of your ballot set in the **Ballot Set Description** box.

Print Ballots with Ballot on Demand

When you purchase Ballot on Demand, ES&S sends special instructions for installing and starting the program. In ES&S Image Manager, use the **BOD Setup** option under the **Ballot** menu to save Ballot on Demand layouts and then open your layout file in Ballot on Demand to print individual ballots. Take the following steps to print specific ballots.

1. Open Ballot on Demand and select **Single Ballot** from the **Ballot on Demand** menu to print specific ballots for your election.

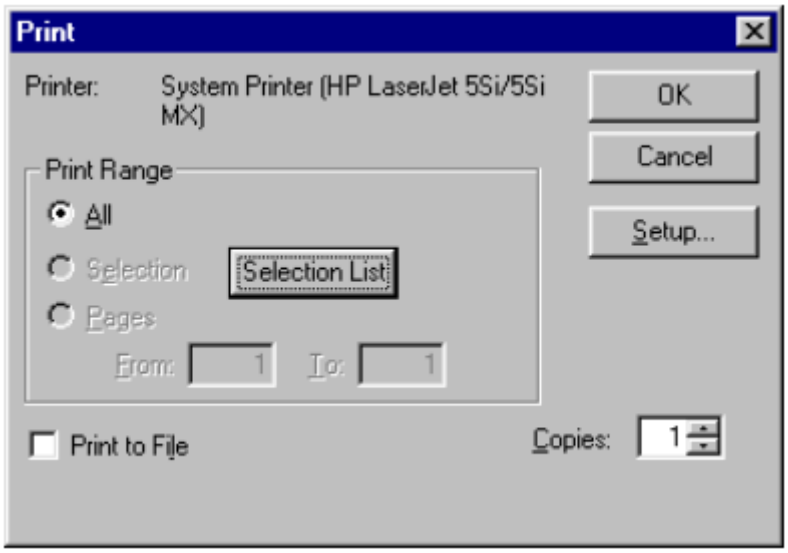


2. From the **Layout** list, select the ballot layout that you want to print.

NOTE: Assign layout names in the **Layout Description** box of ES&S Image Manager's BOD Setup window.

3. From the **Ballot** list, select the precinct for which you want to print ballots.

4. Click **PRINT** to select print preferences and generate your ballots.

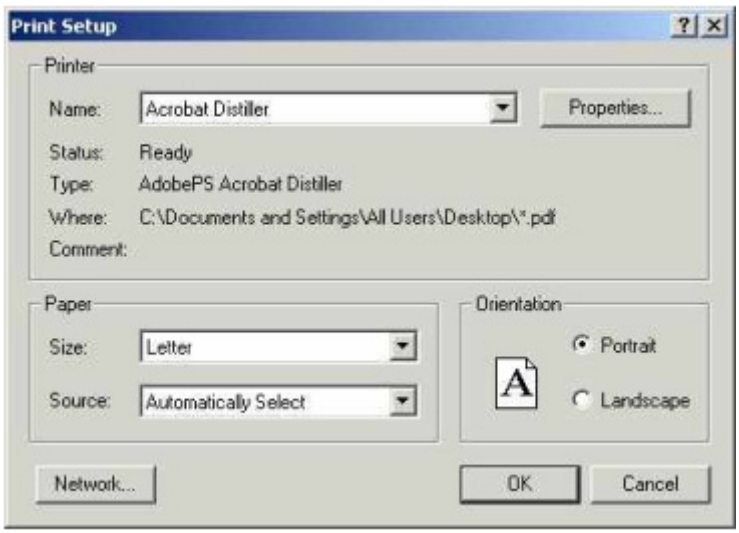


5. Click **Print to File** to save your ballot as a printer file (.prn) rather than print paper copy of your ballot. Printer files preserve your ballot format and are easy to transfer electronically.
6. From the **Copies** list, select the number of ballots that you want to print for each of your selected precincts.
7. Click **OK** to print your selected ballots.

Print Preferences

Click **Setup** in the Print window to configure print preferences for Ballot on Demand. Use print preferences to select a printer for your ballots, configure the ballot's page size and the page orientation. Take the following steps to select your print preferences.

1. In the Print window, click **Setup** to open the Print Setup window.

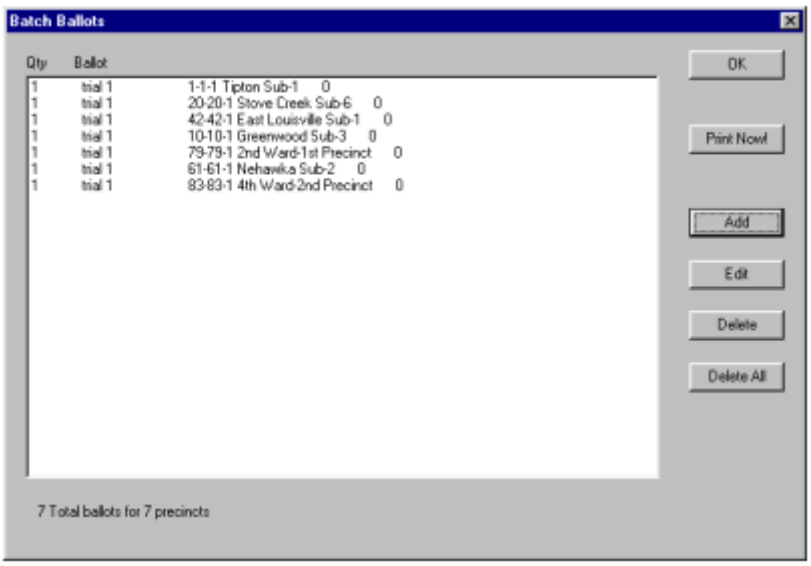


2. From the **Name** list under the **Printer** heading, select the printer that you want to use to generate paper ballots.
3. Under the **Paper** heading, select the dimensions of ballots from the **Size** list.
4. Under the **Paper** heading, select the paper tray that you use to feed ballot stock through your printer from the **Source** list.
5. Under the **Orientation** heading, select **Portrait** to orient your ballots vertically.
6. Click **OK** in the Print window to return to the Print window.
7. Click **OK** in the Print window to print the ballots.

Batch Printing with Ballot on Demand

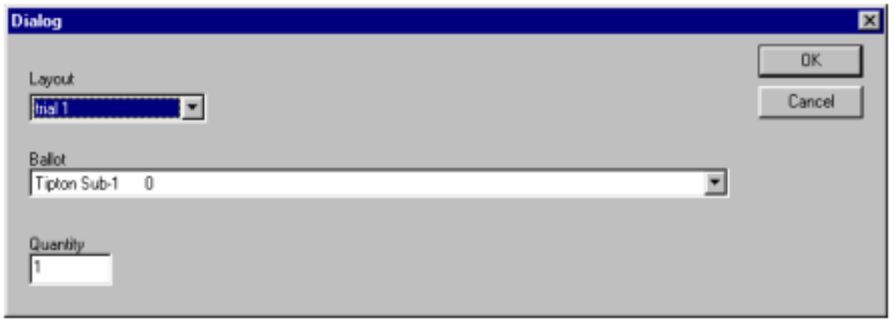
Use the **Batch Ballots** command in the **Ballot on Demand** menu to print ballots for multiple precincts with one print job. When you use the **Batch Ballots** command, select which ballots you want to print and the order that you want the ballots printed. Ballot on Demand places your print requests in a queue and executes the print jobs in the order that you request them. Take the following steps to print batch ballots.

1. Click **Batch Ballots** on the menu bar to open the Batch Ballots window and configure a print job.



2. Click **Add** to add a ballot style to the batch print list. Select a ballot style and click **Edit** to specify the print quantity for that ballot style. Select a ballot style and click **Delete** to remove that ballot style from the batch list, or click **Delete All** to remove all ballot styles from the batch list.

   Selecting **Add** or **Edit** opens a Print Setup window.



3. In the **Quantity** box, type a number the number of ballots that you want to print for the selected style.
4. Click **OK** to save the print job and return to the Batch Ballot window or click **Cancel** to return to the Batch Ballot window without saving.
5. After you add all of the necessary ballot files to your print job, click **Print Now!** In the Batch Ballot window to begin batch printing.

4.1 Section Q: Automatic Test Decks

A test deck is a series of marked ballots used to test ballot scanners and tabulation software for accuracy. Test decks include sample ballots for every precinct, split and rotation in a jurisdiction. Election workers scan the test ballots and check system reports against the test deck configuration to check equipment for Election Day. ES&S can enable you to print automatic test decks by request. Contact ES&S customer service for more information about automatic test deck generation.

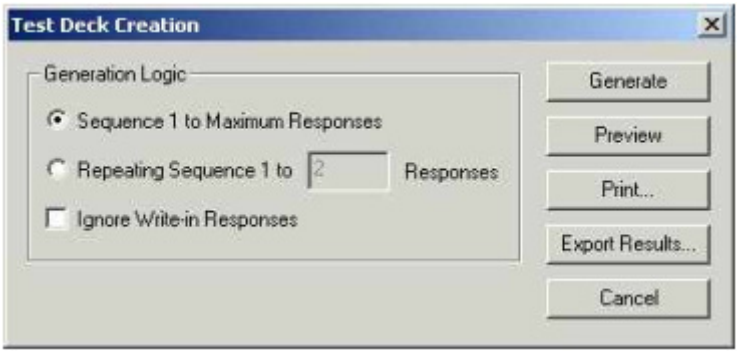
NOTE: Use an automatic test deck to test ballot target positions but not scanner logic. Automatic test decks do not test scanner logic for straight party voting or for over-vote and under-vote handling.

Generate a Test Deck

Take the following steps to create test ballots if ES&S has enabled the test deck option for you. ES&S Image Manager generates fully marked test decks in the format of your choice.

Election Security Requirement: Testing your election prior to Election Day provides security for the election process. ES&S recommends that you always generate test decks and reports to test your scanners and reporting software for accuracy before the election.

From the **Test Deck** menu, click **Create** to open the Test Deck Creation window.



From this point, you can generate any one of the following three tests (you do not need to perform all three).

1. Under the **Generation Logic** heading, select **Sequence 1 to Maximum Responses** to detect which contest in your election uses the most ballot targets and then click **Generate** to create the following test ballots for each ballot style used in your election:
   - One ballot with no ovals marked (blank ballot)
   - One ballot with all ballot targets marked (over-voted ballot)
   - One ballot with the first response target marked for each contest
   - Two ballots with the second target marked in each contest
   - Three ballots with the third target marked in each contest

     The sequence continues until ES&S Image Manager produces a ballot with the last target marked for the contest that uses the most ballot targets. Once ES&S Image Manager marks all of the targets for a contest, the program leaves the targets blank for the remainder of the test ballots produced for that ballot style. If your ballots contain a contest that allows more than one response or candidate selection (a “vote for more than one” contest), ES&S Image Manager generates the following additional ballots:
   - One ballot with marked targets under the “vote for more than one” contest starting with the first target and ending at the target that equals the maximum number of selections allowed.
   - One ballot with marked targets under the “vote for more than one” contest starting with the second contest and ending with the target that equals the maximum number of selections allowed.

     The sequence continues until ES&S Image Manager produces a ballot in which the first mark appears in the last voting position of the “vote for more than one” contest. If the number of allowed responses exceeds the target position number, ES&S Image Manager leaves that target blank. For example, for a vote for two contest with three ballot targets, ES&S Image Manager produces one test ballot with the first and second target marked, one ballot with the second and third position marked and one ballot with only the third position marked.
2. Under the **Generation Logic** heading, select **Repeating Sequence 1 to XX Responses** and type a number in the box to generate the same ballots created with the **Sequence 1 to Maximum Responses** option. With this option, the maximum count of votes for any ballot position will be the number you enter. After this count is reached, the sequence will reset and the next ballot position will receive one vote.

   Example: If you select **Repeating Sequence 1 to 2**, the first candidate will receive one vote and the second candidate will receive two votes. The third candidate will receive only one vote and the fourth candidate two votes again. This pattern will repeat until the maximum number of candidates is marked.

With both types of tests, you can do the following:

- Click **Ignore Write-in Responses** to instruct ES&S Image Manager not to mark write-in targets on your test ballots.
- Click **Generate** to create the test deck file. Click **Preview** to view test deck ballots from ES&S Image Manager, click **Print** to print your ballots or click **Cancel** to exit to the ES&S Image Manager main window without generating the test deck.

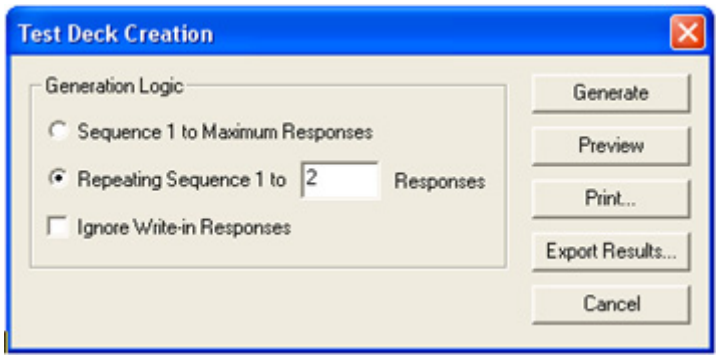
Test Deck Reports

Generate test deck reports and compare them to the reports generated by your scanner after you process the test ballots. Scanner results should match the ES&S Image Manager test deck reports. Take the following steps to generate a test deck report.

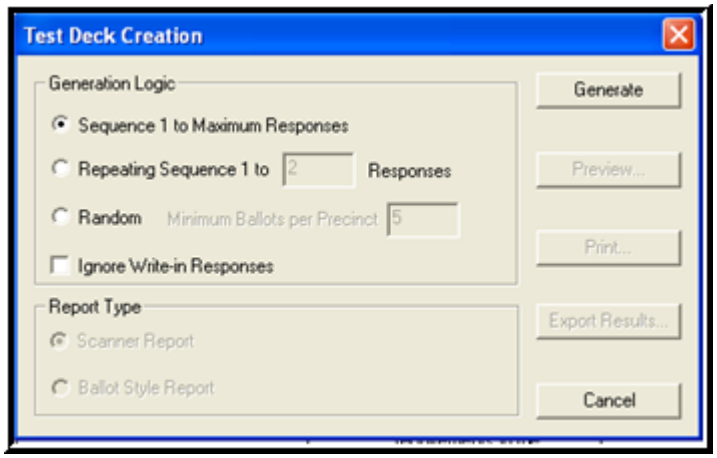
1. From the Test Deck menu, click **Create** to open the Test Deck Creation window.

NOTE: The Test Deck Creation window varies depending on whether you are using Unity 2.4.3.1 or Unity 3.0.1.1. Following are examples of both windows.

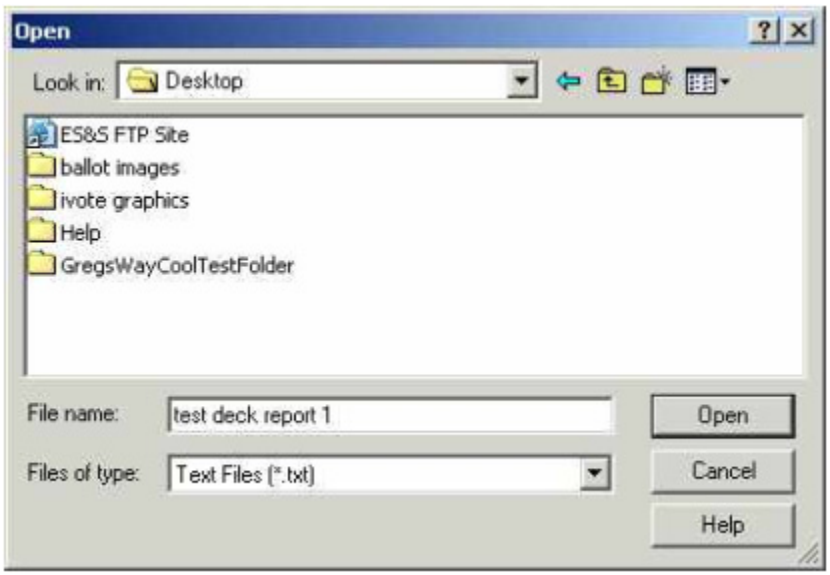
Test Deck Creation Window for Unity 2.4.3.1



Test Deck Creation Window for Unity 3.0.1.1



2. In the Test Deck Creation window, configure your test ballots as described under the Generate a Test Deck heading.
3. Click **Generate** to create a test deck.
4. Click **Export Results** to open a browse window and select the folder where you want to save your test deck report.



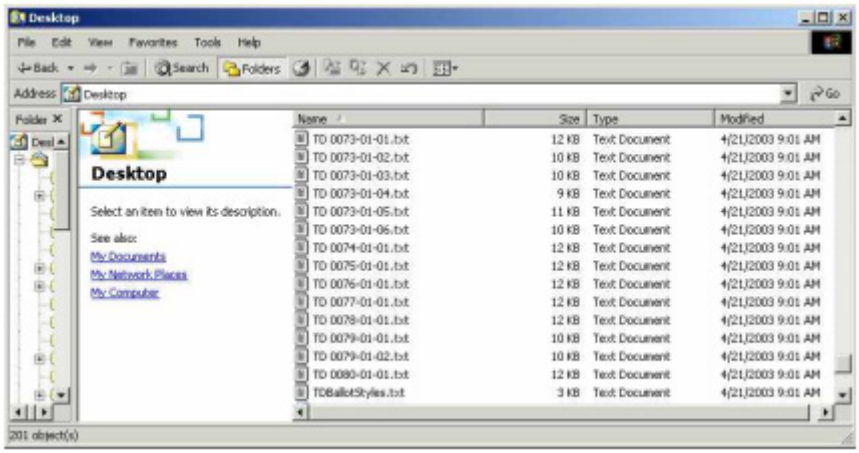
5. In the **File name** box, type a name for the test deck report and then click **Open** to save the report in the selected folder.

NOTE: ES&S Image Manager saves test deck reports as text files (.txt files).

Compare your ES&S Image Manager test deck reports to the report generated by your scanning equipment after you count test ballots. Make sure that your scanner and ES&S Image Manager test reports match before you scan Election Day ballots. Take the following steps to view test reports.

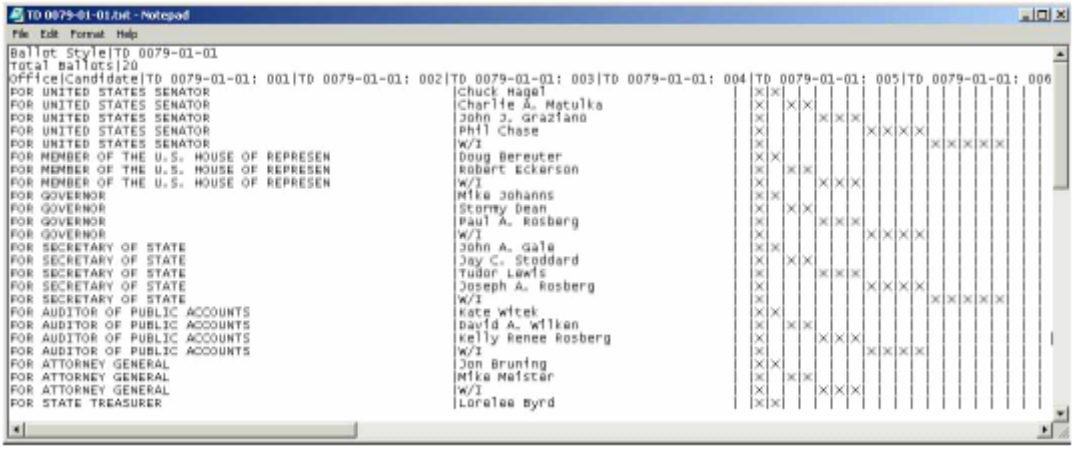
View Test Reports

1. Open Windows Explorer and locate your test deck reports. ES&S Image Manager generates a report for each ballot style in your test deck, a ballot style report and a consolidated report that includes test deck information for all of the ballot styles in your test deck.



ES&S Image Manager automatically generates reports for individual ballot styles. The names of individual style reports begin with the letters TD, for “test deck,” followed by the four-digit precinct identifier, the two-digit split number and the two-digit ballot type identifier. ES&S Image Manager generates the ballot style report under the name “TdballotStyles” and the consolidated report under the name that you specified in the browse window when you selected a save location for your ES&S Image Manager reports.

2. Double-click a report in Explorer to open a test deck report in Notepad.



Refer to Microsoft Notepad Help for more information about editing, printing and saving test deck reports.

Test Deck Report Types

ES&S Image Manager automatically generates the following types of test deck reports.

- Test Deck Results Reports show which voting targets ES&S Image Manager marked on the test ballots for each ballot style. Results reports show which ballot targets ES&S Image Manager marks on the test ballots for each ballot style included in the test deck.
- Test Deck Ballot Style Reports list all of the ballot styles included in the test deck. The ballot style report contains precinct, split and type identification numbers for each ballot style included in the test deck.

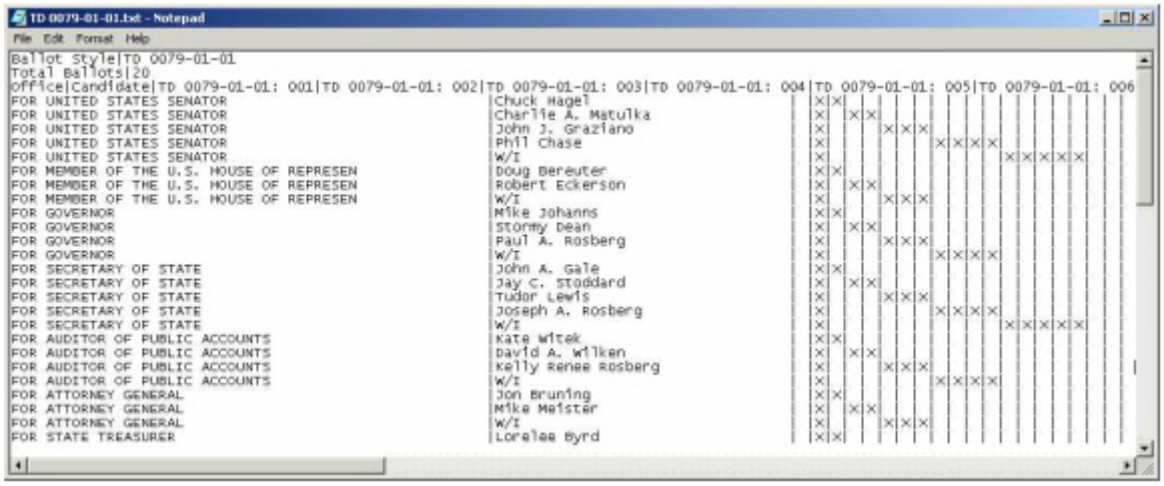
- Ballot Style Reports (Unity 3.0.1.1 Only) contain the combined results for all of the ballot styles in the test deck. The consolidated test deck report lists the combined target and identification information for all of the ballot styles included in your test deck.

NOTE: Ballot Style Reports are not supported in Unity 2.4.3.1.

- Scanner Reports show the offices and candidates on the left side of the report. The totals and percentage of votes the candidates received are on the right side of the report.

Test Deck Results Reports

Results reports show which ballot targets ES&S Image Manager marks on the test ballots for each ballot style included in the test deck. In Windows Explorer, double-click a results report (results report names begin with “TD” followed by precinct, split, and ballot type identifiers) to open a report in Notepad.



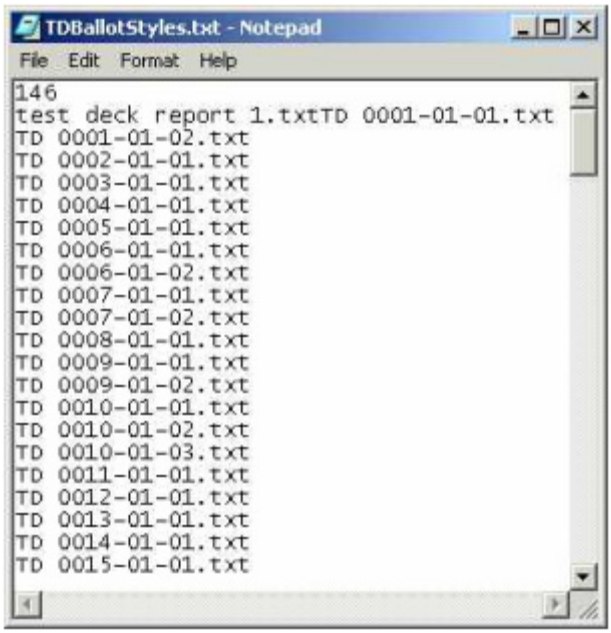
```
TD 0079-01-01.txt - Notepad
File  Edit  Format  Help
Ballot Style|TD 0079-01-01
Total Ballots|20
Office|Candidate|TD 0079-01-01: 001|TD 0079-01-01: 002|TD 0079-01-01: 003|TD 0079-01-01: 004|TD 0079-01-01: 005|TD 0079-01-01: 006
FOR UNITED STATES SENATOR                    |Chuck Hagel                  | |X|X| | | | | | | | | | | | | | |
FOR UNITED STATES SENATOR                    |Charlie A. Matulka           | |X| |X| | | | | | | | | | | | | |
FOR UNITED STATES SENATOR                    |John J. Graziano             | |X| | | |X|X|X| | | | | | | | | |
FOR UNITED STATES SENATOR                    |Phil Chase                   | |X| | | | | |X|X|X|X| | | | | | |
FOR UNITED STATES SENATOR                    |W/I                          | |X| | | | | | | |X|X|X|X|X| | | |
FOR MEMBER OF THE U.S. HOUSE OF REPRESEN     |Doug Bereuter                | |X|X| | | | | | | | | | | | | | |
FOR MEMBER OF THE U.S. HOUSE OF REPRESEN     |Robert Eckerson              | |X| |X|X| | | | | | | | | | | | |
FOR MEMBER OF THE U.S. HOUSE OF REPRESEN     |W/I                          | |X| | | |X|X|X| | | | | | | | | |
FOR GOVERNOR                                 |Mike Johanns                 | |X|X| | | | | | | | | | | | | | |
FOR GOVERNOR                                 |Stormy Dean                  | |X| |X|X| | | | | | | | | | | | |
FOR GOVERNOR                                 |Paul A. Rosberg              | |X| | | |X|X|X| | | | | | | | | |
FOR GOVERNOR                                 |W/I                          | |X| | | | | |X|X|X|X| | | | | | |
FOR SECRETARY OF STATE                       |John A. Gale                 | |X|X| | | | | | | | | | | | | | |
FOR SECRETARY OF STATE                       |Jay C. Stoddard              | |X| |X|X| | | | | | | | | | | | |
FOR SECRETARY OF STATE                       |Tudor Lewis                  | |X| | | |X|X|X| | | | | | | | | |
FOR SECRETARY OF STATE                       |Joseph A. Rosberg            | |X| | | | | |X|X|X|X| | | | | | |
FOR SECRETARY OF STATE                       |W/I                          | |X| | | | | | | |X|X|X|X|X| | | |
FOR AUDITOR OF PUBLIC ACCOUNTS               |Kate Witek                   | |X|X| | | | | | | | | | | | | | |
FOR AUDITOR OF PUBLIC ACCOUNTS               |David A. Wilken              | |X| |X|X| | | | | | | | | | | | |
FOR AUDITOR OF PUBLIC ACCOUNTS               |Kelly Renee Rosberg          | |X| | | |X|X|X| | | | | | | | | |
FOR AUDITOR OF PUBLIC ACCOUNTS               |W/I                          | |X| | | | | |X|X|X|X| | | | | | |
FOR ATTORNEY GENERAL                         |Jon Bruning                  | |X|X| | | | | | | | | | | | | | |
FOR ATTORNEY GENERAL                         |Mike Meister                 | |X| |X|X| | | | | | | | | | | | |
FOR ATTORNEY GENERAL                         |W/I                          | |X| | | |X|X|X| | | | | | | | | |
FOR STATE TREASURER                          |Loralee Byrd                 | |X|X| | | | | | | | | | | | | | |
```

The ballot style identification number for the report appears at the top of the report. The total number of test ballots generated for the ballot style appears below the ballot style identifier. Identification numbers for each ballot produced for the ballot style appear below the total number of ballots. Offices, candidates and targets marked appear below the ballot identification numbers.

Each column to the right of candidate names represents one test ballot produced for the selected ballot style. An X appears in the column if ES&S Image Manager marked the voting target position for the indicated candidate on the test ballot.

Test Deck Ballot Style Reports

The ballot style report contains precinct, split and type identification numbers for each ballot style included in the test deck. Double-click the ballot style report (named “TDBallotStyes” in the test deck reports folder) to open the report in Microsoft Notepad.



The ballot style report identifies each ballot style included in the test deck by precinct identification number, split number, and ballot type number.

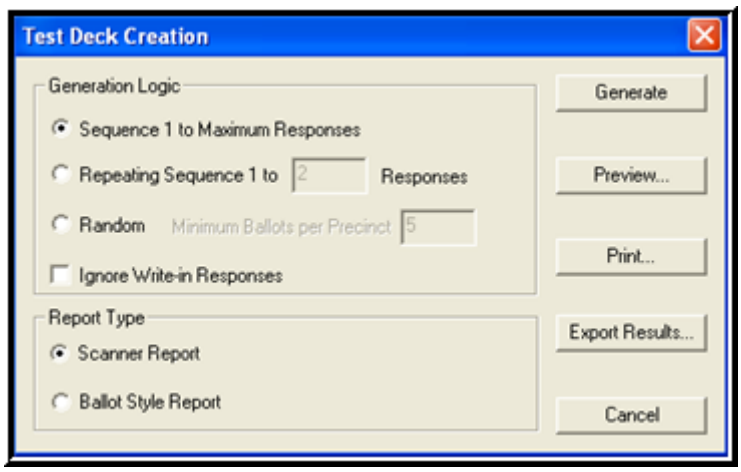
Ballot Style Reports (Unity 3.0.1.1 Only)

NOTE: Ballot Style Reports are not supported in Unity 2.4.3.1.

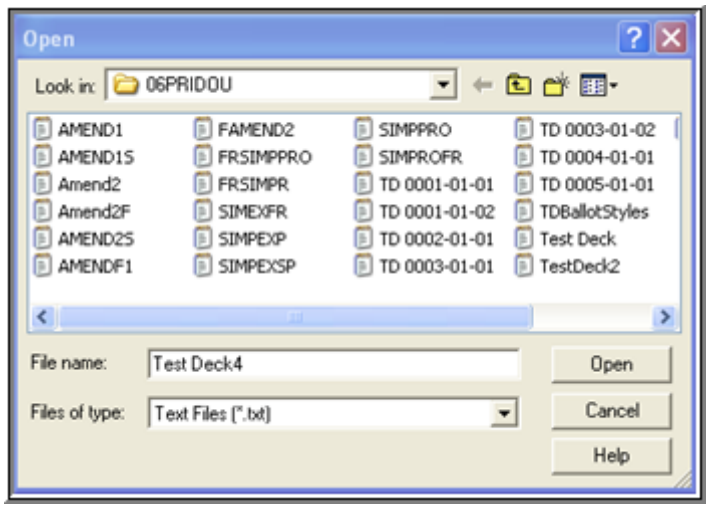
The ballot style report lists the combined target and identification information for all of the ballot styles included in your test deck.

You cannot generate ballot style reports until you first generate a Scanner Report. When you first open the Test Deck Creation window, you will only be able to generate a Scanner Report. Once you have generated a Scanner Report, take the following steps to generate a Ballot Style Report.

1. From the **Test Deck** menu, click **Create...** The Test Deck Creation window appears.

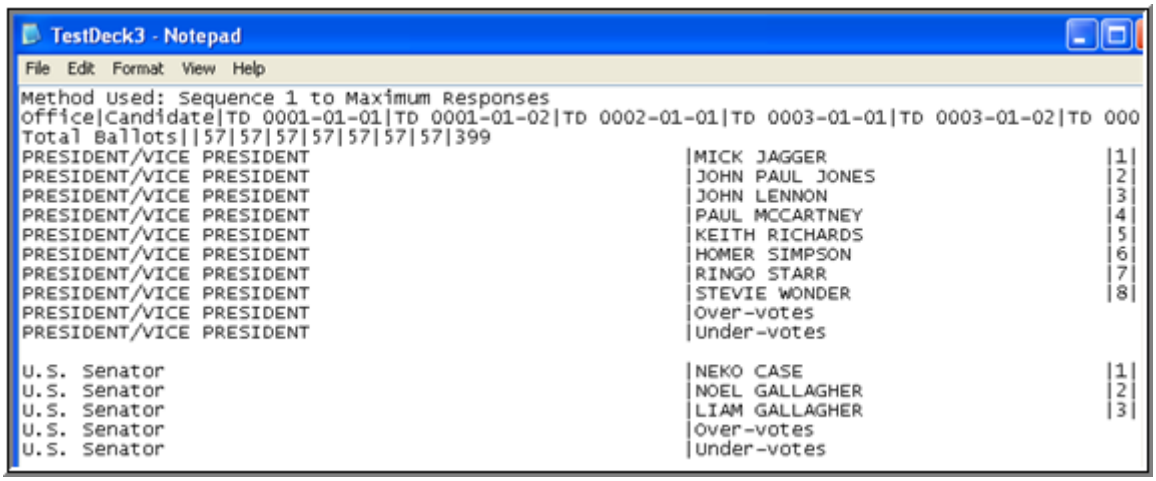


2. From the Test Deck Creation window, click **Ballot Style Report**, located under the Report Type frame.
3. Click **Export Results...** The Open window appears.



4. Type the name of the test deck file report in the **File Name** box.
5. Click **Open**.

6. In Windows Explorer, double-click the name of your consolidated report to open the report in Microsoft Notepad.



```
TestDeck3 - Notepad
File  Edit  Format  View  Help
Method Used: Sequence 1 to Maximum Responses
Office|Candidate|TD 0001-01-01|TD 0001-01-02|TD 0002-01-01|TD 0003-01-01|TD 0003-01-02|TD 000
Total Ballots||57|57|57|57|57|57|57|399
PRESIDENT/VICE PRESIDENT                                |MICK JAGGER                      |1|
PRESIDENT/VICE PRESIDENT                                |JOHN PAUL JONES                  |2|
PRESIDENT/VICE PRESIDENT                                |JOHN LENNON                      |3|
PRESIDENT/VICE PRESIDENT                                |PAUL MCCARTNEY                   |4|
PRESIDENT/VICE PRESIDENT                                |KEITH RICHARDS                   |5|
PRESIDENT/VICE PRESIDENT                                |HOMER SIMPSON                    |6|
PRESIDENT/VICE PRESIDENT                                |RINGO STARR                      |7|
PRESIDENT/VICE PRESIDENT                                |STEVIE WONDER                    |8|
PRESIDENT/VICE PRESIDENT                                |Over-votes
PRESIDENT/VICE PRESIDENT                                |Under-votes

U.S. Senator                                            |NEKO CASE                        |1|
U.S. Senator                                            |NOEL GALLAGHER                   |2|
U.S. Senator                                            |LIAM GALLAGHER                   |3|
U.S. Senator                                            |Over-votes
U.S. Senator                                            |Under-votes
```

The method that you used to generate test decks appears at the top of the ballot style report followed by identification numbers for each ballot style included in the test deck. The number of ballots produced for each ballot style appears below the ballot style identifiers followed by the total number of test ballots generated by ES&S Image Manager.

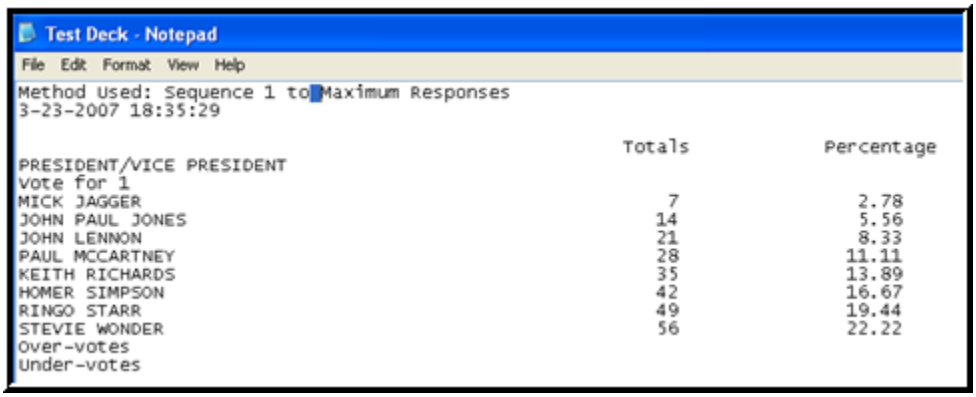
Offices and candidates appear below the ballot quantities list. Each column next to a candidate name represents a ballot style in your test deck. The number in each column indicates the number of test ballots produced for the corresponding ballot style with the candidate target marked. For example, a 1 in the first column next to a candidate indicates that the test ballots for the first ballot style in your election contains one ballot with the candidate's voting target marked.

NOTE: Over-vote and under-vote test ballots do not appear in the ballot style report.

Scanner Reports

Scanner reports show the offices and candidates on the left side of the report. The totals and percentage of votes the candidates receive appear on the right side of the report. The scanner report is the file name that you typed in the **File Name** box when you first generated a test deck report.

In Windows Explorer, double-click the name of your consolidated report to open the report in Microsoft Notepad.



Test Deck - Notepad

File Edit Format View Help

```
Method Used: Sequence 1 to Maximum Responses
3-23-2007 18:35:29

                                                Totals          Percentage

PRESIDENT/VICE PRESIDENT
Vote for 1
MICK JAGGER                                        7               2.78
JOHN PAUL JONES                                   14               5.56
JOHN LENNON                                       21               8.33
PAUL MCCARTNEY                                    28              11.11
KEITH RICHARDS                                    35              13.89
HOMER SIMPSON                                     42              16.67
RINGO STARR                                       49              19.44
STEVIE WONDER                                     56              22.22
Over-votes
Under-votes
```

4.1 Section R: Back Up ESSIM Files

To back up the election programming (EDM and ESSIM), save the following files with the full path information.

1. Right-click the **start** button and select **Explore**.
2. Locate your election in C:\UNITY\EDM\COUNTYFOLDER, where COUNTYFOLDER is the name of your county.
3. Select every file in the folder, as well as the election name folder of the election to be backed up.

NOTE: Select multiple files by holding the **Shift** key and selecting a sequence of files or holding **Ctrl** and selecting multiple files out of sequence.

4. If you saved Image Manager objects, such as text or graphic frames, outside of the COUNTY folder brows to the appropriate location and include them.
5. Save these files to your choice of media, such as a 3.5-inch disk, a CD, or a USB drive.

4.1 Section S: Troubleshooting

If you have problems running ES&S Image Manager, refer to the following instructions before you contact ES&S for customer support.

Troubleshoot a Printer

Configure your printer from the Windows control panel. If you have problems printing from ES&S Image Manager, check the following list of common problems before you contact ES&S for customer support.

- Make sure that you properly connect the power cable to your printer and that your printer receives electricity.
- Check your printer cable. Make sure the cable firmly connects to your computer and to your printer.
- If you use a serial cable, make sure that the cable connects securely to your printer and to the correct serial port on your computer.
- If you use a serial cable, make sure that you properly configure your computer's serial port. Make sure that you do not configure two ports with the same settings.
- If you connect several printers to your computer with a switch, make sure that you set the switch in the correct position for your printer before you print ballots.
- Make sure that you properly configure your printer in the Windows Control Panel.

Contact Customer Support

ES&S customer support representatives may request the following information if you contact ES&S for help with ES&S Image Manager.

System Specifications

Have the following system information available to assist ES&S technicians with resolving your problem:

- The contents of the CONFIG.SYS and AUTOEXEC.BAT files
- The drive and directory where you installed ES&S Image Manager

- The amount of RAM available on your computer
- The amount of memory available on your computer
- Monitor type
- Mouse type and brand
- Network settings
- Printer type and printer port settings
- The amount of memory available on the printer

4.1 Section T: System Messages

Ballot On Demand does not support old layout formats.

Description: In BOD setup, an old style layout was used.

Action: Do not use an old style layout for BOD.

Ballot Style Number xxx, Page Number xxx Candidate 'xxx' not associated with any office

Description: An invalid candidate number was encountered in the test deck calculations.

Action: Call ES&S

Ballot Style Number xxx, Page Number xxx Unknown Record Type x under Office xxx

Description: An unknown office record type was encountered in the test deck calculations.

Action: Call ES&S

Ballot Style Number xxx, Page Number xxx, Invalid Contest ID xxx

Description: An invalid contest ID was encountered in the test deck calculations.

Action: Call ES&S

Ballot Style xxx for code xxx not Found Check Vrab.val file line xxx

Description: Ballot style not found during validate vrab process

Action: Call ES&S

Ballot Style xxx Not Found. No Ballot will be Printed

Description: In BOD mode, the specified ballot was not found.

Action: Enter a valid ballot.

BDF layout record too large - data will be lost

Description: BDF record read was too large

Action: Call ES&S

BDF, LDF File Mismatch

Description: The bdf and ldf files do not match

Action: Call ES&S

Between Rule adjustments must be between -0.003 and +0.003

Description: The between rule adjustments of a style sheet are out of range.

Action: Set the between rule adjustment within the range specified.

Between Rule width must be less than 0.003

Description: The between rule width of a style sheet is too large.

Action: Set the between rule width within the range specified.

Bottom Rule adjustments must be between -0.003 and +0.003

Description: The bottom rule adjustment of a style sheet is out of range.

Action: Set the bottom rule adjustment within the range specified.

Bottom Rule width must be less than 0.003

Description: The bottom rule width of a style sheet is too large.

Action: Set the bottom rule width within the range specified.

Can not process ballots on demand

Description: Trying to print BOD ballots when not in BOD mode.

Action: Start ESSIM in BOD mode

Can not process batch ballots

Description: Attempting to process batch BOD ballots when not in BOD mode.

Action: Enter ESSIM in BOD mode.

Can not use old style BDF

Description: Loading election with old Ballot Data File format

Action: Call ES&S

Candidate already assigned to another style

Description: Candidate is being applied to more than one style sheet.

Action: Do not apply a candidate to more than one style sheet.

Candidate Position number too large

Description: The candidate position number is too large.

Action: Call ES&S

Cannot Process Ballot Data File. No Ballot Styles Found

Description: No ballot data found in the bdf file.

Action: Call ES&S.

Could not find complete disclosure information. Please contact ES&S for a list of supported devices.

Description: Disclosure.txt file not found

Action: Call ES&S

Could not fit text within frame xxx

Description: Could not fit text within frame xxx.

Action: Increase frame size or decrease text.

Default Style Sheet cannot be Deleted

Description: An attempt was made to delete the default stylesheet.

Action: Don't try to delete the default stylesheet

District specified as a key but no district name selected

Description: In the organization dialog, no district name was supplied.

Action: Supply a district name.

Duplicate Ballot Set Code xxx Found

Description: Duplicate BOD ballot set code found

Action: Use unique codes for BOD ballot sets

Duplicate Ballot Set Description Found.

Description: Duplicate BOD description found.

Action: Use unique names for BOD ballot sets.

Error Closing Temp File:

Description: Error Closing Temp unencrypted File:

Action: Call ES&S

Error Opening Temp File: xxxx

Description: Error Opening Temp unencrypted File

Action: Call ES&S

Exceeded RTF font entries

Description: A rtf file exceeded the number of allowable font entries.

Action: Edit the rtf file or call ES&S.

Frame – xxx Unable to Copy File xxx to xxx

Description: Unable to copy frame data file

Action: Call ES&S

Frame display type not read correctly

Description: Invalid frame display type for the frame.

Action: Call ES&S

Frame Height must be greater than 0

Description: In a frame dialog, the frame height is zero.

Action: Give the frame a valid height.

Frame Width must be greater than 0

Description: In a frame dialog, the frame width is zero

Action: Give the frame a valid width.

Invalid Hard Code in RTF File.

Description: ESSIM found unknown hard codes in an rtf file used on the ballot.

Action: Call ES&S

Invalid Page Number

Description: When processing the IFC file, an invalid page number was encountered.

Action: Call ES&S

Invalid Party Code xxx in VRAB request

Description: While processing a VRAB file, an invalid party code was encountered.

Action: Call ES&S

Invalid path for the IFC File

Description: In the update IFC dialog, an invalid path was given.

Action: Specify a valid path for the file.

Invalid Record Referenced. Please Contact Customer Support if the Problem Persists

Description: Invalid reference in BDF file.

Action: Call ES&S

Invalid Target Position Number xxx. Maximum Target Position Number is xxx

Description: A calculated target number was over maximum

Action: Call ES&S

Line Width (Back Side) should be between 0.1 and 2.0 points

Description: In the Advanced Layout Dialog, the back line width was set too large.

Action: Set Line width smaller.

Line Width (Front Side) should be between 0.1 and 2.0 points

Description: In the Advanced Layout Dialog, the front line width was set too large.

Action: Set Line width smaller.

More than one Ballot Set must be present for this operation.

Description: In the Copy Layout dialog, at least two ballot sets need selected.

Action: Select more than one ballot set

No Printer Driver Installed! Aborting the Program.

Description: When starting ESSIM, there is no printer driver installed.

Action: Call ES&S

Not a Bitmap File

Description: A bitmap file being processed is not a bitmap file.

Action: Call ES&S

One or more Ballot Sets must be selected.

Description: In the copy layout dialog, no ballot sets are selected.

Action: Select at least one ballot set.

Out of memory for DIB bits

Description: Too large of a bitmap file is being processed.

Action: Select a smaller bitmap file, or call ES&S.

Oval position should be less than or equal to oval span

Description: The oval position is set up incorrectly in respect to the oval span.

Action: Adjust the oval position and/or the oval span.

Page xxx Back Side Errors:

Description: Frame could not be placed properly on ballot

Action: Move frame on ballot to a proper position.

Page xxx Front Side Errors:

Description: Frame could not be placed properly on ballot

Action: Move frame on ballot to a proper position.

Party index not found

Description: Party index not found in the bdf record

Action: Call ES&S

Permission Denied for Ballot On Demand Mode. Please Contact Customer Support.

Description: Trying to start ESSIM in BOD mode without permission.

Action: Call ES&S

Permission Denied for Full Column Ruling Option. Please Contact Customer Support.

Description: When starting ESSIM, permission is denied for full column ruling.

Action: Call ES&S

Please Enter a File Name

Description: In a style sheet row dialog, no filename was given for a file selection.

Action: Select a txt or rtf file for the row contents.

Please Enter a Repeating Sequence Greater Than Zero

Description: For test deck generation, a value of zero was entered.

Action: Enter a value greater than zero.

Please Enter a Style Sheet Name

Description: No name was given for the style sheet.

Action: Provide a style sheet name.

Please Enter a Valid Position

Description: In a style sheet row dialog, an invalid row position has been selected.

Action: Select a valid row position.

Please Enter Frame Name

Description: No frame name was given in the frame dialog.

Action: Give the frame a name.

Please enter value for flag equals

Description: In a frame dialog, the frame is specified for a geo flag, but no flag value is given.

Action: Specify a geo flag value.

Please Select a Ballot Set Collection File

Description: In BOD setup, a BSC file has not been specified

Action: Select a bsc file.

Please Select a Ballot Style to Delete.

Description: In BOD batch mode, a ballot style has not been selected to delete.

Action: Select a ballot style.

Please Select a Ballot Style to Edit.

Description: In BOD batch mode, a ballot style has not been selected.

Action: Select a ballot style.

Please Select a Ballot Style to Print

Description: In Ballot On Demand (BOD) mode, a ballot style has not been selected

Action: Select a ballot style.

Please select a Layout to delete.

Description: A BOD layout hasn't been selected to delete.

Action: Select a BOD layout before trying to delete one.

Please select a Layout to edit.

Description: A BOD layout hasn't been selected to edit

Action: Select a BOD layout before trying to edit one.

Please Select Ballot On Demand Type

Description: A BOD type hasn't been selected

Action: Select a BOD type.

Please Select Position

Description: In a style sheet row dialog, a position hasn't been selected for the row.

Action: Select a row position for the row.

Please Select Precincts To Print Headers

Description: In the precinct header dialog, no precincts were selected to print.

Action: Select the precincts in which to print the headers.

Please Setup Ballot On Demand

Description: Starting ESSIM in BOD mode without a valid BOD layout set up.

Action: Set up a BOD layout before starting in BOD mode.

Please specify a Ballot Set Collection File

Description: A Ballot Set Collection (BSC) file has not been specified

Action: Specify a bsc file

Problem locating district

Description: In the organization dialog, the district index is out of range.

Action: Call ES&S

Processing Terminated – too many passes required\nSomething may be wrong with these ballots

Description: When doing a set office positions-No float, to many passes needed.

Action: Call ES&S

Row offset must be between 1 and xxx

Description: In the Office style sheet, an invalid row offset is specified.

Action: Set a row offset within the range specified.

RTF formatting too complex

Description: The formatting for a rtf file used on the ballot is too complex.

Action: Edit the rtf file or call ES&S.

Ruling Box Line width must be less than 0.003

Description: In a style sheet, the ruling box width is too large.

Action: Set the ruling box width within the range specified.

Scaling factors greater than 130% may give undesirable results

Description: In the Advanced Layout Dialog, a scaling factor was set over 130%.

Action: Set scaling factor less than 130%

Scaling factors less than 80% may give undesirable results

Description: In the Advanced Layout Dialog, a scaling factor was set to under 80%

Action: Set scaling factor greater than 80%

Set Office Positions Failed

Description: Set Office Positions Failed

Action: Make necessary changes to ballot to get everything to fit properly.

Style must have a name

Description: A style sheet is being saved without a name.

Action: Give the style sheet a name.

Test Deck Generation Cancelled by User

Description: Test Deck Generation Cancelled by User

Action: Let the test deck finish it's calculations.

Test Deck Generation Failed

Description: Test Deck Generation Failed

Action: Call ES&S

Text Frame Height must be greater than 0.10

Description: In the text frame dialog, the height is set too small.

Action: Set the height in the range specified.

Text Frame Width must be greater than 0.25

Description: In the text frame dialog, the width is set too small

Action: Set the width in the range specified.

The Ballot Set Collection File selected does not contain any Ballot Sets for this Typesetter

Description: The Ballot Set Collection File selected does not contain any Ballot Sets for the current Typesetter.

Action: Call ES&S

The Combined Election IFC filename can not be blank.

Description: In IFC Combine, no destination filename was given.

Action: Specify a destination filename.

The Election Packager utility is missing from the executable path. \nCan not launch the Election Packager

Description: When launching the Election Packager, the utility could not be found.

Action: Call ES&S

The file Zip32.dll is missing from the executable path. \nCan not launch the Election Packager

Description: When launching the Election Packager, the zip32.dll file couldn't be found.

Action: Call ES&S

There must be at least 2 IFC files to combine.

Description: In IFC Combine, less than 2 files have been selected to combine.

Action: Select at least two files to combine.

This file has already been selected

Description: In the IFC Combine dialog, the same file is selected more than once.

Action: Select only unique files to combine.

Top Rule adjustments must be between -0.003 and +0.003

Description: The top rule adjustments of a style sheet are out of range.

Action: Set the top rule adjustment within the range specified.

Top Rule width must be less than 0.003

Description: A style sheet has it's top rule set too low.

Action: Set the top rule width of the style sheet less than 0.003 inches.

Type code xxx is a calculated type code for page xxx.

Description: In the page layout dialog, a specified type code is the same as a calculated type code.

Action: Respecify the type code in question.

Type code xxx is used for two pages

Description: In the page layout dialog, an attempt was made to specify the same type code for two pages.

Action: Don't use the same type code for two different pages

Unable to Allocate Memory

Description: When starting ESSIM, there's not enough memory to allocate for variables.

Action: Call ES&S

Unable to copy Frame Data - Unknown Destination Folder

Description: Unknown data folder for election

Action: Call ES&S

Unable to create directory!

Description: In the update IFC dialog, ESSIM was unable to create the specified directory.

Action: Call ES&S

Unable to Create Export List File xxx

Description: Unable to create the test deck export file

Action: Call ES&S

Unable to Create Temp File

Description: Unable to create a temp file for decryption

Action: Call ES&S

Unable to Create Temporary IFC File

Description: When creating the IFC file, ESSIM couldn't create a temp file.

Action: Call ES&S

Unable to create Validation Results File

Description: In the validate VRAB function, the results file can't be created.

Action: Call ES&S

Unable to find BDF File – xxx

Description: Unable to find Ballot Data File

Action: Call ES&S

Unable to find BSC File – xxx

Description: Cannot find the Ballot Set Collection (BSC) file.

Action: Call ES&S

Unable to Find License Information

Description: Unable to Find License Information

Action: Call ES&S

Unable to Locate Precinct in List

Description: In the Geo dialog, couldn't find precinct user clicked on.

Action: Call ES&S

Unable to open IFC file for output:

Description: When creating the IFC file, ESSIM encountered problems.

Action: Call ES&S

Unable to open Interface File (IFF):

Description: When creating the IFC file, ESSIM couldn't open the IFF file.

Action: Call ES&S

Unable to open layout – xxx

Description: In BOD mode, couldn't open layout

Action: Call ES&S

Unable to open or locate audit database

Description: When starting ESSIM, the audit database couldn't be opened or located

Action: Call ES&S

Unable to open template file.

Description: In the Load Template dialog, the template file could not be opened.

Action: Call ES&S

Unable to open Validation Request File:

Description: In the validate VRAB function, the VRAB.validation file cannot be found.

Action: Call ES&S

Unable to write template file

Description: In the save template dialog, the template file couldn't be written.

Action: Call ES&S

Unknown Contest-Candidate combination

Description: Unknown contest-candidate combination encountered in the test deck calculations.

Action: Call ES&S

Unknown Frame Type xxx

Description: Frame type is not text, graphic, or production

Action: Call ES&S

Unknown record type in Layout record

Description: Unknown record type in Layout record

Action: Call ES&S

xxx - Invalid file extension

Description: The file being processed isn't a txt or rtf file.

Action: Call ES&S

xxx does not exist

Description: ESSIM could not find the file needed

Action: Call ES&S

You can not scale to 0

Description: In the scale dialog, the scale factor was given as zero

Action: Enter a valid scale factor.

You must first select a file from the list.

Description: No files are selected to combine in the IFC Combine dialog.

Action: Select files to combine.

You must specify which Geo Flag to use

Description: In a frame dialog, the frame is specified for particular geo flags, but none are selected.

Action: Select a Geo flag.

You need to Set Office Positions for all Ballot Sets before you can update an IFC file.

Description: Attempting to do an update IFC without setting office positions for all ballot sets.

Action: Set office positions for all ballot sets.

Your E S & S ES&S Image Manager License has Expired. Please Contact Customer Support

Description: License has expired

Action: Call ES&S

4.1 Section U: Reports

Generate and retain the following reports and files from ESSIM:

- PDFs of all ballot styles

Refer to 4.1 Section O: Generate a PDF File for more information about how to generate PDFs of all ballot styles.

- Ballot Validation Report

  From the **Reports** menu, click **Ballot Validation Report**. After you generate the report, save it to your hard drive or print the report.

Refer to the Validate Ballot Contents heading in 4.1 Section N: Interface Files for more information about the Validation Log.

- Ballot Style Report

  From the **Reports** menu, click **Ballot Style Report**. After you generate the report, save it to your hard drive or print the report.

Refer to the Ballot Style Report heading in 4.1 Section N: Interface Files for more information about the Ballot Style Report.

4.1 Section V: Importing Unity Data for AutoMARK

Users of the AutoMARK Information Management System have the option of importing data directly from the ES&S Unity files. Doing this means that you do not have to re-enter the election data, which has already been entered into Unity.

Notes regarding AIMS

- The AIMS load process does not import text frames or graphic frames from Unity. These are normally used for instructional text such as how to mark a ballot target (oval) and would not be applicable on screen. If frames are being used to display race or candidate information, you may enter this information directly into AIMS or you may modify your use of frames in Unity and then re-import the data.
- The EFC file used must be the version created within the Unity Ballot Image Manager using the Update IFC file menu option. Intermediate versions of EFC files will not work.
- AIMS expects internally consistent values within the Unity files for **Election Authority**, **Election Title**, and **Election Date** fields.
- **Any non-English language text that is included in the English portions of Unity will be imported into AIMS as English labels.** This includes text that is present within .ETF and .EXT files. The non-English text must either be removed from within Unity, or manually separated in AIMS after it has been imported.

Refer to Chapter 10, *Editing Races* and the Note in Chapter 10.4 of the *AutoMARK Information Management System Election Official's Guide*.

If a Closed Primary election contains a Universal Primary Contest (UPC) Race, refer to Chapter 10.4.12 of the *AutoMARK Information Management System Election Official's Guide* for information about how to handle the race.

- The AutoMARK VAT cannot print more than 35 items in the 2 1/2" - 5" top or bottom margin of the ballot. The layout of the printed ballot must conform to this requirement, otherwise significant Y offset print errors may occur when the VAT marks the ballot.
- For recall/retain conditional questions, the conditional logic must be set manually within AIMS after importing the election data.

Refer to Section 10.7 *Setting Up a Recall/Retain Race* in the *AutoMARK Information Management System Election Official's Guide.*

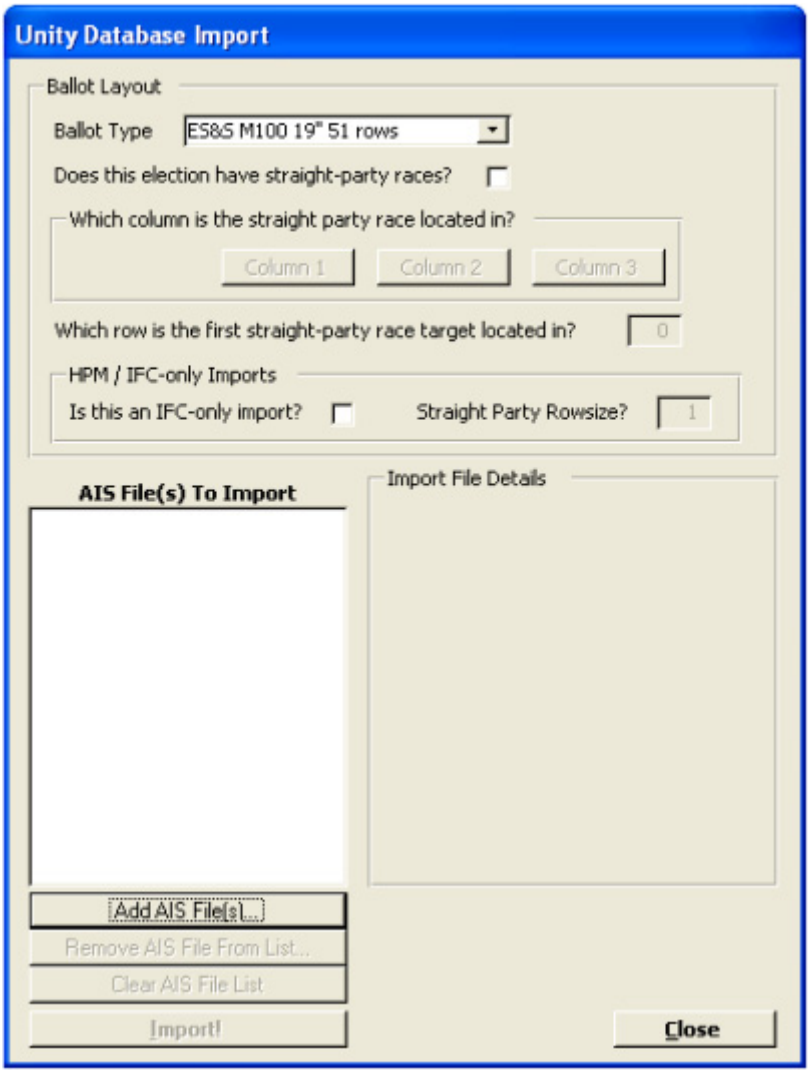
Import ES&S Unity Data

1. From the Election Selection Tool screen, click **Create New Election**.
2. Select the ballot type from the drop-down list.
3. Fill in all the required fields to set up your new election.
4. Browse to create the folder for audio files. You must manually create this folder.
5. Click on **Create New Election Database**. AIMS will create the template for your new election.
6. The AIMS election Wizard will appear and prompt you with the step to complete next.

   Assuming you have located all the required files from ES&S, you may now Import Vendor Election Data. Once you click **Do This Step Now**, the Unity Database Import screen will appear. By clicking on Add AIS File(s), you will be able to browse through the different folders on your computer to locate the proper AIS file or files. AIMS will search the containing directory for the rest of the files required. There must at least be corresponding .EFF and .EDF files. Some of the ballot text used by Unity may be contained in special text files. These text files use the extensions .ETF and .EXT. Any text files that contain ballot text should be placed in the same folder as the .EDF file. If required files are not found, the user is prompted for them.

7. If you know what ballot size is being used, use the corresponding list to pick the ballot size. If you do not know the ballot size, AIMS will change the ballot size to the corresponding type it believes the ballots are.
8. If there are Straight-Party Races in this election, the "**Straight-Party Races**" checkbox is selected.

   If Straight-Party Races do exist on this ballot, the location of the Straight-Party Race Ovals/Arrows is indicated by pressing one of the **Column 1, Column 2, Column 3** buttons, and entering the Y-position of the first Straight Party Oval (arrow). (Refer to the following picture of a Sample Ballot.)



On the Unity Database Import screen:

1. Point to the **Unity Import file** – “Filename”.AIS.
   Click on the **Add AIS Files**… button to display a standard browser window to locate the file, if necessary.
2. If AIMS is unable to find all the additional required files after loading the .AIS file, the user will be prompted for the location of any missing files. When filling in missing files, only one row can be selected at a time.
3. Select the appropriate Election Ballot Type and the location of the Straight Party Arrows if any.
4. Click **Import!** to start the Automatic Data Load Process. Only the rows selected will be imported. For a full import, select all rows.

Warning: All previous data will be overwritten by this process.

5. Click “**Yes**” to confirm.

The message **Done!** confirms that the file loaded successfully.

4.2 Programming and Configuration of Vote Recording/ Tabulation Devices Including Audit Records to be Generated and Retained

Section 4.2 provides information about using ES&S Hardware Programming Manager® (HPM) to program and configure vote recording and/or tabulation devices. Setting up and using HPM consists of the following procedures.

- 4.2 Section A: Start Hardware Programming Manager
- 4.2 Section B: Create the Election
- 4.2 Section C: Define the Election
- 4.2 Section D: Modify Election Information
- 4.2 Section E: Final Preparations
- 4.2 Section F: Print Reports
- 4.2 Section G: Back Up HPM Files
- 4.2 Section H: Security Procedures

4.2 Section A: Start Hardware Programming Manager

Use the Unity Hardware Programming Manager™ (HPM) software to convert election files created in Image Manager for use with Election Reporting Manager, and to create election parameters and load them to a memory device for the voting and/or tabulation hardware. You can also use Hardware Programming Manager to make final changes to your election before you load the election onto the memory device.

The type of memory device onto which HPM loads information depends on the type of voting system you use for your election.

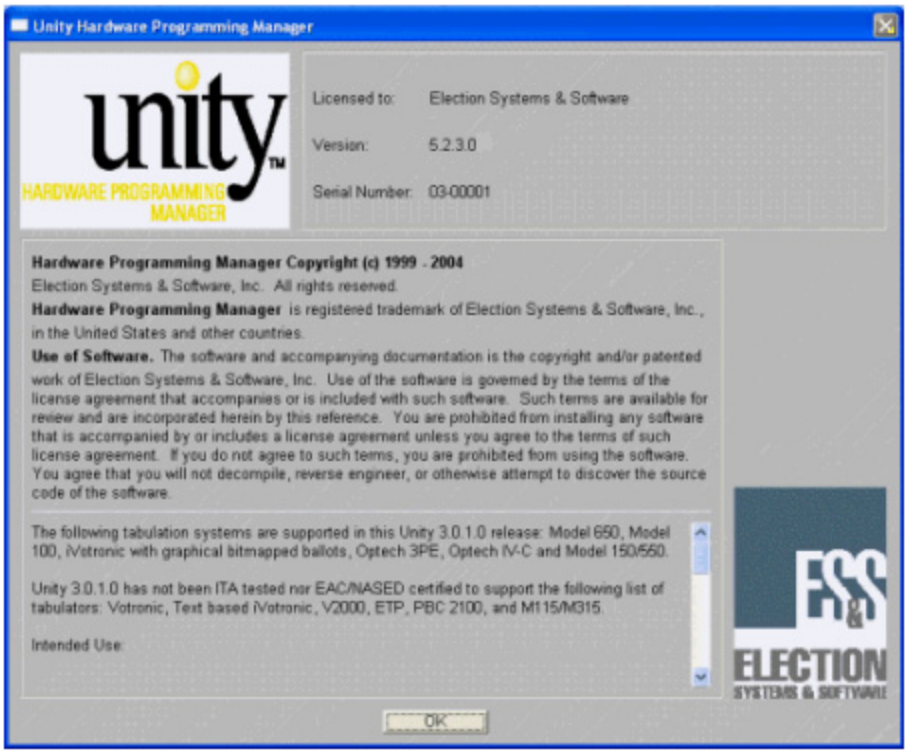
If you use this type of tabulator...	Program this type of memory device in HPM...
Model 100	PCMCIA card
Model 650	Zip disk

1. From the Windows® **Start** menu, point to **Programs**, select **Unity Election Systems**, and double-click on **Hardware Programming Manager**. The Copyright screen appears.

   If you are not using Windows XP Service Pack 2 with the firewall active, go to step 4.

2. If you are using Windows XP Service Pack 2 with the firewall active, the following **Windows Security Alert** window will appear with the Unity Copyright window partially on top of it.

3. Select **Unblock** and this window will not appear again. The Unity copyright screen appears.



4. Click **OK** to advance to the HPM main menu screen.

4.2 Section B: Create the Election

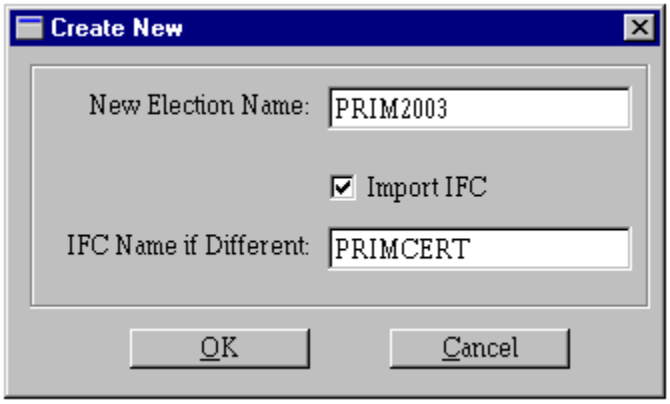
After the ballot layout is completed in ES&S Image Manager and/or iVotronic Image Manager, an .IFC file (ballot interface file) is generated for use in HPM. The .IFC file contains all of the contest, candidate, precinct, rotation, polling place, and ballot style information necessary to prepare the tabulator media. However, the .IFC file must be imported into HPM so that it can be formatted for ERM. This chapter describes the steps to create a new election and import the .IFC file.

Create an Empty Election File

After copying the .IFC file to the \ELECDATA directory on the hard disk, you are ready to create an empty election shell. When you import the .IFC file, the empty shell will then be filled with the election information from the .IFC file.

NOTE: Always use the **Enter** key to move between fields.

1. From the HPM main menu, click **Election** and select **Create New**.

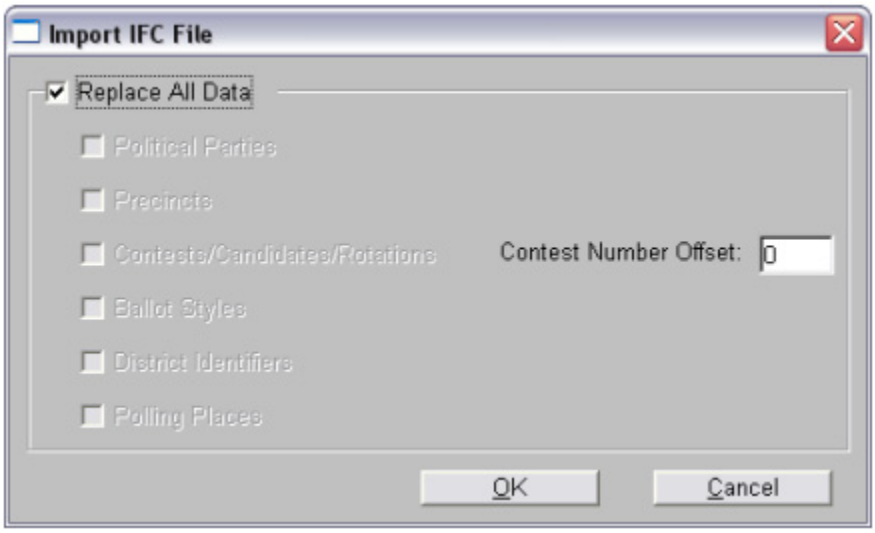


2. Enter the name (up to eight characters) of the new election.
3. Select the **Import IFC** check box. The .IFC file must reside in the \ELECDATA directory and the name must not exceed eight characters.

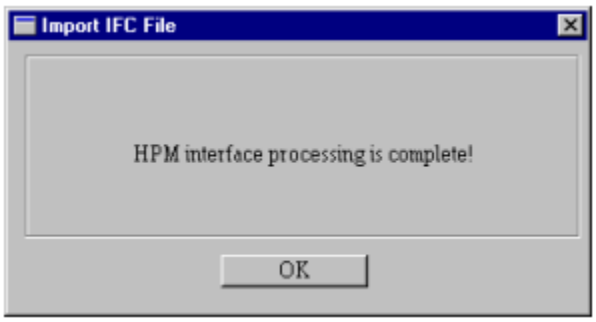
NOTE: The file must reside in the \ELECDATA directory and the name cannot exceed eight characters in length.

4. Enter the name of the .IFC file if it is different from the election name you entered.

   After you selected the **Import IFC** check box, the Import IFC File window appears.



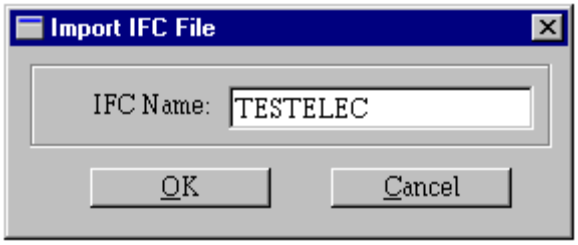
5. Select the **Replace All Data** check box to import all data from the new IFC file. If you want to replace only certain data, select the appropriate check box for whatever information you want to import.
6. The **Contest Number Offset** field will appear. There is no need to enter anything in this field. Click **OK**.
7. When the import is complete, the following message appears.



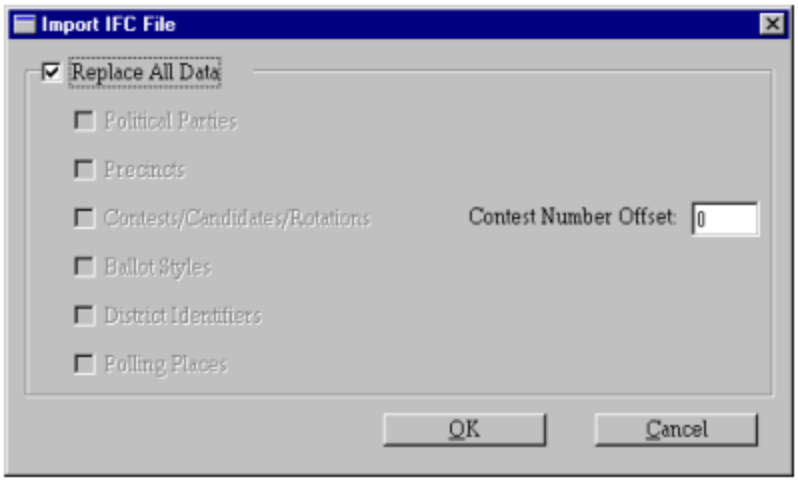
Import the .IFC File Without Creating a New Election

If a mistake has occurred in Image Manager or you find that you have bad data, corrections must be made in Image Manager and another .IFC file created. In this instance you will need to import the correct .IFC file in to the election that has already been created. Take the following steps to copy this file to the hard drive.

1. Copy the .IFC file into the \ELECDATA directory on the hard drive as before.
2. Select **Import IFC** on the **Election** menu to open the **Import IFC File** window.

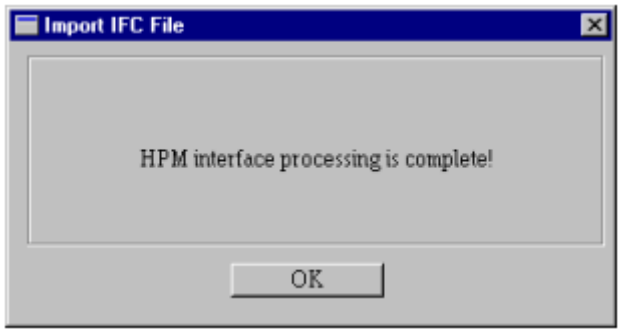


3. Enter the name of the IFC file and click **OK**.



4. Select the **Replace All Data** check box to import all data from the new IFC file. If you want to replace only certain data, select the appropriate check box for the information you want to import.

5. When the import is complete, the following message appears.



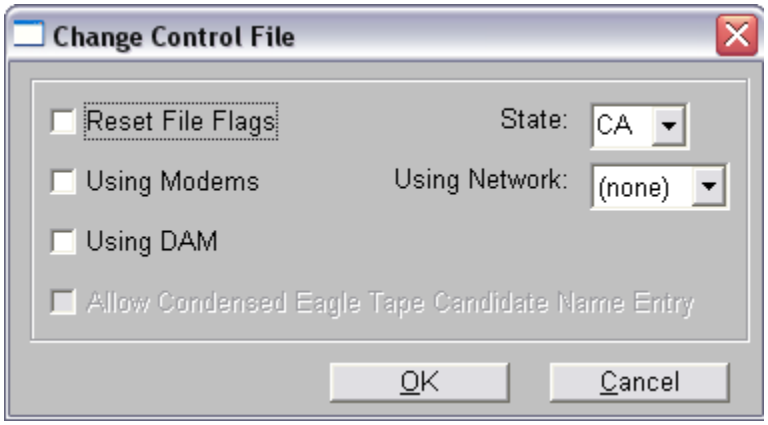
4.2 Section C: Define the Election

After you import your IFC file, verify the information on the Control File, the Jurisdiction Master, and the Election Specifications Master.

Change Control File

The HPM Control File Maintenance provides information that will be used to define general characteristics of your system. Usually this screen is set up upon installation of the program and will remain the same for the life of the system. Take the following steps to set up or change items in the control file.

1. On the **Utilities** menu, select **Change Control File**.



2. Select the **Reset File Flags** check box to reset the final database parameter create after you make changes in HPM that do not require a final database create. This option is seldom used.

The **Using Modems** and **Using DAM** options are not used in California

3. Select your two-position state code from the list box.

   The state abbreviation in the HPM System Control File controls the menu options that are available and the program modules that are executed when special modules exist for a given state. Selecting CA as your state code will enable ERM to report a Real Time Audit Log.

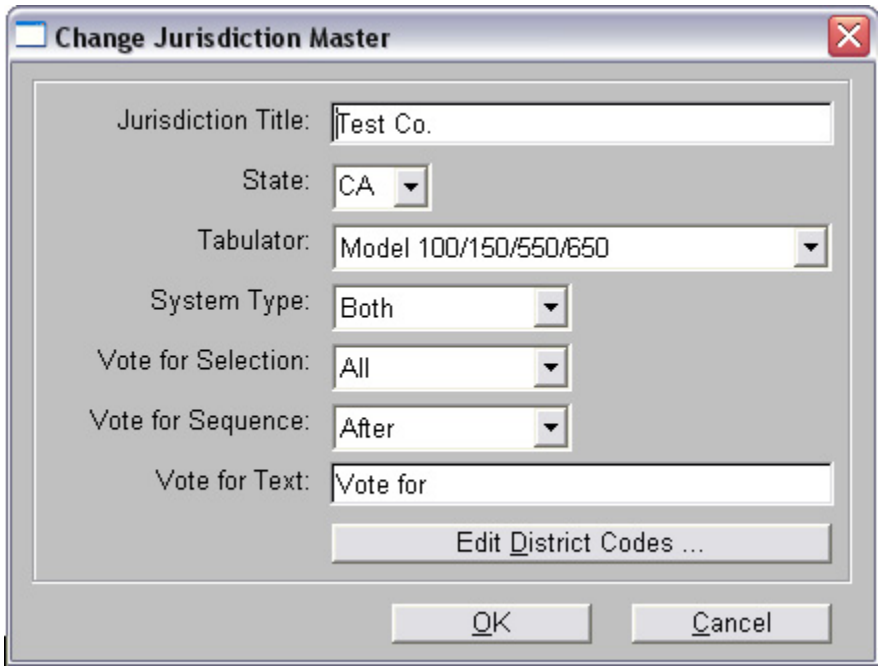
4. In the **Using Network** list box, select the letter of the network drive your data resides on or select (none) if your data resides on the local drive.

5. Click **OK**.

Jurisdiction Master

A Jurisdiction Master must be created or copied for each election. A jurisdiction title and the state code are entered first on this screen. The jurisdiction title is used by the system as the heading on the printed HPM reports. The state entry is used by the system to identify special state voting regulations. The Equipment Type, System Type, and District Code entries are all critical pieces of information. Users may supply their own *vote for* text. The majority of this information is completed during the IFC import.

1. On the **Set Tabulator Controls** menu, select **Jurisdiction**.



2. Enter your Jurisdiction's name. This title will print at the top of all HPM reports.
3. From the **State** list, select CA.
4. From the **Tabulator** list, select **100/150/550/650**.
5. From the **System Type** list, select **Central Count**, **Precinct Count**, **Both**, or **Mixed**.
   - If using the Model 100 only, the system type is **Precinct Count**.
   - If using the Model 650 only, the system type is **Central Count**.
   - If using both the Model 100 and the 650, the system type is **Both**.

The following table provides additional information about what selections to use as your system type.

Tabulator and System Type Selections

If you use this equipment...	Select this Tabulator Type...	And select this System Type...
Model 100 only	Model 100/150/550/650	Precinct Count
Model 650 only	Model 100/150/550/650	Central Count
Model 100 and Model 650	Model 100/150/550/650	Both

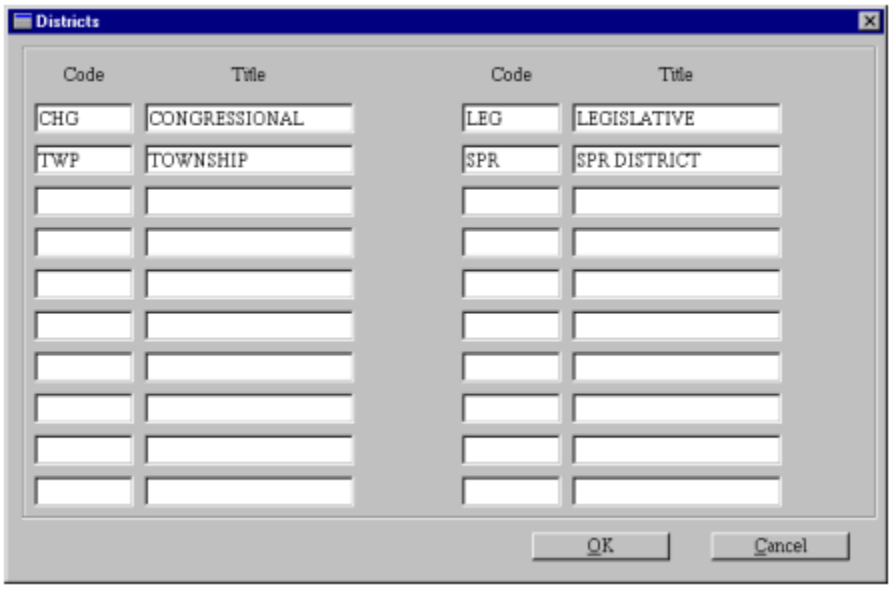
6. Select the code describing when you want the *Vote for* information to appear on the tabulator results tapes/reports and ERM reports. The options are:
   - **All** - for all contests
   - **Except Special** - for all contests except questions
   - **Multiple Vote for** - for multiple vote contests only (default)

   In order to use the **Except Special** option, the **Special Contests** check box on the Election Specifications Master must be selected, and the **Special Types** field on the **Contest and Candidate** screen must be set to **Q** for any question, referenda or other contest for which you don't want any *Vote for* text to print. The *Vote for* text will then be created according to your specifications when you create the final database and will print on the tapes/reports.

7. Enter the code describing when you want the number of votes allowed to print in relation to the specified *Vote for* text. The options are:
   - **After** - the number prints after the text (default), for example, *Vote for 4*
   - **Before** - the number prints before the text, for example, *4 Votes Allowed*

NOTE: If this field contains (“ “), delete them. Otherwise the tapes and reports will show `(Vote for)#`.

8. Enter the user-specific text to use with the number of votes allowed (for example, Vote for, Vote for No More Than, Elect, To be elected, etc.).
9. Click the **Edit District Codes** button to enter or change the 3-character codes denoting all types of districts that overlap your jurisdiction (for example, SEN, CNG, etc.). This information will be imported from EDM.



10. Enter the title describing each 3-character district code entered in the **Districts** window from the **Change Jurisdiction Master** window (for example, Senatorial, Congressional, etc.).

    If you print the Jurisdiction Canvass in ERM, enter the title of each code as you want it to appear on your report.

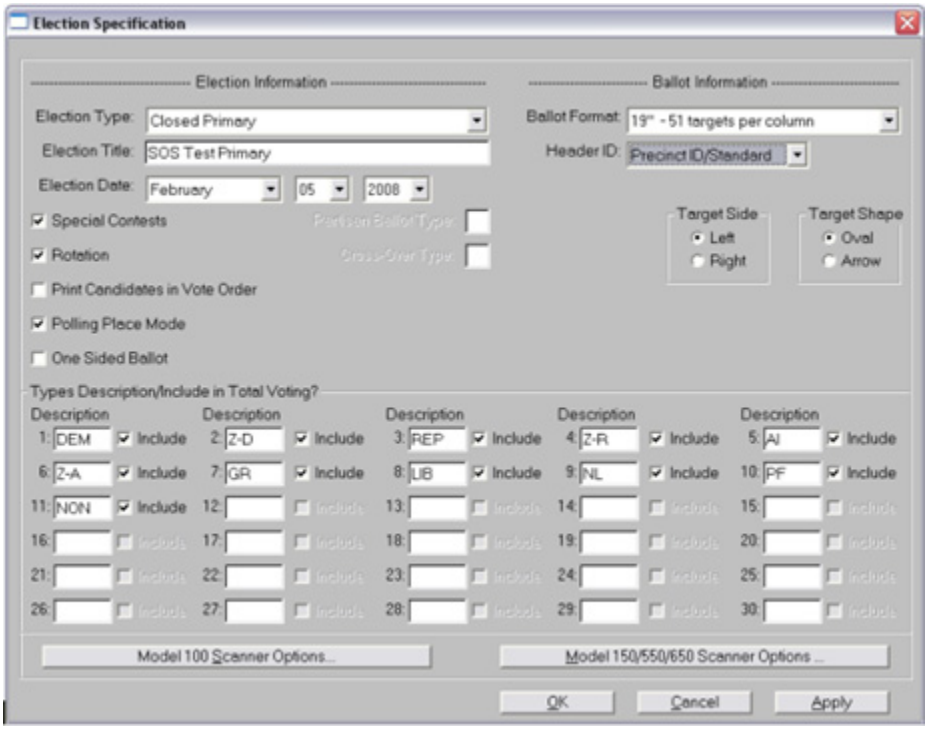
Change the Election Specifications

The information entered on this screen is used by the system throughout the remainder of the program to determine the proper creation of tabulator and ERM files. Input required by the system is based on this information. This screen varies according to which equipment code you entered on the Jurisdiction Master screen.

In order to obtain the correct Election Specification screen, you must select the proper tabulator on the Change Jurisdiction Master screen.

Models 100 and 650

1. From the HPM main menu, point to **Set Tabulator Controls**, and select **Election Specification**.



2. Select the type of election from the **Election Type** list.
   - **Closed Primary** – Only the contests for a given party appear on a ballot. All ballots may contain nonpartisan races. The voter either is registered to a specific party before the election or declares party affiliation upon obtaining a ballot. A primary election **must** contain partisan candidates.
   - **General** (contains partisan candidates) – Contains candidates from all political parties, as well as nonpartisan candidates. May contain straight party voting as well, wherein a vote for the party implies a vote for all respective party candidates.
   - **Nonpartisan** (not a Primary or a General) – A special election that does not contain candidates from any political parties.
3. In the **Election Title** field, enter the name of this election. This name will print on the Model 100 results tape and 650 reports.
4. Enter the date that this election will be held.
5. Select the **Special Contests** check box if your state law requires you to use one of the special contest types.
6. Select the **Rotation** check box if any contests require rotation.

7. Select the **Print Candidates in Vote Order** check box if you want to print the candidates in descending order by the number of votes received. Be sure that this box is cleared if you want the candidates to print in home rotation order.
8. Select the **Polling Place Mode** check box if you are placing multiple precincts in a single PCMCIA card or using iVotronic.
9. Select the **One Sided Ballot** check box if all ballots are single-sided.
10. From the **Ballot Format** list, select the format of your ballots.
    - 11 ballot with 36 targets per column
    - 14 ballot with 36 targets per column (standard 14)
    - 14 ballot with 41 targets per column
    - 14 ballot with 41 targets per column (Header)
    - 14 ballot with 48 targets per column
    - 17 ballot with 41 targets per column (standard 17)
    - 17 ballot with 45 targets per column
    - 17 ballot with 60 targets per column
    - 19 ballot with 51 targets per column (standard 19)
    - 19 ballot with 68 targets per column
11. From the **Header ID** list, select whether your ballots are printed with **Precinct ID** or with **Ballot Style ID**.
12. Under **Target Side** indicate if the arrow/oval is on the right or left side of the candidate name.
13. Under **Target Shape** indicate whether the target is ovals or arrows.
14. In the **Types Description/Include in Total Voting** area, enter the counters for which to keep statistics.

    In a Primary these are the party codes (DEM, REP, etc.). Parties entered on this screen must be entered in exactly the same order that they were entered on the Political Party Master screen. In addition, the ballot type code must be in the same order that it was entered. If the election contains only nonpartisan ballots enter **ALL**.

    At least one **Description** must be defined and activated on this screen. This field controls the Total Voters on the Model 100 display and the Ballot Types and Total Ballots on the report printout. This area will not be active if the **System Type** is set to **Central Count**.

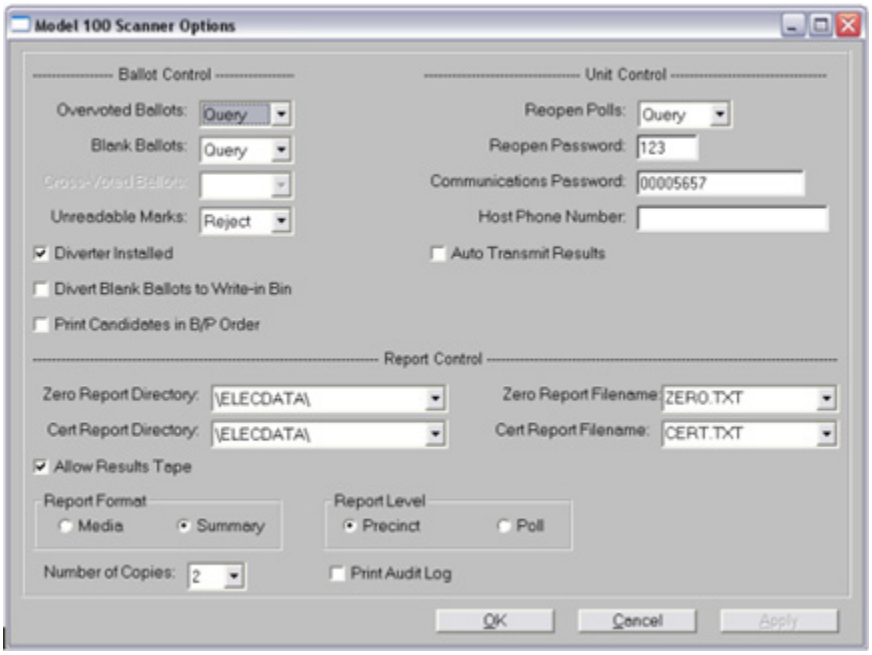
15. Select the **Include** check box beside each counter you want to activate.

Buttons Available on the Election Specification Screen

Button	Purpose
OK	Saves the information you have entered and returns to the main menu
Cancel	Clears all information you have just entered and returns to the main menu
Apply	Saves the information you have entered or changed and remains on the same screen

Model 100 Scanner Options

If you use Model 100 scanners, click the **Model 100 Scanner Options** button on the Election Specification screen to open the Model 100 Scanner Options window.



Ballot Control Heading

1. From the **Over Voted Ballots** list, select how you want the Model 100 to handle overvoted ballots.
   - Accept – unconditionally accept ballot
   - Query – ask the voter to accept or reject the ballot
   - Reject – unconditionally reject the ballot
2. From the **Blank Ballots** list, select how you want the Model 100 to handle ballots that are completely blank.

- Accept – unconditionally accept ballot
- Query – ask the voter to accept or reject the ballot
- Reject – unconditionally reject the ballot

NOTE: Blank Ballots Counted Total is supported by the Model 100, Model 650.

The **Cross-voted** option is not used in California

3. From the **Unreadable Marks** list, select how you want the Model 100 to handle ballots that contain marks that the scanner cannot read.
   - Accept – unconditionally accept ballot
   - Query – ask the voter to accept or reject the ballot
   - Reject – unconditionally reject the ballot
4. Select the **Diverter Installed** check box if blank ballots are to be diverted to the write-in bin. Be sure this box is cleared if a ballot diversion unit is not installed.
5. Select the **Divert Blank Ballots to Write-in Bin** box if blank ballots are to be diverted to a separate write-in bin.
6. Select the **Print Candidates in Vote Order** check box if you want to print the candidates in descending order by the number of votes received. Be sure that this box is cleared if you want the candidates to print in home rotation order.

Unit Control Heading

7. From the **Reopen Polls** list, select whether poll workers should zero results when polls if polls are reopened.
   - No – do not allow zeroing of totals
   - Query – ask the poll worker whether to zero results
8. In the **Reopen Password** field, enter the 3-digit password to allow the PC Card to be reopened after the polls have been closed.

The **Communications Password** and **Host Phone Number** fields are not used in California.

Report Control Heading

9. Before you select the reports you want to use for certification and zero reports, you must first create files for the certification text that you want to print on the device tape. Take the following steps to create these reports.
   - In WordPad, Notepad or the text editor, create a text file that contains the certification information that will print on the Zero report.

NOTE: Each line of the text file cannot exceed 40 characters.

   - Give the file a meaningful name with the extension .TXT (for example, ZERO.TXT), and save it to the \ELECDATA directory.
   - In WordPad, Notepad, or a text editor, create a text file that contains the certification information that will print on the Certification report.
   - Give the file a meaningful name with the extension .TXT (for example, CERT.TXT), and save it to the \ELECDATA directory.
10. From the **Zero Report Directory** list, select the directory where the Zero report is located.
11. From the **Zero Report Filename** list, select the name of the Zero report.
12. From the **Cert Report Directory** list, select the directory where the Certification report is located.
13. From the **Cert Report Filename** list, select the name of the Certification report.
14. Select the **Allow Results Tape** check box to allow the results tape to print on the Model 100 when the polls close.
15. Select **Media** or **Summary** for the **Report Format**.

    The Media report shows no over or under votes, while the Summary report does show over and under votes. This option is active only if you selected to allow a results tape to print.

16. Select **Precinct** to print the report by precinct or select **Poll** to print a summary of the precincts in each polling place for the **Report Level**. This option is active only if the **Allow Results Tape** box is selected.
17. From the **Number of Copies** list, select the number of copies of the report you want to print.
18. Select the **Print Audit Log** check box if you want the Log report to print at the end of the results tape.

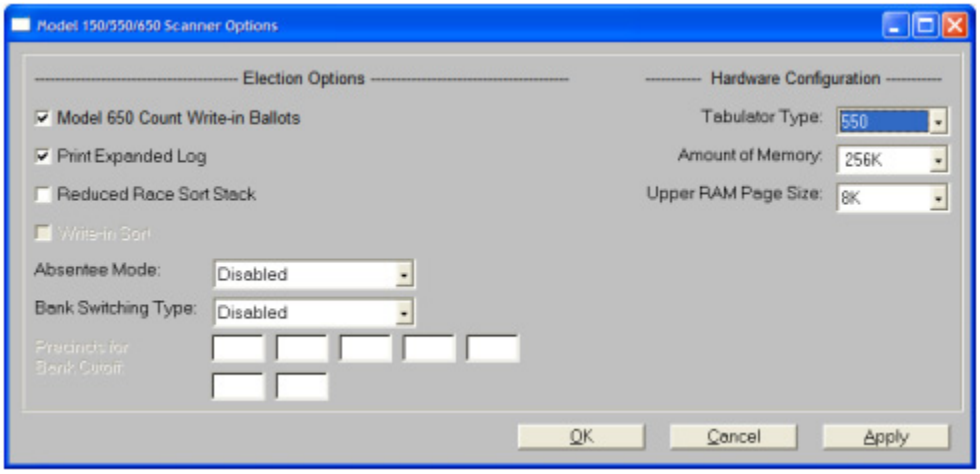
If you choose not to have it print automatically, you can use the tabulator menu to go back and print it later.

Buttons Available on the Model 100 Scanner Options Screen

Button	Purpose
OK	Saves the information you have entered and returns to the Election Specification screen
Cancel	Clears all information you have just entered and returns to the Election Specification screen
Apply	Saves the information you have entered or changed and remains on the same screen

Model 650 Scanner Options

If you use Model 650 scanners, click the **Model 150/550/650 Scanner Options** button on the Election Specification screen to open the Model 150/550/650 Scanner Options window.



Election Options

1. If using the Model 650, select the **Model 650 Count Write-in Ballots** check box if you want the scanner to count all ballots, including ones with write-ins. Clear this check box if you do not want to count the write-ins; everything else on the ballot will be counted. This option is for the Model 650 only.
2. If using the central scanner, select the **Print Expanded Log** check box if you want to include the ballot count information on the central scanner printout.

If the **Print Expanded Log** option is selected, the total number of ballots counted in each batch and the total number of ballots counted so far will print whenever the **Stop** button is pressed or whenever the hopper is empty. If the **Print Expanded Log** option is not selected, the ballot totals will not print on the log report.

3. Select the **Reduced Race Sort Stack** check box if you want to use the reduced stack option, which allows that the maximum number of candidates that can be sorted in a contest is 83, allowing more memory for the grand totals that are also stored in the low address RAM. Leave this check box unselected if you want the maximum number of candidates that can be sorted in a contest to be 246.

NOTE: The **Write-in Sort** check box is not available.

4. From the **Absentee Mode** list, select how you want to handle vote by mail ballots.
   - **Disabled** – Set this option if you are using Election Reporting Manager (ERM) for reporting results. **Disabled** indicates that all vote by mail ballots are combined with the results from election day.
   - **Single Block** – This option indicates that a single Vote-By-Mail counter block is set up to accumulate all vote by mail ballots.
   - **Duplicate Block** – Set this option if you do not use ERM for reporting and you depend on the Model 650 to separate your vote by mail ballots from your election day ballots. Selecting this option will enable the Absentee button on your Model 650. **Duplicate Block** indicates that a duplicate set of precincts is set up in the election definition and vote by mail ballots are accumulated based on election day.

Hardware Configuration Heading

5. From the **Tabulator Type** list, select the type of tabulator you are using.
6. From the **Amount of Memory** list, select the amount of upper RAM memory that is required to store the precinct-by-precinct results for the defined election. Valid options are: **256**, **512**, **1024**, and **1536**.
7. From the **Upper RAM Page Size** list, select **8** to break up the Upper RAM address space into 8K pages or **16** to break up the Upper RAM into 16K pages.

Buttons Available on the Model 150/550/650 Scanner Options Screen

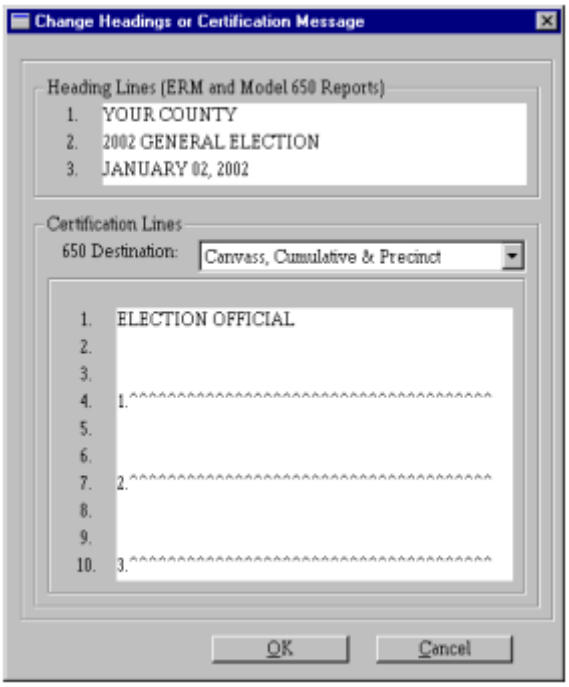
Button	Purpose
OK	Saves the information you have entered and returns to the Election Specification screen
Cancel	Clears all information you have just entered and returns to the Election Specification screen
Apply	Saves the information you have entered or changed and remains on the same screen

Certification Message

The certification window is used for entering the text you want to print on the reports and tapes, if applicable. The heading text will print at the top of the report and the certification text will print at the end of the report. The screen will vary depending on which equipment type you are using.

Model 100

1. From the **Set Tabulator Controls** menu, select **Certification**. The following window appears.



2. Enter the text you want for the heading (three lines maximum). This text will print at the top of the ERM and Model 650 reports.
3. From the **650 Destination** list, select the type of report(s) on which you want the certification text to print. The certification will then print at the bottom of those selected Model 650 reports and be available to print on ERM reports.
4. Enter the entire certification message to print and (60 lines maximum).
5. To print a line for the elections officials to sign on, hold down the **Shift** key and press the 6 key repeatedly.

Certification Text for Model 100 Tapes

You must also create files for the certification text that you want to print on the device tape.

1. In WordPad, Notepad or the text editor, create a text file that contains the certification information that will print on the Zero report.
2. Give the file a meaningful name with the extension .TXT (for example, ZERO.TXT), and save it to the \ELECDATA directory or the \<election name> directory.

NOTE: Each line of the text file cannot exceed 40 characters.

3. In WordPad, Notepad or the text editor, create a text file that contains the certification information that will print on the Certification report.
4. Give the file a meaningful name with the extension .TXT (for example, CERT.TXT), and save it to the \ELECDATA directory.

4.2 Section D: Modify Election Information

You can use the options under the Modify Election Definition menu to verify that all election information is correct. If necessary, you can use these options to change information from the election definition.

Change Contests and Candidates

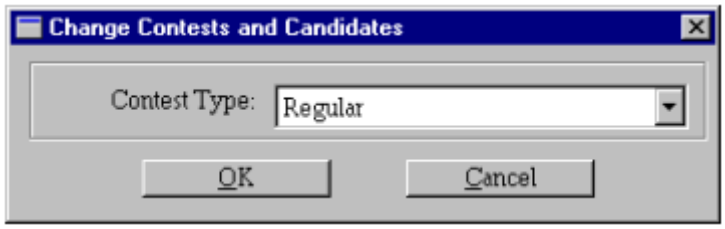
Use this option to define, change, or delete contest and candidate information. This includes printed text for reports and special ballot counter statistics, as well as regular contests and candidates.

Before entering any contest information, have an idea of how you want your election results to look. The sequence in which you enter your contests is the sequence in which they will appear later on the reports. Enter contests to match the sequence of contests on your ballots.

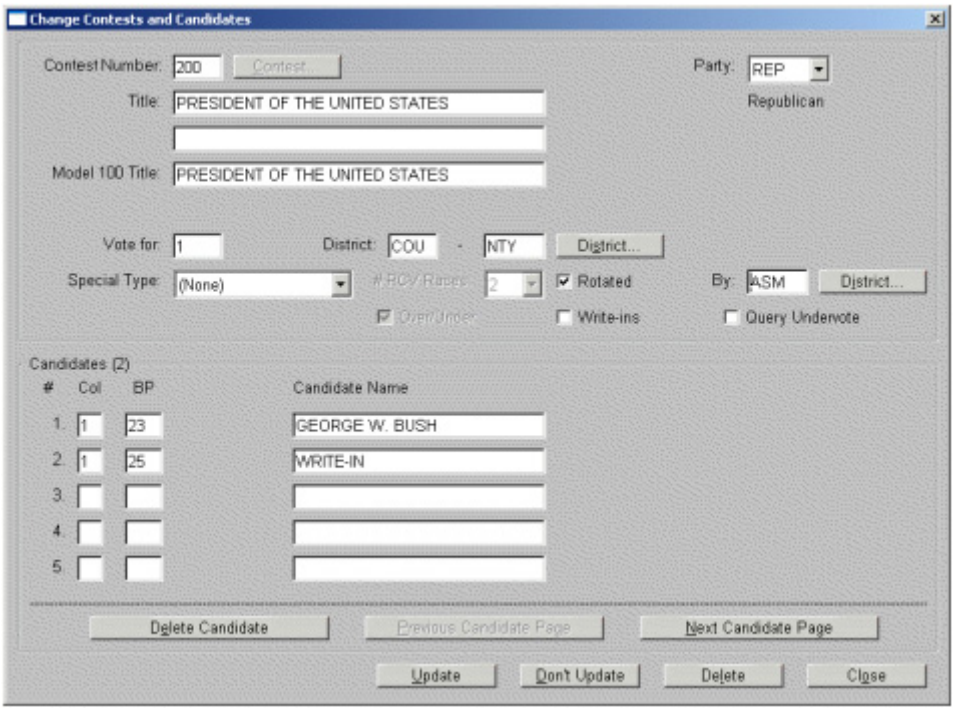
Ballot statistics for the entire jurisdiction appear first. These are ballot counter contest types that will provide you with: Precincts Counted – Total (if it is a mixed election), Registered Voters – Total (if used), and Ballots Cast – Total.

Regular Contests (Model 100)

1. To change information for a contest or candidate, point to **Contests** on the **Modify Election Definition Data** menu, and select **Change Contests and Candidates**. The following window appears.



2. Select **Regular** for the Contest Type and click **OK**. The following window appears.



3. In the **Contest Number** box, enter the number of this contest if it is new. To see a list of the contests already coded for this election, click the **Contest** button.
4. Select the party code for this contest from the **Party** list.

   In an Open Primary with Party Preference, the party code is entered on all contests except the Party Preference contest, where it is left blank. This option is only available for Closed Primary, Open Primary without Party Preference and Open Primary with Party Preference.

5. In the **Title** fields, enter the title of this contest the way you want to it to appear on the reports.
6. In the **Model 100 Title** field, enter the shortened title (40 characters) to print on the Model 100 tape.
7. In the **Vote for** box, enter the number of votes allowed for this contest.
8. Enter the 3-digit district code in the **District** field, followed by the 4-digit district number. If this is a Precinct/Local office enter PRC in the **District** field and leave the district number blank. All PRC (local) contests may then be entered as one contest number, with the precincts designated in the PRC column.

9. Select the type of special election from the **Special Type** list. This field is active only if you selected the **Special Contests** check box on the **Election Specifications** screen.
   - **Recall D** – Used to tie this contest to the next sequential contest for issues relating to removal of an official from office. When this is used, this contest must be voted to allow votes in the next contest to be counted. Votes in the contest immediately following will be counted if this Recall office is voted in the YES position or the NO position.
   - **Statistics** – Usually used for vote by mail ballot statistics; can be used for any statistic controlled by target(s) on the ballot. There must be a target for each statistic coded this way. If all contests are left unvoted but this one is marked, the ballot is considered a blank.

The **#RCV Races** field is not available in California.

10. Select the **Rotated** check box if this contest is to be rotated.

The **By** field is not available in California.

11. Select the **Write-ins** check box to add candidate ballot positions for write-in candidates. The number of write-in positions is equal to the value entered in the Vote for field.
12. Select the **Query Undervote** check box if you want the tabulator to query the voter if the contest is undervoted. Clear the box if you do not want the tabulator to query the voter if the contest is undervoted.

Candidate Information

13. In the **Col** field, enter the column number where this candidate appears on the ballot.
14. In the **BP** field, enter the home ballot position assigned to this candidate.
15. If this is a general or nonpartisan election, enter the device code for the political party with which this candidate is affiliated, if applicable.
16. In the **Candidate Name** field, type the candidate name exactly as you want to have it listed on Model 100, Model 650 and ERM reports.

Buttons Available on the Change Contests and Candidates Screen

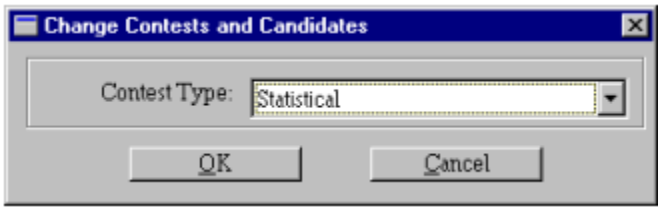
Button	Purpose
Delete Candidate	Deletes the candidate on the line where the cursor is
Previous Candidate Page	Moves to the previous screen of candidates
Next Candidate Page	Moves to the next screen of candidates
Update	Saves the information you have entered and returns to the **Contest Number** box
Don't Update	Clears all information you have just entered and returns to the **Contest Number** box
Delete	Deletes the contest and all information on this screen and returns to the **Contest Number** box
Close	Returns to the main menu

Statistical Contests

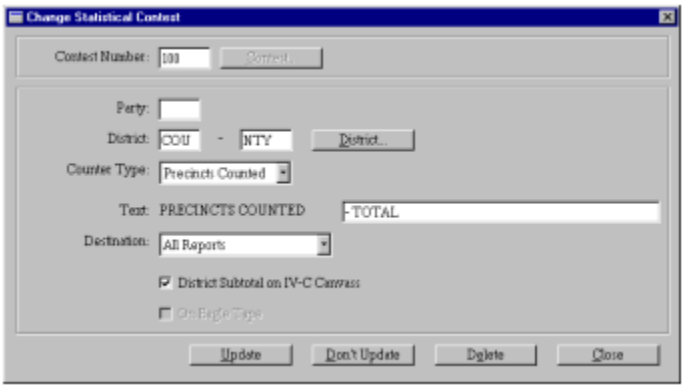
All Statistical contests must precede the regular contests. Take the following steps to code the statistical contests for the election.

NOTE: Creating a new election from an old election does not reset the statistical counters. You must generate the counters in EDM and merge the election, import the election into ESSIM and update the IFC file. The IFC file can then be imported into HPM to activate statistical counters.

1. on The **Modify Election Definition Data** menu, point to **Contests**, and select **Change Contests and Candidates**.



2. Select **Statistical** for the **Contest Type** and click **OK**.



3. In the **Contest Number** box, enter the contest number. All Statistical contests must precede the regular contests with the exception of the MN State Statistics.
4. If this is a Primary, enter the party code in the **Party** box. This field displays for a Primary election only.
5. In the **District** fields, enter the district code if you want to show a total ballot count for a particular district.
6. Select one of the following counter types from the **Counter Type** list:
   - **Precincts Counted** – Includes a Precincts Counted statement showing total precinct count and percentage of precincts counted. This applies to a both or mixed election only and must be entered first. This statistic will not appear in ERM.
   - **Registered Voters** – Includes a Registered Voters statement showing registered voter total and percentage of turnout or Registered Voters by district or party in a mixed election.
   - **Ballots Cast** – Includes a Ballots Cast statement showing ballots counted and percentage of turnout.

   If you are using more than one counter type, they must appear in the following sequence:

1. Precincts Counted
2. Registered Voters
3. Ballots Cast

   If these are set up, *Ballots Cast/Registered Voters Total* must precede *Ballots Cast/Registered Voters by Party*; and the party order must match the party order in the HPM Political Party Master in order for the percentage to be correct.

Ballots cast can be repeated for a specific district. Ballots cast and registered voters can be repeated for a specific party. There is one associated total generated on the Election Reporting Manager reports for each ballot counter you define. The Precincts Counted Statistic is valid only on central count tabulators.

NOTE: In a closed primary if there are multiple registered voter totals coded in a precinct (e.g., party registration), the order in the precinct file MUST match the order in which the registered voter statistic contest statements appear in the contest listing (first by office group and then by contest within the office group). For example, if the HPM Party file has Republicans first, Democrats second and nonpartisan third, you MUST enter the registered voters into the HPM Precinct file in the same order. You must then code the Registered Voters Total first, the Registered Voters Republican, then Democrat and Nonpartisan. If a registration total for a party is zero, the zero must appear in the Precinct File.

4. In the **Text** box, type a dash, press SPACE, and type the text you want associated with this counter type.

   For example, if this contest is the ballots counted statistic for the Democratic Party, you might type the following:

   – DEMOCRATIC PARTY

   BALLOTS COUNTED – DEMOCRATIC PARTY would then print on the reports.

5. In the **Destination** box, select the reports on which you want this contest to print. This option only applies to Optech IV-C central count equipment.

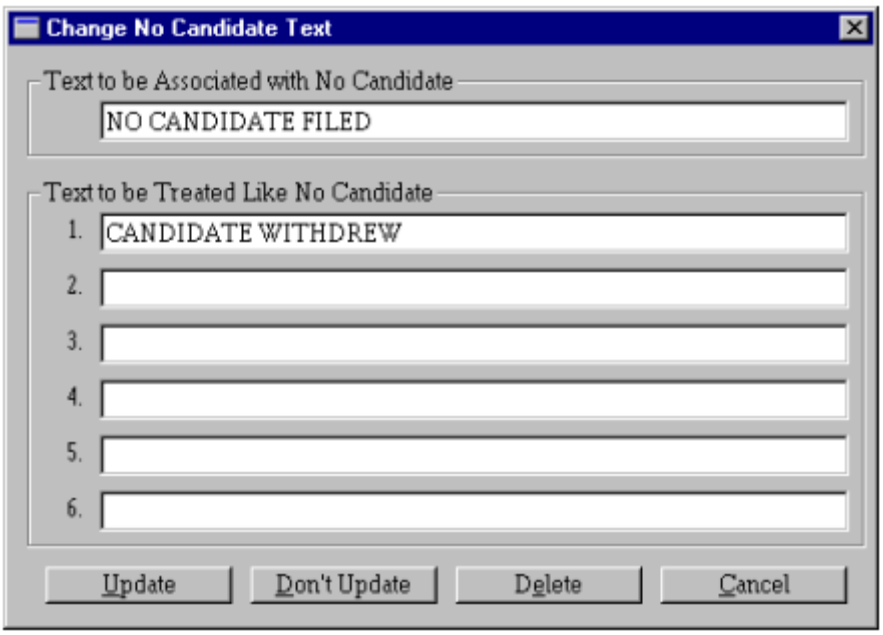
Buttons Available on the Change Statistical Contests Screen

Button	Purpose
Update	Saves the information you have entered and returns to the **Contest Number** box
Don't Update	Clears all information you have just entered and returns to the **Contest Number** box
Delete	Deletes all information on this screen and returns to the **Contest Number** box
Close	Returns to the main menu

Change No Candidate Text

Use this option to enter the text to be associated with “N/C” and additional text to be treated by the tabulator as “N/C”. This is to ensure that no votes will be cast in this contest.

1. From the **Modify Election Definition** menu, point to **Contests**, and select **Change No Candidate Text**. The Change No Candidate Text window appears.



2. In the **Text to be Associated with No Candidate** box, type the text you want to appear on the ballot when there is no candidate running.

   This text will replace the **N/C** that was entered in the **Candidate Name** field on the Contests and Candidates screen.

3. In the **Text to be Treated Like No Candidate** box, type any other text that might appear in the **Candidate Name** field that you want to be treated like the **N/C** on the tabulators.

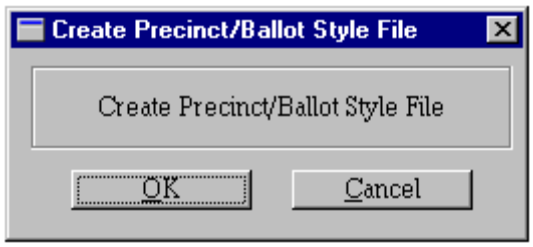
Create Ballot Styles by Precinct

After initially creating ballot styles, you must create the ballot styles by precincts. These file associate precinct number, ballot style number, and security code.

The Create Ballot Style by Precinct option creates the ballot styles automatically. Any existing records will be deleted when this option is run. If security codes need to be changed, changes can be made manually using Change Ballot Style by Precinct.

Warning: Automatic create overrides any manual entries or corrections.

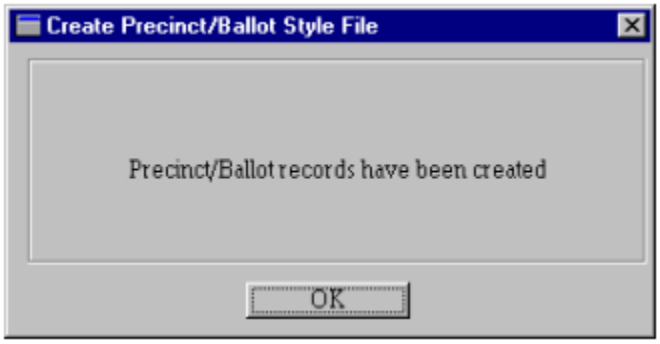
1. On the **Modify Election Definition** menu, point to **Ballot Styles** and select **Create Precinct/Ballot Style File**. The following window appears.



2. Click **OK**.

NOTE: If you receive the error message *File PRI0200.dat Error #22, duplicate record*, go to the HPM main menu, click the **Utilities** menu and select **Change Control File**. Be sure that the correct state code is selected in the **State** check box. If you still receive the message, return to EDM and eliminate any duplicate files that exist. Refer to the Disclosure statement found in the License agreement at the initiation of the HPM application.

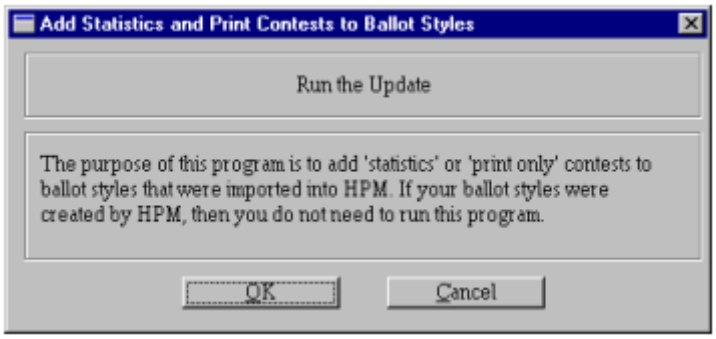
3. When the precincts ballot style files has been created, the following information window appears.



Add Statistical Contests to Ballot Styles

Use this option to add statistical or print only contests to the ballot styles that were imported into HPM. Do not use this option if the ballot styles were created in HPM.

1. From the **Modify Election Definition**, point to **Ballot Styles**, and select **Add Statistics and Print Only to Ballot Styles**. The following window appears.



2. Click **OK**. The ballot styles will be updated automatically.

4.2 Section E: Final Preparations

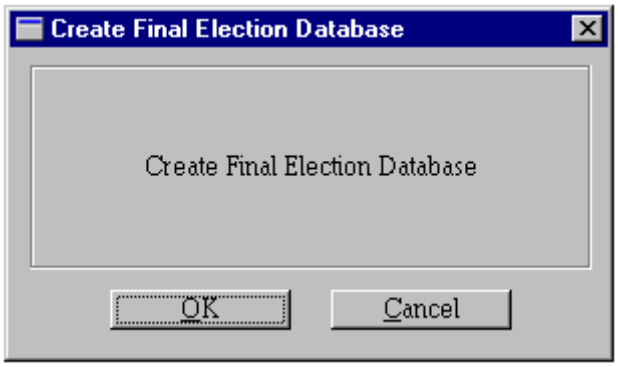
Once you have a completely defined election, you are ready to prepare the final version of the election setup, the final database. Then you can create the parameters and burn the PC Cards, etc.

Create the Final Database

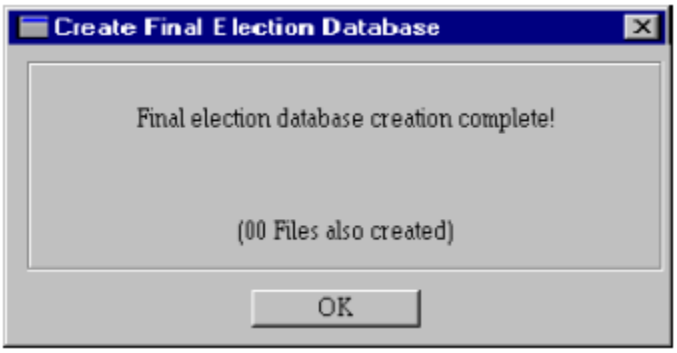
This option creates the database that contains all of the basic election information needed to create parameters for your equipment type.

NOTE: If your election is iVotronic only, you do not need to create the final database.

1. On the **Create Tabulator Data** menu, select **Create Final Database**.



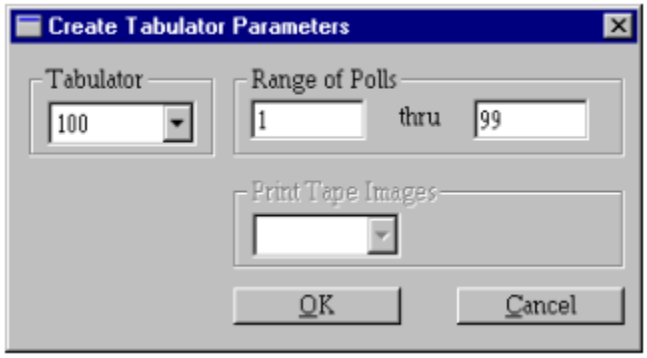
2. Click **OK** and the system creates the file automatically. The following window appears when the system is finished with the creation process.



Create Tabulator Parameters

After creating the final database, you must create the parameter file for the equipment you are using. If you are using the Model 650, the parameters were created at the time you created the final database and do not need to be created here.

1. From the **Create Tabulator Data** menu, select **Create Tabulator Parameters**.



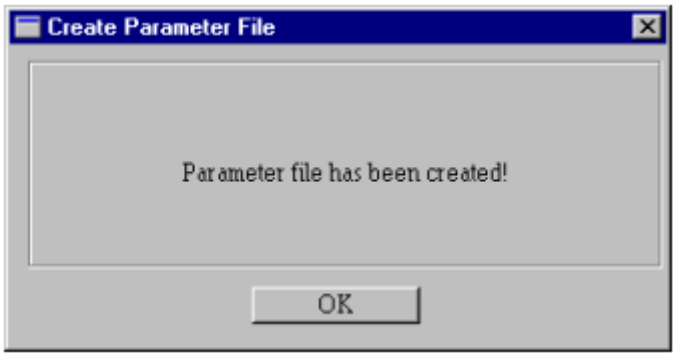
2. From the **Tabulator** list, select **100** if you are using the Model 100 or **VTR** if you are using the iVotronic.

   If you are using Model 650, do not run this option since the parameter file was created when you created the final database.

3. Enter the range of precincts/polls for which you want to create parameters. These parameters are for Model 100 Polling Places only.

The **Print Tape Images** box is not available in California.

4. Click **OK**. After the parameters have been created, the following information window below will appear.

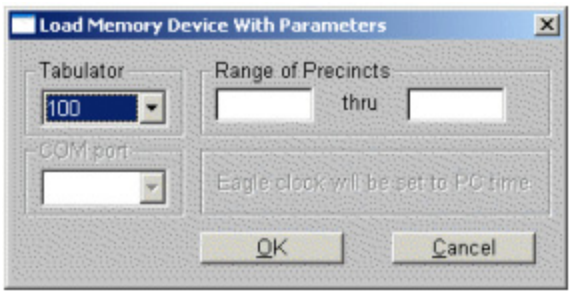


Load the Memory Device with Parameters

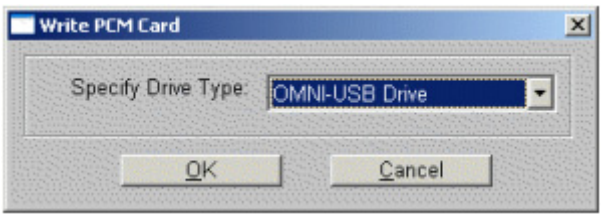
This option will download the files to the PEB, PC Card, or zip drive.

Model 100

1. On the **Create Tabulator Data** menu, select **Load Memory Device with Parameters**.



2. Select **100** as the tabulator.
3. Enter the range of precincts/polls you want to load and click **OK**.



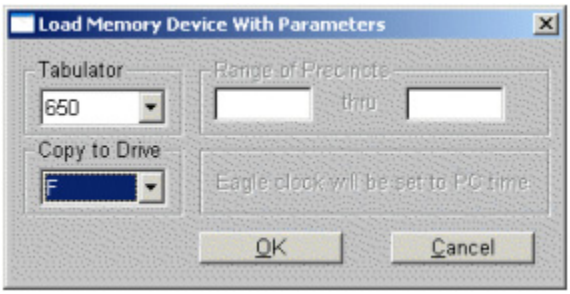
4. Select the **OMNI – PARALLEL Drive** or **OMNI- USB Drive** and click **OK**.

5. After you have loaded the parameters to the PC cards, print a Precinct Burn Status Report.

Refer to the Print Precinct Burn Status Listing heading in 4.2 Section F: Print Reports for information about creating the Precinct Burn Status Report.

Model 650

1. From the **Create Tabulator Data** menu, select **Load Memory Device with Parameters**.



2. Select **650** as the tabulator.
3. Enter the letter of the drive where the Zip Drive is installed.
4. Click **OK.** The following message will appear instructing the user to insert the zip disk.

5. Click **OK**. The .OFC, .PRE, .PRF, and .RPT files will then be copied to the Zip disk. When the files have been copied, the message window below will appear with that information.

6. Click **OK**.
7. After you have loaded the parameters to the zip disks, print a Precinct Burn Status Report.

Refer to the Print Precinct Burn Status Listing heading in 4.2 Section F: Print Reports for information about creating the Precinct Burn Status Report.

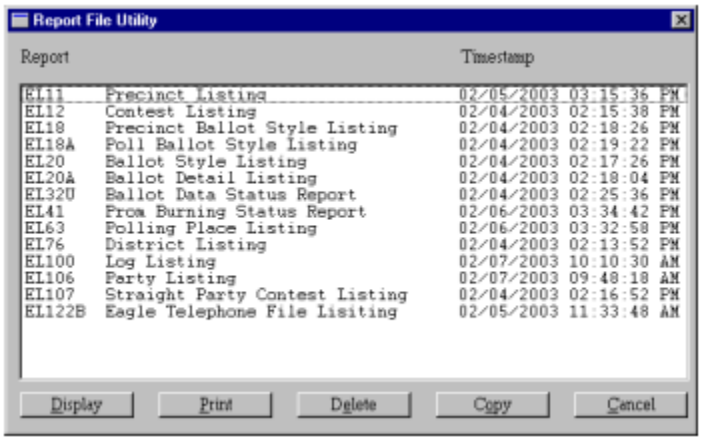
4.2 Section F: Print Reports

You can use HPM to print a variety of reports. This section describes the use of the Report File Utility, the printing controls, and the report types.

Report File Utility

HPM prints all reports to a connected printer or to a file for printing later. If you selected DISK as the device in the Print window of the report you are printing, the system places the report into a file on your hard disk. After calculations are complete, HPM gives you the name of the report just printed (for example, EL12.LST). The report will be found in the \ELECDATA \<*election name*> directory. All reports are numerical preceded by EL with the extension .LST. Whenever you print a report to disk, the Report File Utility window will appear, giving you the ability to view the report immediately without having to go to the **Utilities** menu first.

1. Select **Report File Utility** on the **Utilities** menu to open the window below. All reports that you have printed to disk will appear on this screen.



2. Select from the following options.

Buttons Available on the Report File Utility Window

Use this button...	To perform this action...
Display	Display the selected report on your screen for immediate viewing
Print	Print the selected report to the device you specify
Delete	Delete the selected report if you no longer need to retain it

Buttons Available on the Report File Utility Window *(continued)*

Use this button...	To perform this action...
Copy	Copy the selected report to another file name, directory, and drive letter you specify
Cancel	Return you to the main menu

If you select **Display**, the report window will appear.

When you display a report, a menu bar is available at the top left of the report screen.

File Edit View Search

- Click **Edit** to change the font size.
- Click **View** to move around within the report.

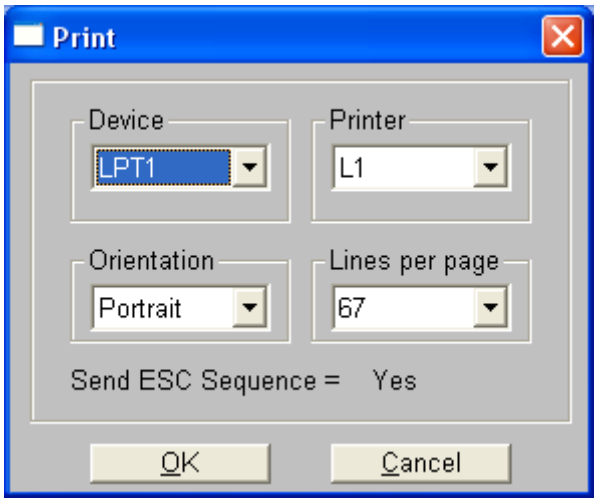
View Menu Options

To perform this action...	Select this option...	Or, press...
Move to a specific page of the report	Go to page	Ctrl + G
Move forward one page	Next page	Ctrl + N
Move back one page	Previous page	Ctrl + P
Move to the first page of the report	First page	Ctrl + F
Move to the last page of the report	Last page	Ctrl + L

- Click **Search** and select **Find** to find a particular name or string of text, and then enter the text string. Press F3 or select **Find Next** to find the next instance of that string. The program will then find the text and highlight it.

Print Controls

Whenever you select a report to print, the Print window will open. The selections here control which printer the report will print to, the type of printer, the orientation of the printed material, and the lines per page or the lines and characters per inch, depending on the printer type used.



3. From the **Device** list, select where the report will print.
   - Select **Disk** to print the report to the hard disk drive.
   - Select **LPT1, LPT2** or **LPT3** to print the report to the printer hooked up to a parallel port.
   - Select **COM1, COM2** to print the report to the printer hooked up on a serial port.
4. From the **Printer** list, select **L1**, **L2**, or **L3** for the correct laser printer or select **P1**, **P2**, or **P3** for the correct line printer.

   If you select **L1**, **L2**, or **L3**, continue with steps 5 and 6. If you select **P1**, **P2**, or **P3**, skip to step 8.

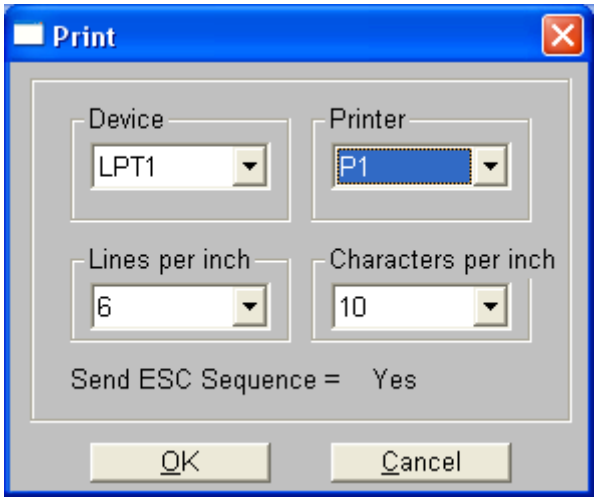
Laser Printer

5. If you selected **L1**, **L2**, or **L3** from the **Printer** list, select an option from the **Orientation** list.
   - Select **Portrait** to print in 8.5” x 11” mode
   - Select **Landscape** to print in 11” x 8.5” mode.
6. If you selected **L1**, **L2**, or **L3** from the **Printer** list, select the number of lines to print per page from the **Lines per page** list

- Select **59**, **67**, **79**, **96**, or **118** if you selected **Portrait** from the **Orientation** list.
- Select **44**, **50**, **59**, **70** or **89** if you selected **Landscape** from the **Orientation** list.

7. Skip to step 10.

Line Printer

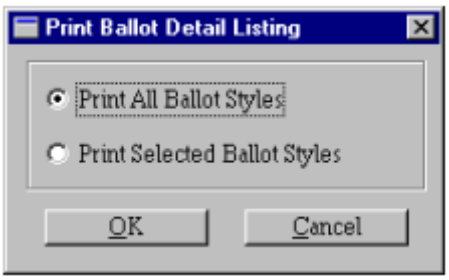


8. From the **Lines per inch** list, choose to print **6** or **8** lines per inch.
9. From the **Characters per inch** list, select to print **10** or **16** characters per inch.
10. Click **OK**. If the **Device** is set to **Disk**, the Print Precinct/Ballot Style Listing window appears. Otherwise, the report will print directly to the printer you chose.

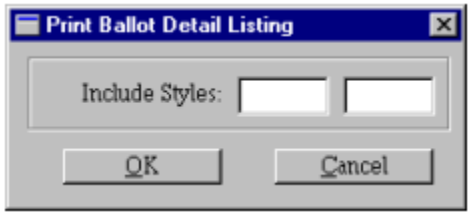
Print the Ballot Detail Listing

This option is useful in checking the ballot information. The report contains the ballot style number for which the following information is printed: districts, the precinct numbers on each style, the contest numbers and names, the party code, candidate names and positions, rotations, and column numbers.

1. On the **Modify Election Definition** menu, point to **Ballot Styles** and select **Print Ballot Detail Listing**.



2. Select to print the detail for all ballot styles or for selected ballot styles.



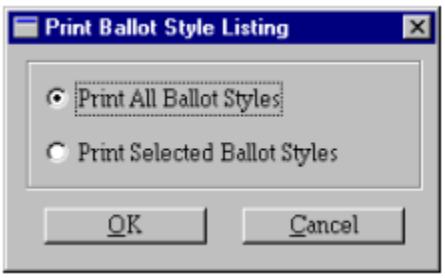
3. If you selected to print selected styles, enter the range of styles you want to print.
4. Select your printing information and click **OK**.

Refer to the Print Controls heading in this chapter for an explanation of the printing information.

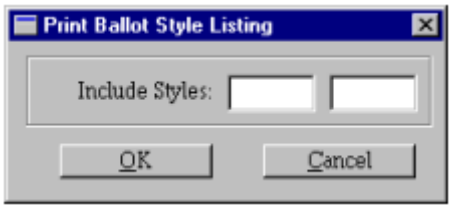
Print the Ballot Style Listing

The Ballot Style Listing includes the ballot style number for which the following information is printed: ballot type, security ID, contest numbers and titles, rotation numbers, precinct number and name using that style, total number of contests, and total number of precincts included on the ballot style.

1. Point to **Ballot Styles** on the **Modify Election Definition** menu, and select **Print Ballot Style Listing**.



2. Select to print all ballot styles or selected ballot styles.



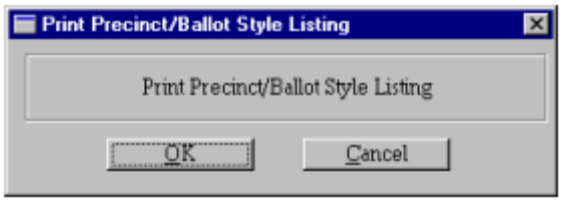
3. If you selected to print selected styles, enter the range of styles you want and click **OK**.
4. Select your printing information and click **OK**.

Refer to the Print Controls heading in this chapter for an explanation of the printing information.

Print the Ballot Styles by Precinct Listing

This report is a list of precincts for which the following information is printed: the precinct name and number, style number, the ID, the party, the districts and the security information.

1. On the **Modify Election Definition** menu, point to **Ballot Styles** and select **Print Precinct/Ballot Style Listing**.



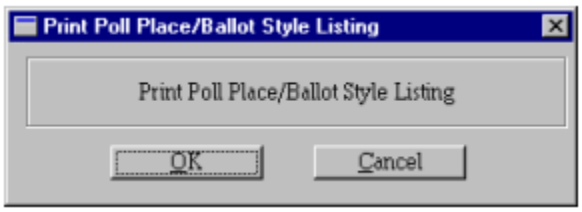
2. Click **OK** to open the Print window.
3. Select your printing information and click **OK**.

Refer to the Print Controls heading in this chapter for an explanation of the printing information.

Print the Ballot Styles by Polling Place Listing

This report is a list of polling places for which the following information is printed: the polling place number, the precinct name(s) and number(s), the style number(s), the ID, the party, the districts, and the security information.

1. On the **Modify Election Definition** menu, point to **Ballot Styles** and select **Print Poll Place/Ballot Style Listing**.



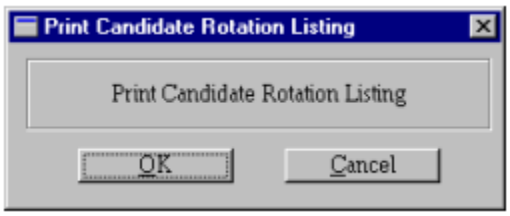
2. Click **OK** to open the Print window.
3. Select your printing information and click **OK**.

Refer to the Print Controls heading in this chapter for an explanation of the printing information.

Print the Candidate Rotation Listing

This listing shows each contest, the rotation number, and the candidates along with their rotated column and ballot positions and a list of precincts using that rotation. Proof this list carefully.

1. On the **Modify Election Definition** menu, point to **Contests** and select **Print Candidate Rotation Listing**.



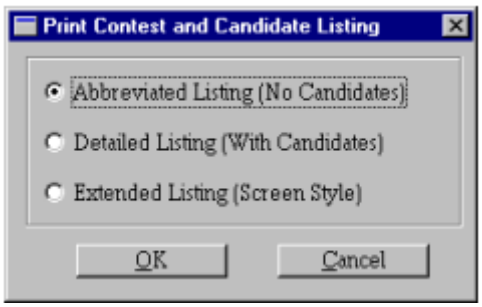
2. Click **OK** to open the Print window.
3. Select your printing information and click **OK**.

Refer to the Print Controls heading in this chapter for an explanation of the printing information.

Print the Contest and Candidate Listing

After defining contests and candidates, print the contest and candidate information and proof it carefully. This information will print in contest number order.

1. On the **Modify Election Definition Data** menu, Point to **Contests** and select **Print Contest and Candidate Listing**.



2. Select one of the following:
   - **Abbreviated Listing** (No Candidates) – This report contains contest number, contest title, contest device title, number of candidates, votes allowed, and contest type.
   - **Detailed Listing** (With Candidates) – This report contains contest number, contest title, column number, device contest title, device candidate name, number of candidates, votes allowed, and contest type in a concise format.

- **Extended Listing** (Screen Style) – This report is a detailed contest listing in the screen style format showing all information as entered on the screen. If the election is coded as system type **P**, destination codes do not print.

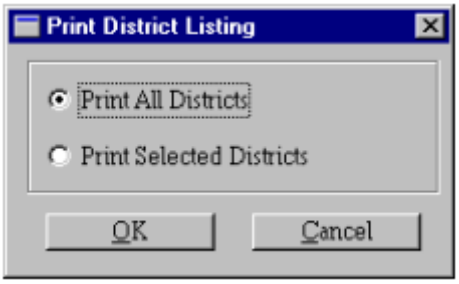
3. Click **OK** to open the Print window.
4. Select your printing information and click **OK**.

Refer to the Print Controls heading in this chapter for an explanation of the printing information.

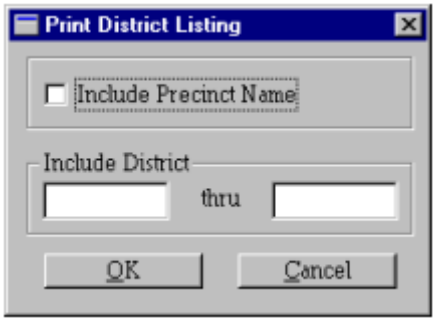
Print the District Listing

Always print a District Listing and proof it carefully.

1. On the **Modify Election Definition** menu, point to **Districts** and select **Print District Listing**.



2. Select to print the entire listing or to print selected districts.



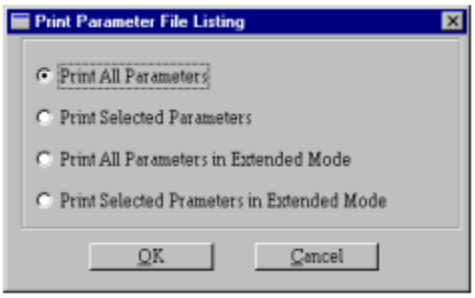
3. Select the **Include Precinct Name** check box, if you want the names of the precincts in each district to print on the report. If you are printing the entire listing, go to step 5.

4. In the **Include District** box, enter the district code and number of the range of districts you want to print. If you selected to print all districts, the **Include District** box will not be available
5. Click **OK** to open the Print window.
6. Select your printing information and click **OK**.

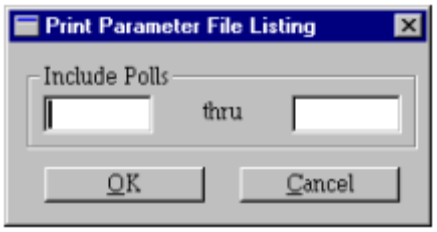
Refer to the Print Controls heading in this chapter for an explanation of the printing information.

Print the Parameter File Listing

1. On the **Create Tabulator Data** menu, point to **Reports** and select **Print Parameter File Listing**.



2. Select one of the following:
   - Print All Parameters
   - Print Selected Parameters
   - Print All Parameters in Extended Mode
   - Print Selected Parameters in Extended Mode
3. If you chose **Print Selected Parameters** or **Print Selected Parameters in Extended Mode,** enter the range of precincts/polls for which to print.



4. Click **OK** to open the Print window.

5. Select your printing information and click **OK**.

Refer to the Print Controls heading in this chapter for an explanation of the printing information.

Print the Political Party Listing

Use this option to print a list of political parties in the system and proof it carefully.

1. On the **Modify Election Definition** menu, point to **Political Party** and select **Print Political Party Listing**.

2. Click **OK** to open the Print window.
3. Select your printing information and click **OK**.

Refer to the Print Controls heading in this chapter for an explanation of the printing information.

Print the Polling Place Listing

After creating polling places, print the listing. It will include the polling place numbers and the precincts and precinct numbers contained within each poll.

1. On the **Modify Election Definition** menu, point to **Polls** and select **Print Polling Place Listing**.

2. Click **OK** to open the Print window.
3. Select your printing information and click **OK**.

Refer to the Print Controls heading in this chapter for an explanation of the printing information.

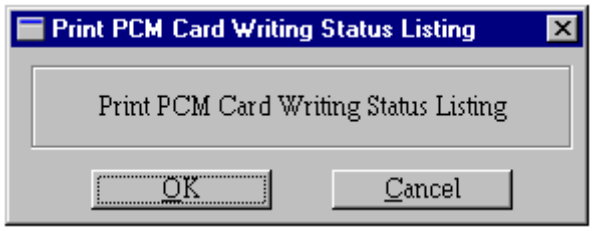
Print Precinct Burn Status Listing

After the packs have been burned, print a list and proof it carefully. This list shows each precinct number and name, status of the device parameters (created or burned), and the date updated.

1. On the **Create Tabulator Data** menu, point to **Reports** and select **Print Precinct Burn Status Listing**.

   The window that appears depends on the type of equipment you are using.

Model 100 Equipment Sample Screen



2. Click **OK** to open the Print window.
3. Select your printing information and click **OK**.

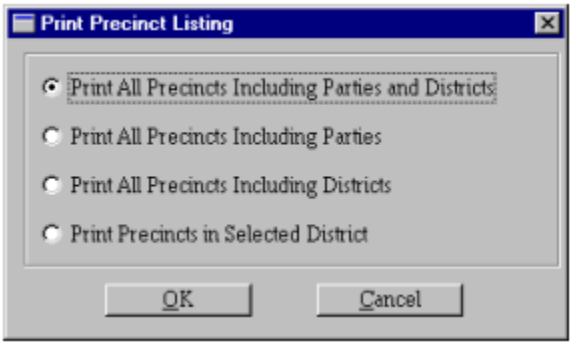
Refer to the Print Controls heading in this chapter for an explanation of the printing information.

Print the Precinct Listing

This option will list all precincts or only those in a specific district along with a choice of additional information as indicated. At the end of the report, a line will print indicating the total number of precincts.

NOTE: Some or all of the options shown on the **Print Precinct Listing** screen will appear, depending on whether you are keeping voter registration statistics by party and depending on whether this is a primary or other election.

1. On the **Modify Election Definition Data** menu, point to **Precincts** and select **Print Precinct Listing**.



2. Do one of the following:
   - Select to print all precincts with parties and districts. Go to step 5.
   - Select to print all precincts with parties. Go to step 5.
   - Select to print all precincts with districts. Go to step 5.
   - Select to print precincts in selected districts. Go to step 3.

3. If you selected to print precincts in a selected district, the following window opens.

4. Enter the district code and number for which you want to print and click **OK**.
5. Click **OK** to open the Print window.
6. Select your printing information and click **OK**.

Refer to the Print Controls heading in this chapter for an explanation of the printing information.

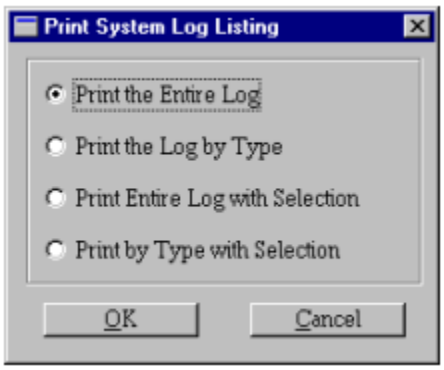
Print the Straight Party Contest Listing

The **Print Straight Party Contest Listing** option is not available in California.

Print the System Log Listing

The System Log Listing is a record of every action that has taken place in the program. You can print the entire list or you can select the type(s) of activity you want to look at.

1. On the **Utilities** menu, select **Print System Log Listing**.



2. Select one of the following:
   - Print the entire log – lists the entire log by date and time
   - Print the log by type – lists the entire log by date and then by type of activity on each date
   - Print the log with selection – lists by date the selected activity type(s)
   - Print the log by type with selection – lists the selected types of activity by type then by date
3. Click **OK** to open the Print window.
4. Select your printing information and click **OK**.

Refer to the Print Controls heading in this chapter for an explanation of the printing information.

4.2 Section G: Back Up HPM Files

To back up the election files (HPM and ERM), save the following files with the full path information.

1. Right-click the **start** button and select **Explore**.
2. Locate your election in Q:\elecdata, if you are part of a network, or C:\elecdata if you are working locally.
3. Select every file in the folder, with the election name.

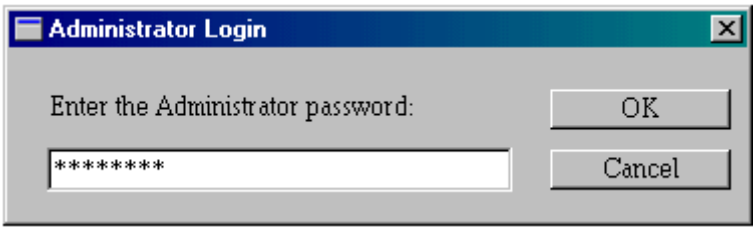
NOTE: Select multiple files by holding the **Shift** key and selecting a sequence of files or holding **Ctrl** and selecting multiple files out of sequence.

4. Save these files to your choice of media, such as a 3.5-inch disk, a CD, or a USB drive.

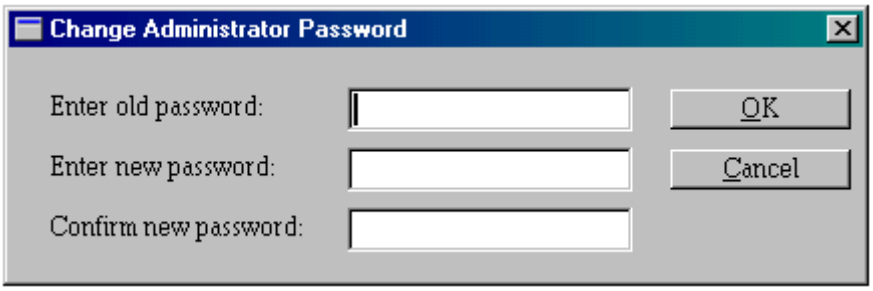
4.2 Section H: Security Procedures

The HPM software provides a separate user security module that requires an administrator password and allows a maximum of 20 users. A three-character User ID, which is encoded, will be established for each user. The system administrator can assign either full access or no access at all. Take the following steps to set up the security module.

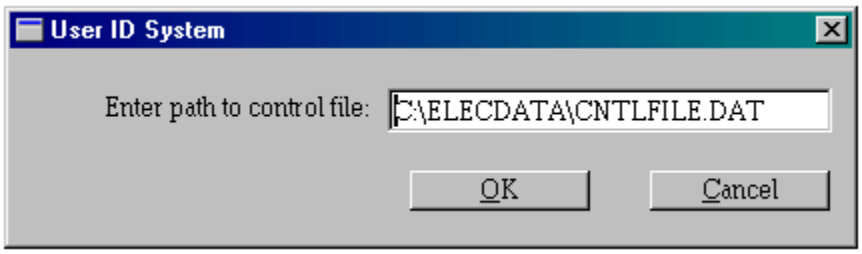
1. In order to access the **HPM System Administrator** function you must first setup an icon.
2. Make a copy of the HPM icon.
3. Rename the icon to HPM Manager.
4. Right click on the HPM Manager icon and select properties.
5. In the target field change *hpm.cob* to *uhpmmngr.cob*.
6. Click on the **HPM Manager** icon to open the Administrator Login window below.



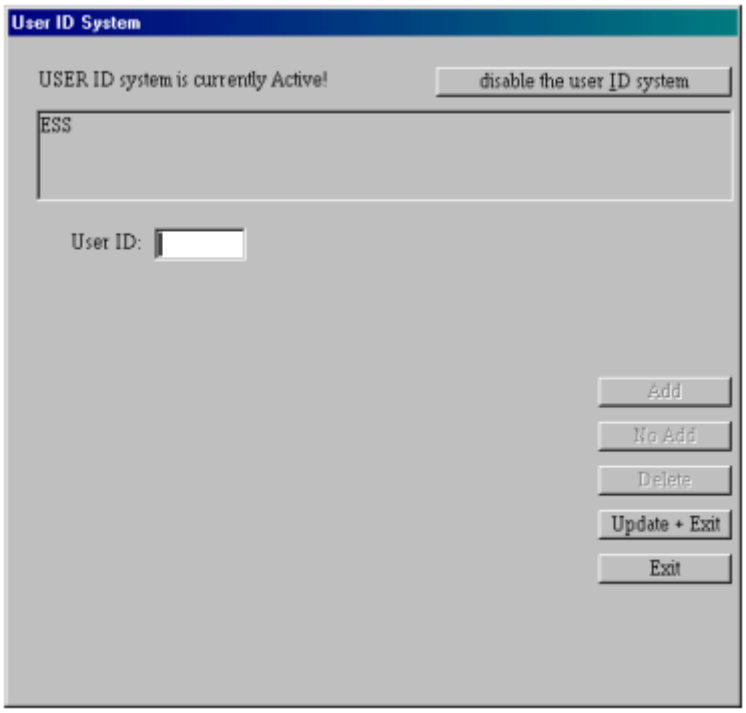
7. If you have already changed the default password, enter your own password and go to step 9. If this is the first time running this application, enter the default password and click **OK** to open the Change Administrator Password window.



8. Enter the default password in the **Enter Old Password** box. Then enter your new password in both of the last two boxes. The following information box will open.

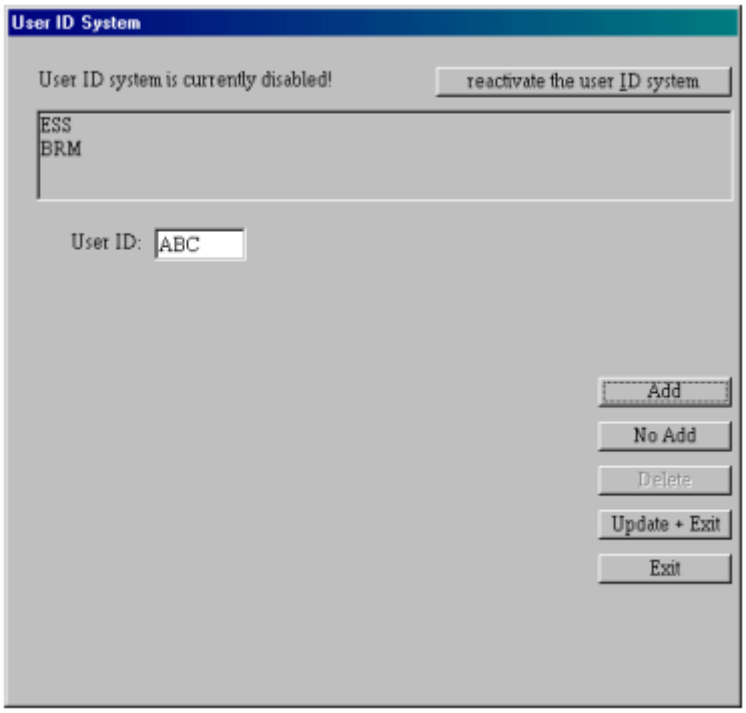


9. If the default is not the correct path, enter the correct path. Click **OK** to open the User ID System window.



10. To enter the security system, enter your User ID and press ENTER.
11. If the system is currently active and you want to make it inactive, click on the **disable the user ID system** button. If the system is currently disabled and you want to make it active, click the **reactivate the User ID system** button.

12. To add a user and activate the **Add** and **No Add** buttons, enter the User ID you want to setup and press ENTER.



13. Click **Add** to add this user and return to the **User ID** box. If you have entered information for a user and then decide you do not want to save it, click **No Add** to return to the **User ID** box.
14. When all users have been added, click **Update + Exit** to save all information you have entered.
15. To remove a user ID from the list and activate the **Delete** button, enter the User ID you want to remove and press ENTER. The **Delete** button will become active so that you can click it to delete the user and return to the **User ID** box.

Program the AutoMARK

1. Prepare the actual ballots that will be used in the Election, and the Election Data Files

   This is done with Ballot Preparation Software, which is not covered in this document.

   Refer to the documentation provided with the ballot preparation software.

2. Import the data files created in Step 1 into AIMS

   Refer to Chapter 5 of the *AutoMARK Election Official's Guide* for information.

4.3 System Diagnostic Testing Procedures, Including Audit Records to be Generated and Retained

Diagnostic Testing Procedures for the Model 100 Scanner

Functions are outlined in these procedures in five stages or components: Diagnostic Tests, System Proofing, Accuracy Testing, Logic Testing and Final Preparation. Model 100 testing as set forth in this section shall include every Model 100 to be used. Where memory card testing is indicated, such testing shall include every memory card. It is not required however, that each Model 100 be tested with every memory card, rather only the memory card that will be used in that unit be subjected to a full L&A test. The test procedures described herein constitute the recommended MINIMUM testing and do not preclude additional testing performed at the option of the elections official. In addition to the following test procedures, counties provide election night results on-line to the Secretary of State via the SOSWAN. Testing results must also be included in the upload to the Secretary of State. All tests will be conducted using test materials specified herein in such a manner as to meet these guidelines. All tests shall result in reporting that matches predetermined results. Reports and test materials must be retained as specified in Section 2.8. All L&A testing should be performed in plan view of the public and proper notice should be given to allow interested parties to attend.

Model 100 Diagnostic Tests

Prior to use, diagnostic tests shall be performed on every Model 100 to be used in the election. The following diagnostic tests shall be performed within 30-50 days prior to the election. The manufacturer of the Model 100 has published detailed, specific instructions for the performance of these tests which include instructions for, corrections to, and recovery from, any encountered hardware malfunctions. If malfunctions are encountered, such corrections and recovery procedures shall be implemented. Model 100 Operations Manuals are on file with the Office of the Secretary of State and are incorporated herein by reference. The Model 100 self-diagnostic package exercises the following unit components.

1. Test that the processor is capable of generating a signal to drive the beeper. The beeper generates an audible signal during ballot processing indicating the need for voter attention or action, or the confirmation of an action.
2. Test that the motor can be controlled by the CPU.
3. Test that the read head illumination lamps are functioning.
4. Test that all path sensors are clear and functional. A path sensor detects the presence of a ballot at various stations along its transport path.

5. Test that the LCD message display area is functional.
6. Test that the printer is functioning properly. Test that the printer ribbon is installed correctly and is properly inked.
7. Test that ballots are diverted as selected for their condition. (Refer to Table 2 for further explanation.)
8. Test that time and date are properly set, adjust as required.
9. Test that the Automatic Read Test feature can be invoked.

Summary System Diagnostic Tests for the Model 100 Scanner

Prior to use, diagnostic tests shall be performed on the Summary System. These tests shall be performed within 30-50 days prior to the election. If malfunctions are encountered, corrections shall be made and recovery procedures implemented. All counties should review California Election Code to ensure compliance is maintained at all times.

Check all cabling and connections for each hardware component to be used.

Implement such diagnostic tests as are available from the manufacturer(s) of the Summary System computer and peripherals.

Insert a memory card into the Model 100 acting in its memory card reader mode in order to verify that an upload can be accomplished. This need not be an election specific memory card, but shall contain known results from a previous election, demonstration or test. Test that the memory card can be easily seated, a report can be printed and then repeat the procedure several more times.

Cause a Cumulative report to be printed, and check that the report accurately reflects the accumulation of data from the memory cards. Insure that the printer is properly functioning.

Cause the print files to be written to a disk and print two precinct reports and a cumulative report from the disk. Check the reports for accuracy and agreement.

Test AutoMARK Ballots

Test that the ballots are set up correctly and that the data was imported correctly by using the AIMS Preview function

Refer to Chapter 6 of the *AutoMARK Election Official's Guide* for more information.

4.4 System Proofing

System Proofing for the Model 100 Scanner

System proofing is the mandatory preliminary, in-house testing of all phases of election preparations except for the Logic and Accuracy (L&A) tests of the computer hardware and software used to tally and summarize votes. System proofing shall include, but not be limited to, verification of the correctness of the following:

- Assignment of jurisdictions participating in the election to ballot styles;
- Linkage of precincts in which the election will be held to ballot style;
- Ballot content for each ballot style to include: offices, district designations, candidate assignment and rotation, and ballot measures, all in the proper sequence;
- Printing of official ballots, including instructions, candidates' names, political and/or occupational designations, number to be elected, candidate rotation (where applicable), ballot measures, voting positions and all column and office headings and designations;
- Formatting of ballots into sample ballot pamphlets for each ballot style; header code printing, precinct identification (if used), start and stop lines, fold scoring, numbering, padding and verifying ballot dimensions by suitable means;
- Election night summary report format;
- Model 100 firmware's recognition of and response to precinct header codes, and ballots that are damaged, or improperly marked;
- Model 100 firmware's ability to accept ballots with correctly printed header codes, and to reject ballots with incorrectly printed header codes;
- All phases of preparation and assembly of Model 100 devices as described variously herein;
- Voter registration data for jurisdictions participating in the election; and
- Testing of 100% of the memory cards to be used in the election with a Memory Card Testing Log to include: memory card serial number; precinct number; date tested; results of test (GOOD, NO GOOD); and printed name of test personnel.

Exception Processing

Exception processing is part of system proofing and includes a test to determine whether the system properly responds to error or anomaly conditions. At least ten days prior to each election a ballot deck shall be prepared which will cause the gamut of nondestructive errors or anomalies for the Model 100 device, its firmware, and the edit or counting programs. The Model 100 is tolerant of ballots introduced in orientations which could be considered anomalous, such as upside down or reversed. This tolerance should be tested by introducing test ballots in these orientations. The exception processing test should contain, but is not limited to, the following types of conditions, if they apply to the system: torn ballots; and ballots introduced in any of their four orientations. Exception testing is also required to assure that the error condition of extraneous clock marks is detected.

“Error” Test Ballots

Ballots from a precinct or ballot style other than that expected by the memory card will be processed against the memory card. These tests for “error” test ballots will comply with the Ballot Box Diverter Options described in Table 2 or rejected ballot. Additional errors should be tested, depending on capabilities of the edit or counting program. Exception processing for the summary system’s, ballot tally program(s) consists of stops, restarts and recoveries from interruptions in operation.

System Proofing for the Model 650 Scanner

System proofing is required of all Model 650 scanners that will be used during the election. Testing of this equipment will include, but is not limited to:

- Linkage of precincts in which the election will be held to ballot style;
- Ballot content for each ballot style to include: offices, district designations, candidate assignment and rotation, and ballot measures, all in the proper sequence;
- Accuracy of the format of report and included contests for entire election;
- ES&S 650 firmware’s recognition of and response to precinct header codes, and ballots that are damaged, or improperly marked;
- All phases of preparation and assembly of ES&S 650 devices as described variously herein;
- Testing of 100% of the media and peripherals with testing records to include: machine node number; precinct(s) tested; date tested; results of test (GOOD, NO GOOD); and printed & signed name of test personnel.

Exception Processing

Exception processing is part of system proofing and includes a test to determine whether the system properly responds to error or anomaly conditions. At least ten days prior to each election a ballot deck shall be prepared which will cause the gamut of nondestructive errors or anomalies for the ES&S 650 device, its firmware, and the edit or counting programs. The ES&S 650 is not tolerant of ballots introduced in orientations which could be considered anomalous, such as upside down or reversed. This tolerance should be tested by introducing test ballots in these orientations. The exception processing test should contain, but is not limited to, the following types of conditions, if they apply to the system: torn ballots; and ballots introduced in any of their four orientations. Exception testing is also required to assure that the error condition of indeterminate read marks is detected.

“Error” Test Ballots

Ballots from a precinct or ballot style other than that expected for that precinct will be processed against the header card. These tests for “error” test ballots will include but is not limited to; unidentified ballot types, incorrectly printed ballots. Exception processing for the summary system’s, ballot tally program(s) consists of stops, restarts and recoveries from interruptions in operation.

4.5 Logic and Accuracy Testing of System and Components

This test is to verify the readiness of the system for the specific election. It is not just an equipment test. At least two elections officials or poll workers should perform the logic and accuracy test, using the actual election definition and ballot formats.

Prepare the Test Deck

If ES&S is also doing the coding for the election, ES&S will provide a hand counted test deck for each election. A test deck is a stack of sample ballots that are marked and scanned at ES&S. The reports included with the test deck contain accurate results for the election definition sent to your jurisdiction.

If your jurisdiction programs its own election definitions, create a test deck that includes a sequential number of votes for each office on that ballot starting with 1 vote for the first candidate. For example in an Office with 5 candidates the first candidate on that ballot will receive 1 vote, the second candidate 2, the third 3 and so on. Also to be included will be at least one completely blank ballot and an overvoted ballot (mark more candidates than the number specified). Complete this process of all ballot types in your election and maintain accurate records of your test ballot selections.

Model 100 Logic and Accuracy Testing

Test the election definition for each of your scanners before you deliver Model 100s to your polling places. To test a Model 100 election definition, scan the ballot test deck supplied by ES&S with your election definition PC Card and compare the results to the test reports supplied by ES&S or a deck generated by your county.

Test the scanner only after you install the election definition and configure the Model 100. After you scan the test ballots, generate a results report and compare the scanner report to your ballot records. If the results do not match, make sure that the marks on your test ballots are dark and clean and then scan the test ballots again.

Load the Election Definition

Model 100 precinct tabulators use election definitions programmed on PCMCIA Cards to recognize ballot marks and tabulate results. Take the following steps to load an election definition.

1. Make sure the scanner key is in the OFF position when you load an Election Definition.
2. Lift the access door on the front left of the scanner to access the Model 100 PC Card slots.
3. Insert the card programmed with your election definition into the top card slot.
4. Turn the key to the OPEN/CLOSE POLL position to start the scanner.

   The Model 100 automatically loads the election definition and prints an initial state report. The “S-MODE” prompt should appear in the upper left corner of the Model 100 display screen.

NOTE: An arrow on the PC Card label shows which end of the card you should insert into the scanner. After the card is inserted, the eject button to the right of the card slot sticks out. Install the card in the top slot first. If the top slot does not accept the card, try the bottom. Do not force the card into a slot.

Check the Election Definition for Accuracy

The Model 100 automatically generates an Initial State report when you start the scanner. Check the report for the following information:

- System Values: Make sure the date and the time appear correctly on the report. If the information is not correct, change date and time from the DIAGNOSTIC-TEST menu.

NOTE: Refer to the Date and Time Settings heading in the *Model 100 System Operations Procedures* for more information about changing the date and time settings for the scanner.

- Election Information: Make sure that the jurisdiction name, polling place, and the number of precincts listed on the report are correct.

Open the Polls

1. When the message “ELECTION CARD INSERTED: OPEN POLLS NOW?” appears, select YES to open the polls.
2. Turn the key to the VOTE position. The Model 100 prints a Status Report, a Zero Totals Report and/or a Zero Certification Report on activation.
3. Verify that all results are zero.

Warning: Depending on the number of precincts programmed to that polling place, it may take several minutes to print All the Precincts report.

Scan Test Ballots

To test a Model 100 election definition, scan the ballot test deck you created.

The Model 100 can scan ballots inserted in any direction or orientation.

The Model 100 will return a questioned ballot to the voter and displays a screen message that describes the problem and prompts the voter to either review and edit the ballot or cast the ballot as it is.

- Press RETURN to correct the ballot.
- Press ACCEPT to cast the ballot without editing selections.

  When you press ACCEPT, the message PROCESSING BALLOT -PLEASE WAIT… will appear. After the ballot is scanned, the message INSERT BALLOT -NUMBER OF VOTERS: appears.

Be sure to monitor the Model 100 for system messages while scanning ballots.

Refer to your *Model 100 System Operations Procedures* for descriptions of system messages and recommended actions.

Close the Polls

Take the following steps to complete your testing.

1. Open the Model 100 Key Access Panel, insert your control key and turn the key to the OPEN/CLOSE POLL position to access the CLOSE POLLS command.
2. Press CLOSE POLLS to officially close the polls. Reports will automatically begin printing.
3. Verify the reports that are automatically printed match against your hand-counted test deck.

Upload Test Results to ERM

If you use ERM, take the following steps to finish your testing.

1. Unlock the access door on the front of the ballot box.
2. Push the eject button and remove the PC card from the scanner.
3. Take the PC card to the computer testing ERM.
4. Print a Precinct Summary with Group Detail report. Use this report to verify your results match the expected test deck results and the Model 100 results tape.

Clear Test Results

After completing your logic and accuracy testing, you must clear the PC cards of the test votes before using them on Election Day.

1. Insert the PC card in the Model 100.
2. Turn the scanner control key to the OPEN/CLOSE POLL position to access the POLLS CLOSED menu.
3. Select MORE to open the MORE SELECTIONS menu.
4. From the MORE SELECTIONS menu, press RE-OPEN POLLS, to open a password selection screen.

NOTE: If you did not program the election contact your election administrator or ES&S customer support for the scanner password.

5. Press the outside-left button on the control panel to cycle through the numeral positions. Use inside-left button to increase the selected number and inside-right button to decrease the number.
6. Press the button labeled ENTER after you enter the password. The message, “CLEAR ELECTION DAY TOTALS,” appears if your password is correct.

7. Select YES to clear scanner totals.
8. Select PREVIOUS to return to the previous menus.
9. When the message “LOCKOUT SYSTEM SETTINGS?” appears, select NO.

Model 650 Logic and Accuracy Testing

Use the test deck to verify your election definition and to test scanner operation. Be sure to follow the California Elections Code. To test the election you will zero totals on the scanner and turn off the sort options, then run your test deck and check the result reports.

Load the Election Definition

A new zip disk containing the current election information is created for every new election.

1. Plug the scanner into the power strip/surge protector (with 6-foot cord) that ES&S sent with your scanner.

Warning: The power supply cord for this product should be routed or installed in such a manner to protect it from being walked on or pinched. Power the unit down completely before connecting or disconnecting the power cable. Remove the power cord before moving the unit. The power cord must be placed near an easily accessible unobstructed socket outlet.

2. Turn on both printers.
3. Verify that the printer paper is loaded properly, and that the print head is at the top of the page.

Refer to your printer instructions for guidance. Keep the printer manufacturer's manual in the drawer of the scanner stand.

4. Insert the zip disk with your election definition into the zip drive on the scanner.

Warning: Insert the disk before you turn on the scanner, so that the scanner will recognize that you are loading a new election definition.

5. Turn on the scanner using the toggle switch on the electrical panel on the left side of the machine.

The message, “Press Stop to Keep (Election Name 1) Press Start to Initialize (Election Name 2)” appears after the machine boots.

6. Press START.

   The message “Confirm: Initialize Election? Press Stop to Cancel, Start to Continue” appears.

7. Press START.

   The message “Initializing Election Files” appears. The next message reads, “Printing System Ready Report,” followed by a message which reads “Ready for Regular Counting.”

   After you load the election definition, the Ready light illuminates, and the scanner is in on-line mode. The report format is automatically set to short when the scanner starts.

8. Make sure the information on the Machine Readiness Report is correct.

Warning: Contact an ES&S support technician immediately if the printed information is not correct for the current election.

9. Remove the zip disk with the election definition and store it in a safe place.

Caution: Do not reuse the election definition disk to store election results. Use blank zip disks instead so that your election definition can be archived. The election definition will remain on the machine until a new election definition is loaded.

10. Hold down the ENABLE button and press ZERO TOTALS.
11. Press START then press STOP.

    The message “Ready for regular counting” appears.

Scan the Test Deck and Check Reports

Test each ballot type in this election using either your test deck or one that was provided to you from ES&S.

1. Press the FORMAT button to switch from short format to long format.
2. Print the GRAND TOTALS report to verify that all counts are zero.

3. Push the input hopper tray down until it latches making sure to press down on the middle of the tray and not the edges.
4. Load the Precinct Header Card for the precinct to be tested.
5. Press START to scan the header card.
6. Verify that the information printed on the header card matched the line item printed on the audit log.
7. Push the input hopper tray down until it latches making sure to press down on the middle of the tray and not the edges.
8. “Jog” the ballots by gently shuffling them until the pages separate to reduce paper jams in the scanner. Load the ballots face-up into the input hopper tray with the cut corners placed directly under the pick belt. Only one corner of each ballot is cut. When facing the front of a ballot, the cut corner is the upper-right corner. Lightly tap the ballots so that they are flush against the two metal sides of the input hopper.
9. Push the input hopper tray down until the latch releases, and then let the hopper rise.
10. Press START to scan the test deck.
11. Press SAVE to save your test results to the internal drive. A confirmation message indicating the number of ballots saved appears.
12. Press the LAST PRECINCT button to print a Precinct Total Report for the tested precinct (long format will print over and under votes).

Refer to the *Model 650 System Operations Procedures* for instructions about printing reports from the scanner.

13. Compare the Precinct Total report with your pre-determined hand count.
14. If totals do not match, zero totals and scan the ballots again.

Contact ES&S immediately if totals still do not match.

15. Repeat steps 3-13 for each precinct to be tested on that scanner.
16. When complete with all precincts for that scanner, press SAVE to ensure all test data is saved to the internal memory.
17. Press GRAND TOTALS to generate an accumulated results report for that scanner.

18. When the report has completed printing, insert a *blank formatted* zip disk to back up your test results.
19. Press SAVE to save the results to the internal drive.
20. Hold down the ENABLE button, and press SAVE again to transfer results to the zip disk.
21. Press START to confirm that you want to save totals to the transfer disk.

Refer to *Model 650 System Operations Procedures* for instructions about how to save results to the zip disk.

22. Remove the zip disk and transfer your test results to ERM.

Refer to your *Election Reporting Manager System Operations Procedures* for instructions for transferring your zip disk data.

23. Print an Election Summary with Group Detail report. Use this report to verify your results match the expected test deck results and the Model 650 results report.

Set Up ERM for Test Results Accumulation

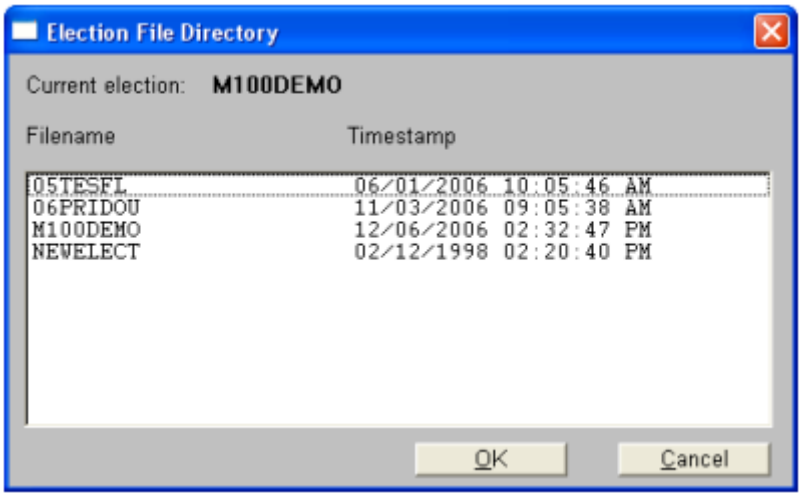
There are four main steps involved in setting up Election Reporting Manager (ERM) to accumulate election results.

1. Select Election
2. Create Results Database
3. Set Up Reports
4. Set Election Totals to Zero

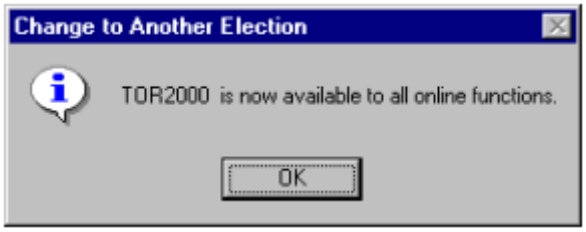
Select Election

Take the following steps to select your election.

1. Start ERM.
2. Open ERM and select **Change** on the **Election** menu to open the Election File Directory window.



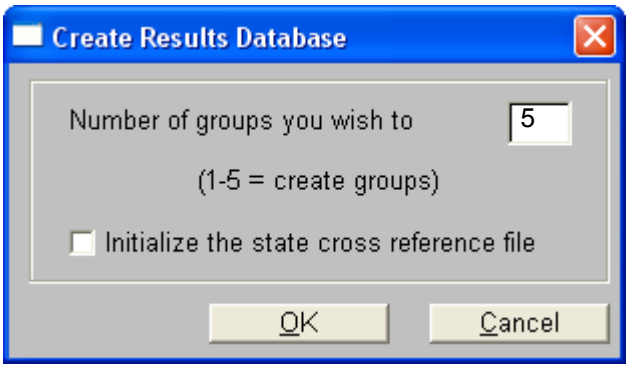
3. Scroll through the elections listed and select the one you want.
4. Click **OK**. A message box similar to the following will appear.



5. Click **OK**. That election will now be your current election.

Create Results Database

6. Select **Create Results Database** on the **Election** menu to open the Create Results Database window.



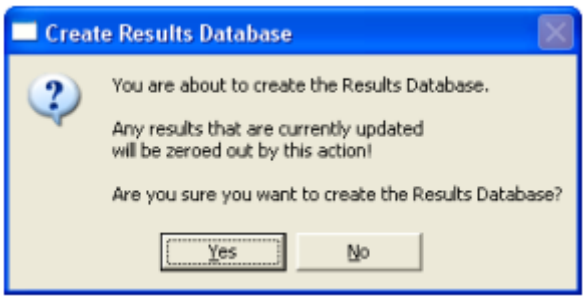
7. Enter the number of groups you want to create.

NOTE: If coding was provided to you by ES&S, check with the person who coded your election about whether they have already entered your Secretary of State template information.

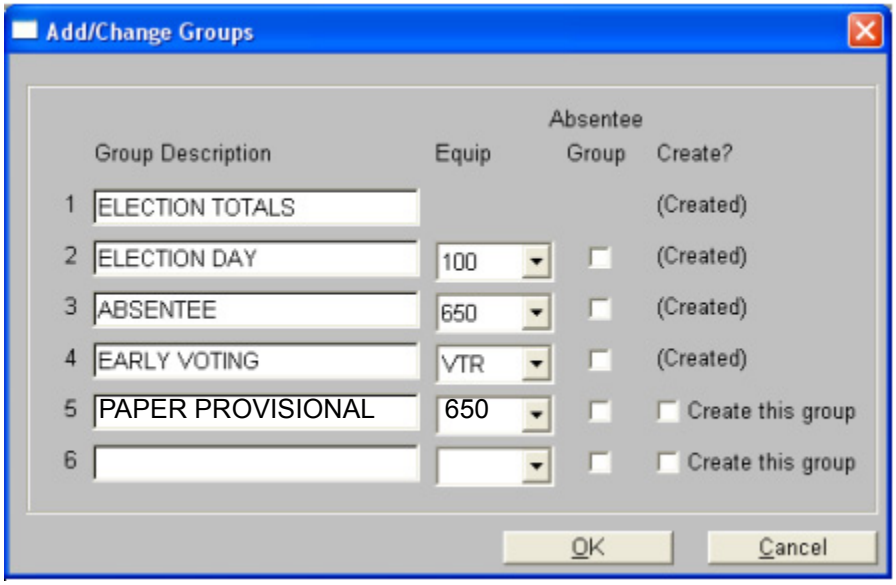
The Election Day Totals group is automatically created and is updated with all of the election totals that are loaded into ERM.

NOTE: You must have at least one group for each type of tabulator that you use.

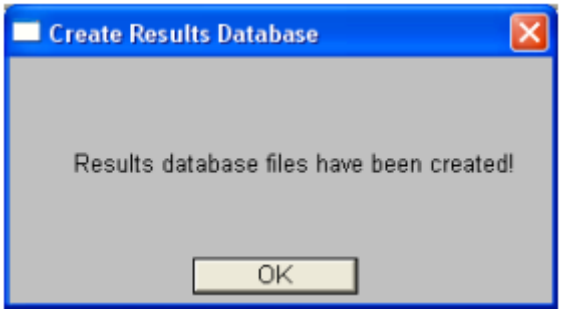
8. Check the **Initialize the state cross reference file** box.
9. Click **OK** to create your groups.



10. Click **Yes** to create a new results database. The Add /Change Groups window appears after you create your groups.



11. Type the name of the group as you want it to appear on your ERM reports in the **Group Description** box.
12. Select the type of equipment that will be used for the group from the list in the **Equip** box.
13. Click **OK** to create the groups. The following window appears when the new database has been created.



Set Up Reports

The process for generating reports in ERM is similar for all reports. The screens will have some variations, depending on the report. Following is a general process for creating and printing reports.

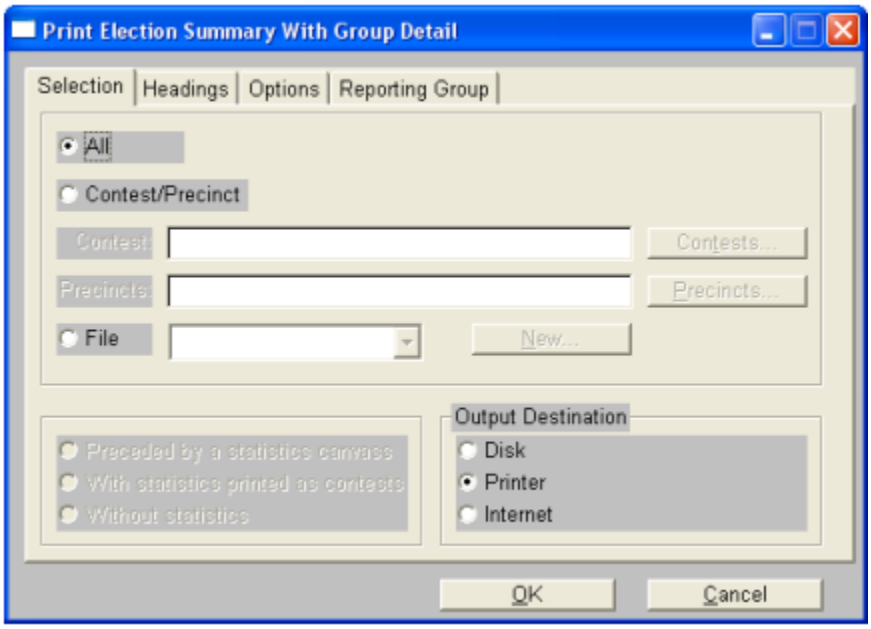
Create and print the following reports.

- **EL30, Precinct Report:** A Precinct Report is a list of individual precincts and contest results.
- **EL30A, Prec Report–Group Detail:** Generate a Precinct Report with Group Detail to print totals for up to five active reporting groups in addition to group 1.

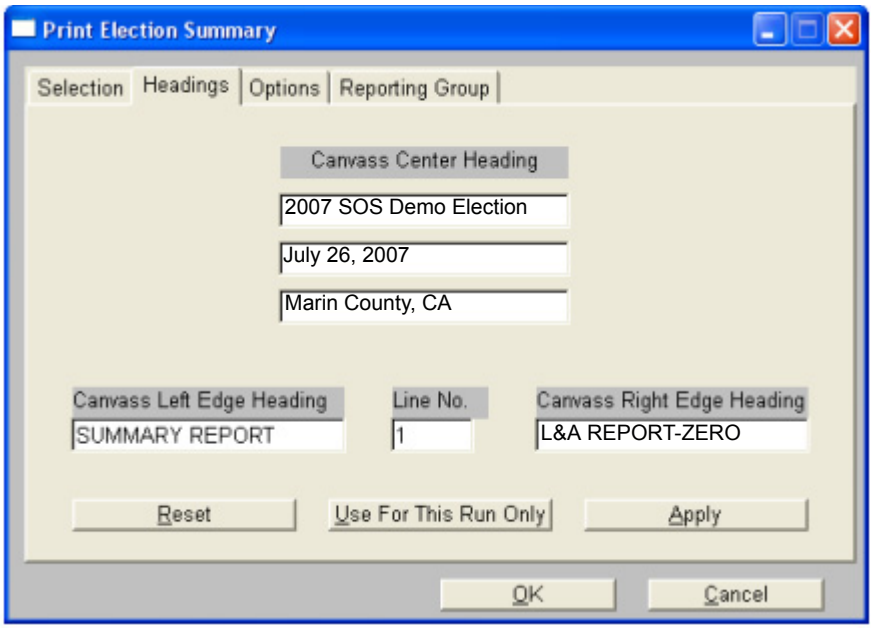
NOTE: If you have generated more than two (2) groups, you will need to need to adjust the groups for printing by going to the Options Tab and adding 4 to the listing (i.e. 2340) to trigger the other group created.

- **EL45, Election Summary Report:** An Election Summary Report lists the total number of votes received by each candidate/question and the percent of the total vote for each candidate/question in your election.
- **EL45A, Election Summary with Group Detail:** Generate an Election Summary with Group Detail to print totals for up to five active reporting groups in addition to group 1.

14. From the **Reports** menu, select the report you want to generate. The report window appears.



15. Click the **Headings** tab to enter the information that you want to appear on your report headings.



16. Enter up to three lines of identification text that you want to appear at the top center of your report in the **Canvass Center Heading** boxes.

If you entered text in HPM Headings and Certification, the **Canvass Center Heading** boxes will already be completed. You can make any necessary changes and click **Apply** to save these changes for each additional printing of this report. Any changes you make to the headings will not appear on other reports.

Refer to the Certification Message heading in 4.2 Section C: Define the Election for information about this text.

17. Enter the text that appears at the top left of your report in the **Canvass Left Edge Heading** box.
18. Enter the line number on which you want this heading to print (1, 2, or 3) in the **Line No.** box.

NOTE: This field will not appear for all reports.

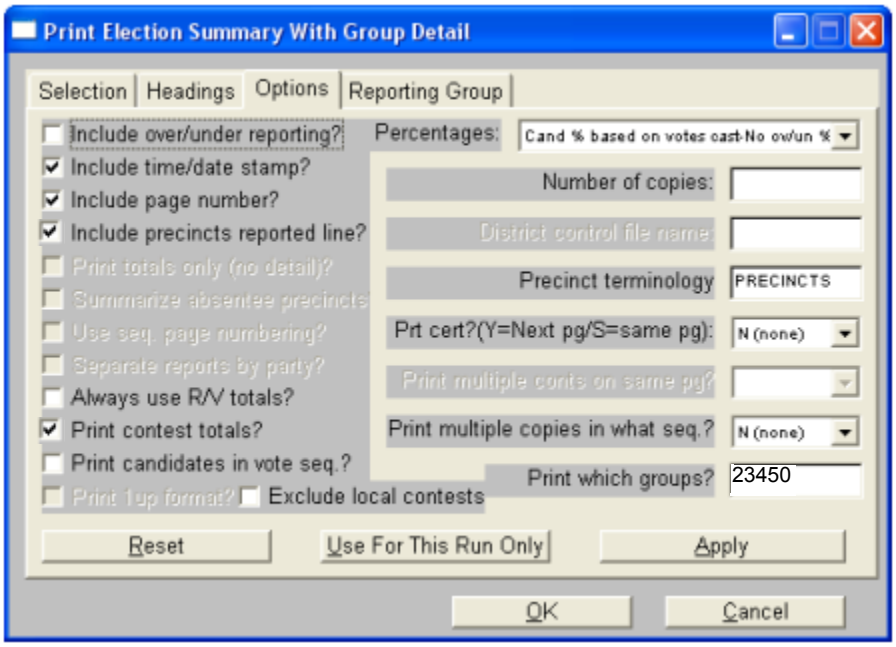
NOTE: If you choose to print something on line 3, the time/date stamp and the report number and page will print on the fifth line, instead of the fourth.

19. Enter “L&A Report - Zero” in the Canvass Right Edge Heading.

NOTE: On election day “Unofficial Results” must appear on the top right heading of your reports until election results have been canvassed.

20. Click **Apply** to use your headings for all reports of the same type.

21. Click the **Options** tab, and select the options needed for reporting.

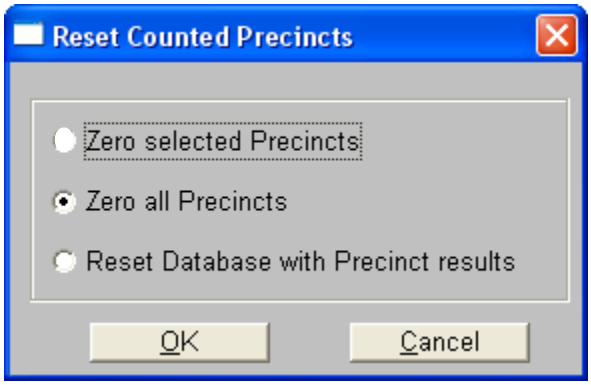


Refer to the *Election Reporting Manager System Operations Procedures* for a detailed information about the different options.

22. Click **Apply** to accept your choices.
23. Click **Cancel** to return to the ERM main screen.

Set Election Totals to Zero

24. Select **Reset Counted Precincts** on the **Update** menu to open the Reset Counted Precincts window.



25. Select **Zero all Precincts** to set all precincts to zero.

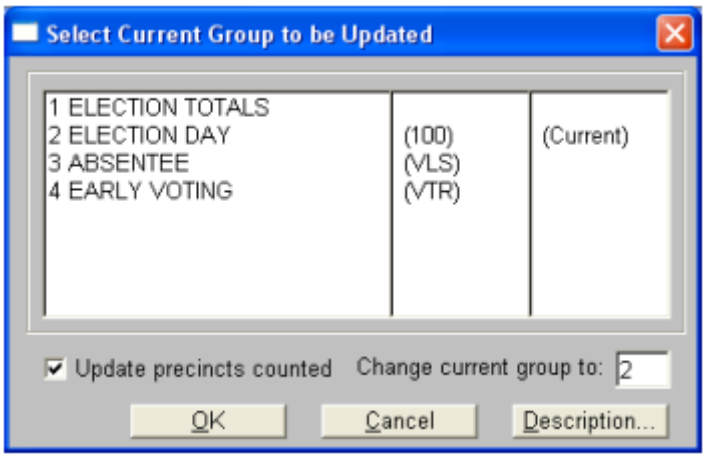
NOTE: This option does not clear the log file.

26. Click **OK**.

Upload Model 100 Test Results to ERM

Take the following steps to process test results into ERM from Model 100 tabulators.

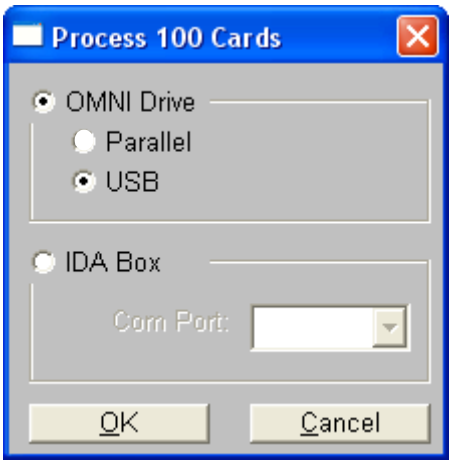
1. From the **Update** menu, click **Process 100 Cards**. A window similar to the following will appear.



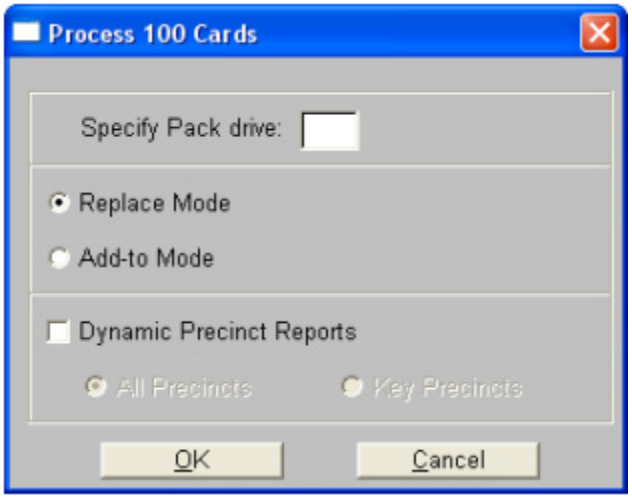
2. Make sure the **Update precincts counted** box is checked.

NOTE: If your county uses Model 100s for both vote by mail and Election Day processing, make sure the **Update precincts counted** box is NOT checked for vote by mail processing, but that it IS checked for processing Election Day Model 100 PC cards.

3. Double-click the reporting group using Model 100 equipment. Verify the correct group is selected in the **Change current group to** box.
4. Click **OK** to open the Process 100 Cards window.



5. Select **OMNI Drive** and **USB**.
6. Click **OK** to open the following window.

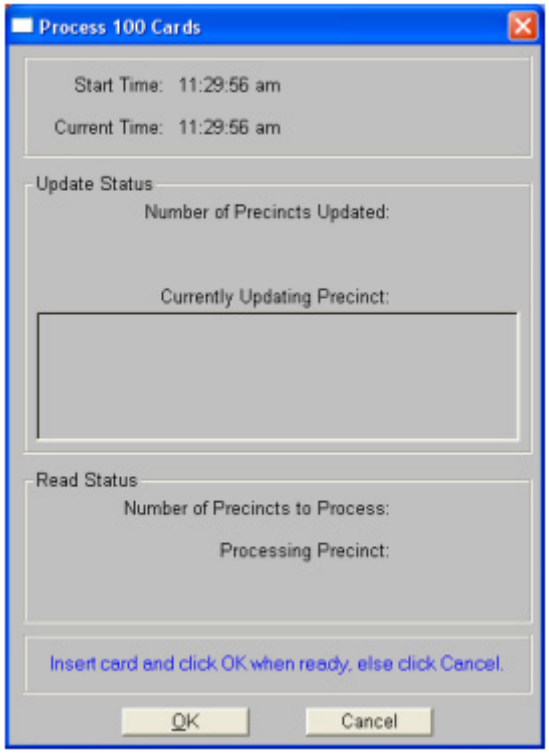


7. Leave the **Specify Pack drive** box blank.
8. Select **Replace Mode**.

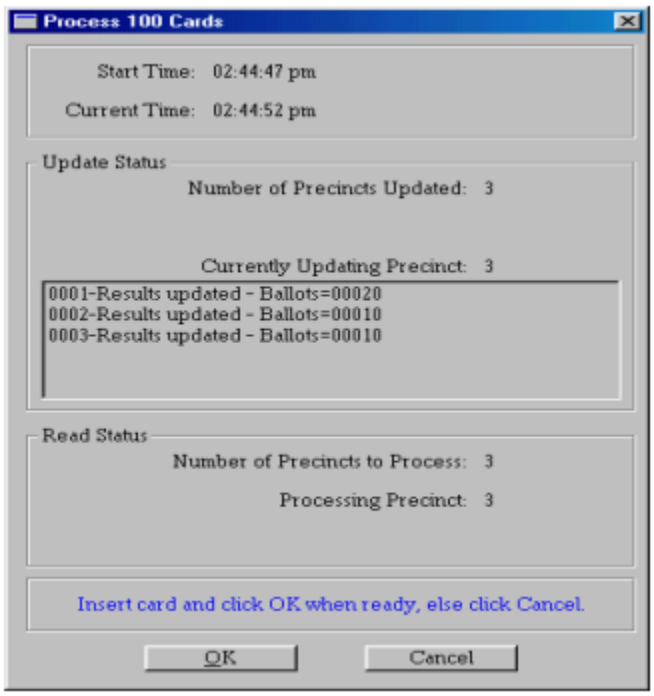
Refer to *Election Reporting Manager System Operations Procedures* for more information about **Replace** Mode and **Add-to** Mode.

9. Click **OK**. The following window will appear.

10. Select **Create New File** to delete the existing .spp file and create a new file.
11. Click **OK** to open the following status window.



12. Insert the Model 100 card into the Omni drive and click **OK** to read the card, update the .spp record, and ERM results database. Precinct information will appear after the card is processed.

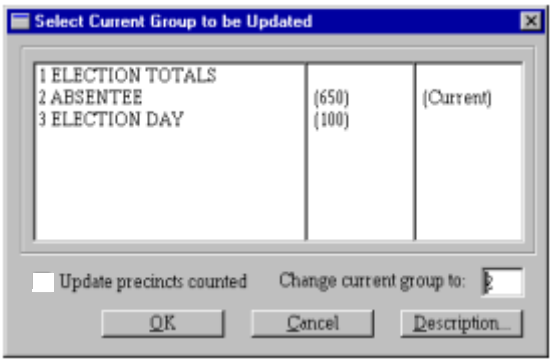


13. Eject the Model 100 card.
14. Process your other Model 100 cards by repeating steps **11** through **13**.
15. When all cards have been processed, click **Cancel**.

Upload Model 650 Test Results to ERM

Use this option to transfer test election results from Model 650 zip disks to ERM.

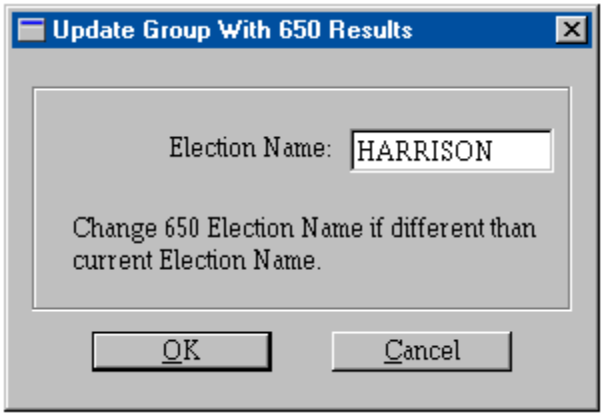
1. On the Update menu, point to **Run 650 Results Update Program**, and select **Update Group with 650 Results** to open the Select Current Group to be Updated window.



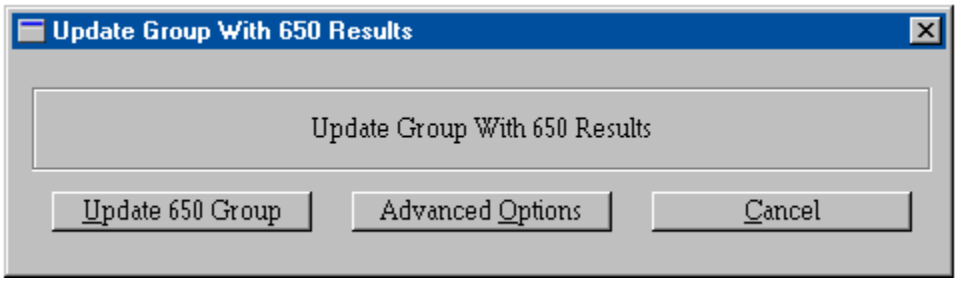
2. Double-click the group you want to update.

   Make sure the **Update Precinct Counted** check box is not selected.

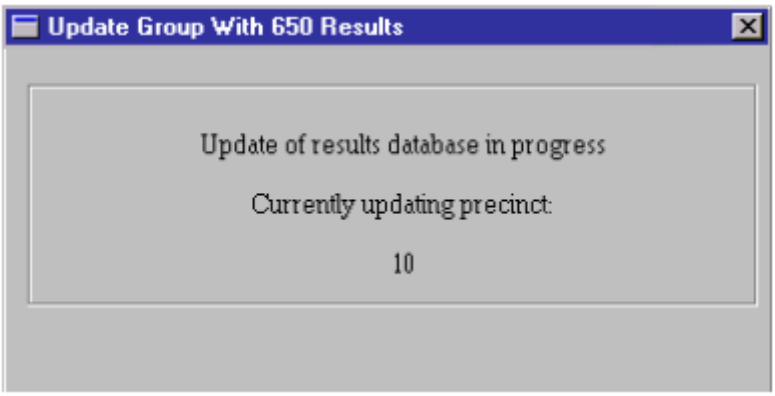
3. Verify the correct group is selected in the **Change current group to** box.
4. Click **OK**. The following window will appear.



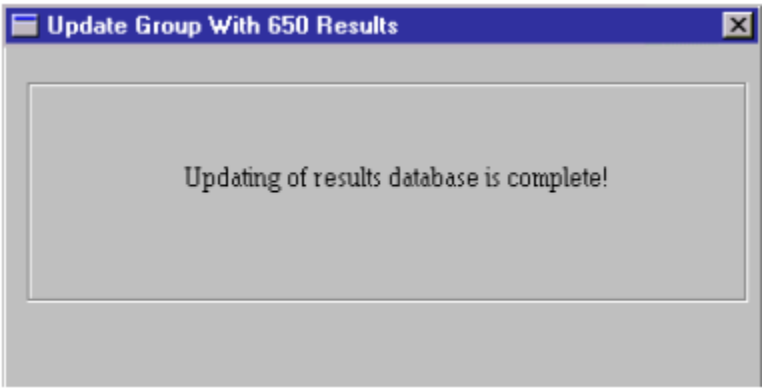
5. The current election name will be in the **Election Name** box. If necessary, change the name.
6. Insert your 650 disk into the zip drive.
7. Click **OK**.
8. The system will begin reading the results. Click **OK** when the system is finished reading the results.



9. Click **Update 650 Group**. This will be a complete replacement of all prior results for the group selected.
10. The following window will appear, showing the precincts as they are being updated.



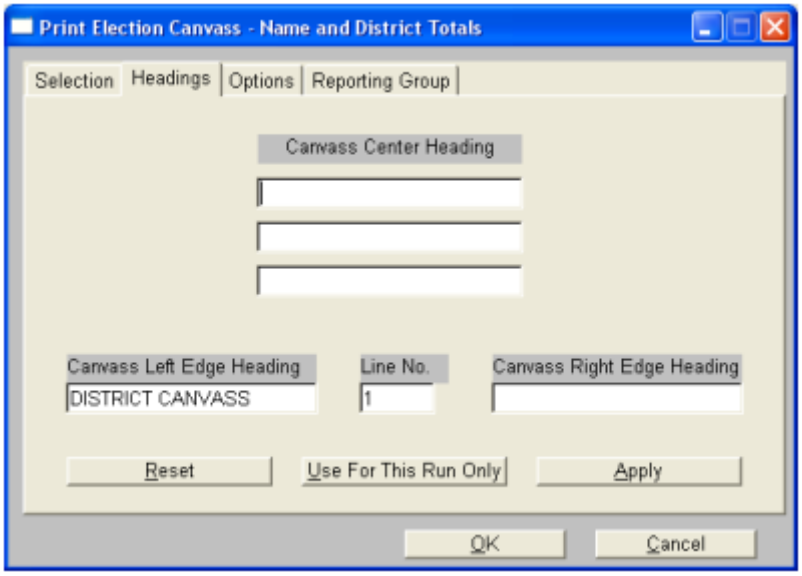
When the update is done, the following message appears.



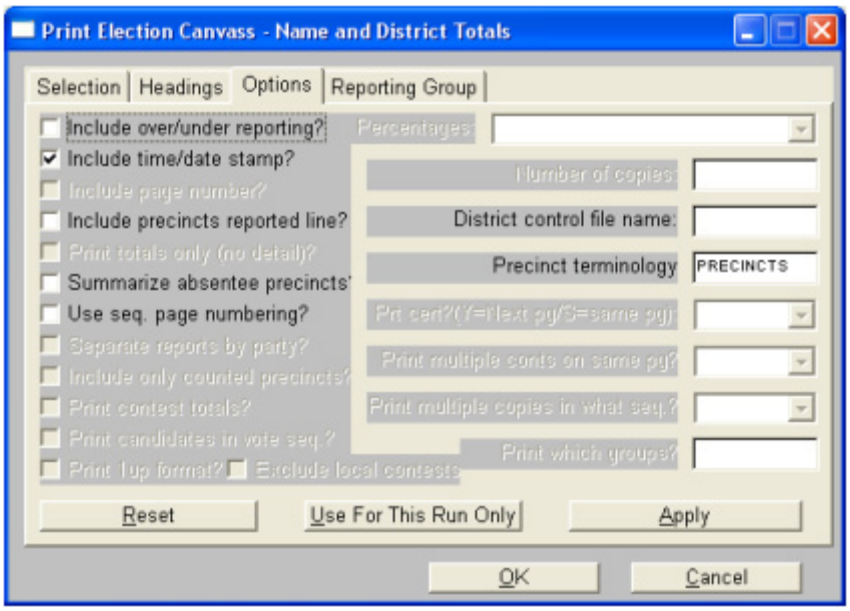
11. Print an Election Summary with Group Detail report. Use this report to verify your results are in the correct group and that the results match the pre-determined results.

NOTE: You can also print the Precinct report to view each individual precinct results.

12. From the Reports menu, point to **Canvass**, point to **Names and District Totals**, and click **Standard**. The Print Election Canvass - Name and District Totals window appears.
13. Click the **Headings** tab to enter the information that you want to appear on your report headings.



14. Click the **Options** tab, and select the options needed for reporting.



Refer to the *Election Reporting Manager System Operations Procedures* for a detailed information about the different options.

15. Click **Apply** to accept your choices.

Call your assigned ES&S coding representative for the information to enter in the **District control file name** if you did not create the file yourself.

16. Click **OK**.
17. Review the report for accuracy.

NOTE: If the district information is not transferred correctly please call your ES&S coding representative immediately to adjust your election files accordingly.

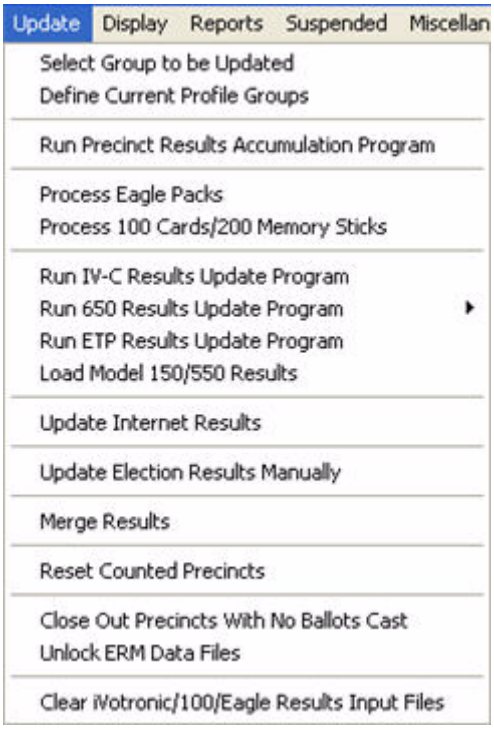
Clear L&A Totals

Clear election totals before and after running your test decks to make sure that your results are not corrupted on Election Day. In addition, you must clear your election totals before every election.

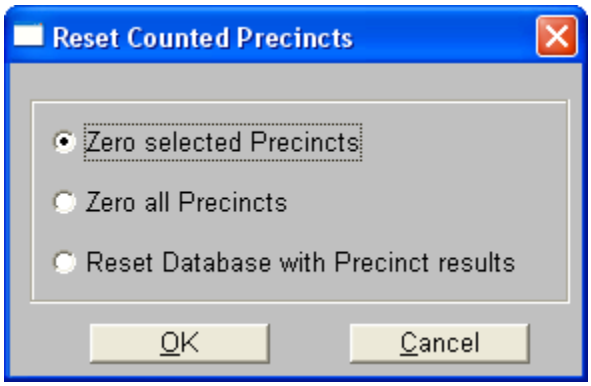
- Clear the scanners.

Refer to the instructions in your scanner's System Operations Procedures for instructions for clearing scanners.

- Clear ERM.



1. Select **Reset Counted Precincts** on the **Update** menu to open the Reset Counted Precincts window.



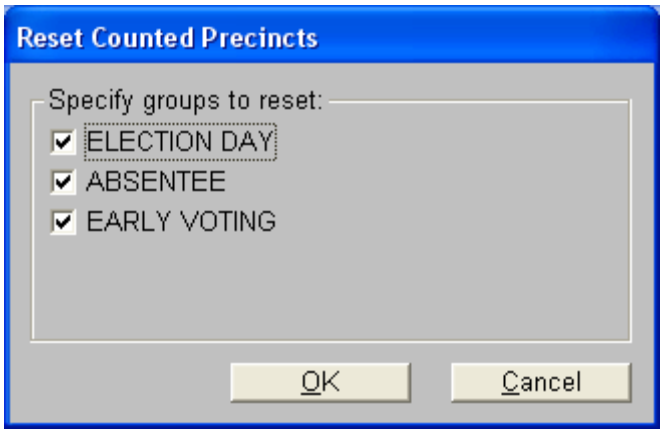
2. Select **Zero all Precincts** to set all precincts to zero.

NOTE: This option does not clear the log file.

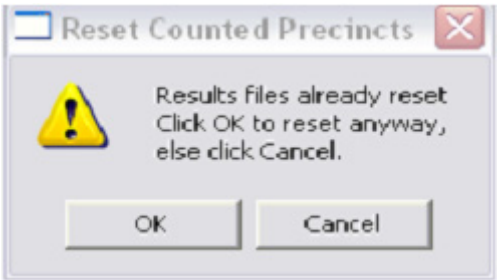
Warning: Select **Reset Database with Precinct Results** only if you are instructed to do so by ES&S.The **Reset Database with Precinct Results** option will refresh the Election Totals group with all group totals.

NOTE: The following instructions do not apply to the **Reset Database with Precinct Results** option.

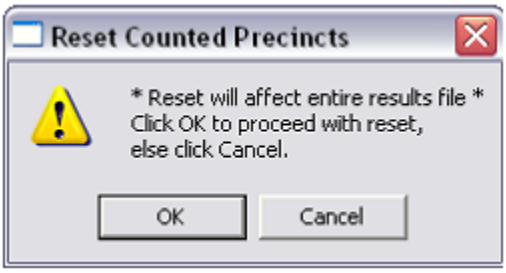
3. Click **OK**, and the following window opens.



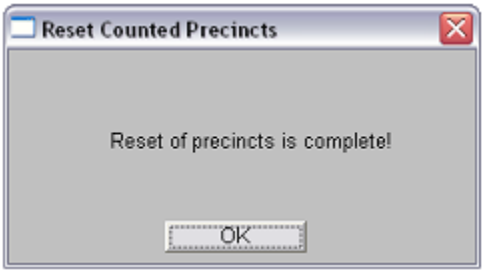
4. Select the group(s) that you want reset and click **OK**. Click **Cancel** to return to the main screen. If you click **OK**, the following window will appear.



5. Click **OK**.



6. Click **OK**.

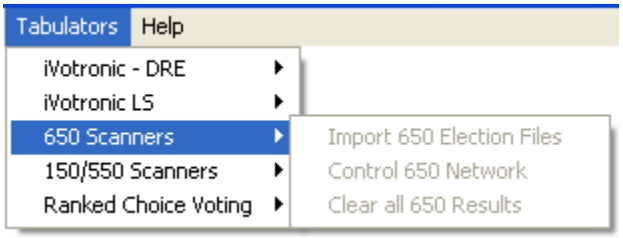


You have now cleared the results from all the precincts for the selected groups. Reload election data from your scanners if the results are not as expected.

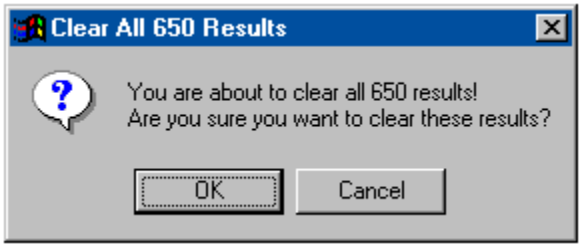
7. Generate a Zero (Election Summary) report after your election totals are erased to make sure that the results database is clear.

Clear All Model 650 Results

This option will delete all existing results (*election name*.PR) files that exist in the file \ELECDATA\NODExxx folders.



1. From the Tabulators menu, point to **650 Scanners**, and select **Clear All 650 Results** to open the following window.



2. Click **OK** if you want to delete the files or **Cancel** if you do not want to delete the files.

Test AutoMARK VAT Operations

The AutoMARK VAT operations should be tested when the system is operating in the TEST mode.

Take the following steps to test The AutoMARK VAT operations.

1. First, lift the display screen to an upright position and turn the key switch to ON
2. In TEST mode, turn the key switch to the TEST mode position.
3. Select **Test Ballot Print** using the touch screen button.
4. Insert an unmarked ballot.

   The AutoMARK VAT will fill all ovals and print the name of each candidate next to the oval. Verify that each oval is filled and each candidate name is printed in the proper place on the ballot. If the marks appear off due to rotation, x, or y offset errors, then the printer may need to be re-calibrated

4.5.1 Pre-conditions for Performance of Tests, Including Test Decks (as appropriate)

Prior to Logic and Accuracy tests, the following must be assured: diagnostic tests on all equipment shall have been performed to include verification of firmware being used; ballot test decks shall have been prepared as specified herein; all memory cards to be used for Logic testing shall have been coded with the current election; all memory cards to be used for Accuracy testing shall have been coded with the "BMW" election, or with a similar fictitious election or actual election that will provide compliance with Section 2.6; all memory cards shall be initialized, and an "OK TO READ BALLOTS" message displayed on the LCD prior to processing test ballots. Documentation must be prepared to show the known and expected voting and statistical results, said documentation to be compared against that produced as a result of the tests.

Create a Test Deck of Paper Ballots

This section provides information about how to mark paper ballots to create a test deck that you can use for testing your AutoMARK, Model 100 and Model 650 scanners.

After you have scanned the test ballots bring the Model 100 and Model 650 (if applicable) test results into ERM to verify that results calculated correctly.

Mark each ballot with the card number in the top right corner of the ballot, then go back and mark the ovals for each one.

ES&S Image Manager can automatically create a pre-marked test deck that you can use instead of a hand-marked test deck.

Refer to the Generate a Test Deckheading of 4.1 Section Q: Automatic Test Decks for information generating an Automatic Test Deck.

Test Ballot Marking Instructions

The basic structure of the test deck is to create result pattern that follows the “one to the maximum” method. This begins with one vote going to the first person in that office on that ballot type. From there you continue with the voting sequence and mark the following 2 ballots in the second position, the third with 3 and continue so forth. At the end of the deck insert a completely blank ballot as well as an overvoted ballot. The overvoted ballot should have an overvote for ALL the offices on that ballot. Following is a sample matrix that describes the pattern.

Office 1 Vote for One (1)	**An X indicates a vote for that candidate**																
	Ballot Card Number																
Candidate Name	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Candidate 1	X															X	
Candidate 2		X	X													X	
Candidate 3				X	X	X										X	
Candidate 4							X	X	X	X						X	
Candidate 5											X	X	X	X	X	X	
Total Votes	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5	0x

The size of your deck will largely be dependent on the size of your largest office on that ballot type. Create a matrix or spreadsheet similar that above for each ballot type.

Test the Model 100

Perform the following checks on your Model 100 scanners to ensure they are ready for Election Day.

- Physical Check
- Machine Readiness

Physical Check

1. Ensure that the front PCMCIA access panel has a door knob for easy access
2. Open the key access panel to ensure access to key control and printer panel.
3. Check rails on bottom of machine

Machine Readiness

1. Plug in the power supply to the machine and insert a BMW Election or Sample Election PC Card into the top slot.
2. Turn the key to OPEN/CLOSE POLLS to power on the unit and wait for the Initial Status Report to print. As the report is printing check the LCD screen to ensure that the text is readable.

Verify date and time is accurate and check that firmware version is correct.

Initial State Report

10:57:25 06/19/2002
ELECTION DEFINITION LOADED UNIT: 3159

CPU 386 QNX_speed 361
CPU total memory 3712K
Application Memory 2496K
Communication utilities available

*** Initial State Report ***

Time and Date 10:57:25 07/15/2003

Firmware Version: 5.1.0.0 **Firmware Version**
Machine ID: 3159
California Certification
California Open Primary 17/41
0001 POLLING PLACE 1 0001
Election Date: July 4, 2006
Maximum Number of Types: 6
Number of Precincts: 4
Number of Ballot Face Styles: 24
Audit Log Entries: 34/21043

System Configuration:
Election Results Printing: Enabled
Election Results Transferred: YES
Diverter Installed: YES
Unreadable Marks Setting: Accept
Report Type: SUMMARY
Ability to ReOpen Polls: YES
Report Format: Poll Report
Report By Rotation: NO

Election Configuration:
Ballots by Style: NO
Overvoted Ballots: Query
Blank Ballots: Query
Cross-over Ballots: Query

Single Over-Vote: NO
Divert Blanks to Writein Bin: NO
Response Type: OVAL
Use Separate Non Party Type: YES
Ballot Size: 14 Inches by 36 Rows
Ballot Sides Defined: 2

3. Press YES at the “Open Polls Now?” screen, turn the key to VOTE and wait for the report to print.
4. If using ballots with a removable stub, remove the stub before inserting the ballot.
5. Take two ballots and place one on-top of each other in the same orientation. Insert the ballots in all four (4) orientations to ensure that the machine rejects multiple ballots.
6. Insert four (4) single voted ballots in different orientations to check that the machine accepts the ballots.
7. Insert an overvoted or blank ballot and REJECT the ballot to ensure that machine returns your ballot.
8. Re-insert that same ballot and hit ACCEPT to ensure that the machine processes the ballot.
9. Turn the key to CLOSE POLLS and press CLOSE POLLS
10. If the machine fails at any of these points, note the machine serial number and the error and inform an ES&S representative to have the machine reviewed by a certified technician.

Test the Model 650

Perform a Machine Readiness Check on your Model 650 scanners to ensure they are ready for Election Day.

Machine Readiness Check

1. Clear out any paper dust on the read head and input hopper.
2. Check pick belt and replace if necessary.
3. Check and replace retard pad as necessary.
4. Check that both printers are connected to the Model 650 and align the papers accordingly.
5. Power on printers then power on Model 650.
6. Verify the version on the Status Report printed on the Audit Log printer.

7. If applicable, verify that the Node number listed at the top left corner of the report is different from the other machines you will be using.

Test the AutoMARK

Display Screen Test

1. In ON mode, turn the key switch to the ON mode position.
2. The **Insert Your Ballot** screen should appear. If not, check all power connections to ensure power is being supplied to the AutoMARK VAT.

Ballot Insert Test

1. If using a ballot with a removable stub, remove the stub before inserting the ballot.
2. Insert an unmarked ballot (corresponding to the FMC currently installed) into the AutoMARK VAT paper tray
3. The paper feed mechanism should feed your ballot into the AutoMARK VAT.

   If the test is successful, the AutoMARK VAT scans the ballot and displays a new screen. If the test is not successful, the AutoMARK VAT attempts to eject the ballot or displays an error message.

Audio Test

Plug in your headphones and use the audio keys on the keypad to test the audio operations as follows:

1. Press the round Audio **Repeat** key to repeat the presentation.
2. Press and hold the round Audio **Repeat** key to change the sex of the audio presenter.
3. Press the left side of the Audio **Tempo** key to decrease the audio speed.
4. Press the right side of the Audio **Tempo** key to increase the audio speed.
5. Press the left side of the Audio **Volume** key to decrease the audio volume.
6. Press the right side of the Audio **Volume** key to increase the audio volume.

Ballot Print Test

1. Turn the key switch to **Test Mode**.
2. Press the **Test Ballot Print** button on the touch screen.

3. If using a ballot with a removable stub, remove the stub before inserting the ballot
4. Insert a ballot that is recognized by the currently inserted compact flash card. Use a spare ballot that is not needed, because the AutoMARK VAT will print on this ballot.
5. If the ballot is not recognized, repeat a few times. If it still does not recognize the ballot, contact ES&S customer support.
6. Confirm that the ballot races on the currently inserted compact flash card are the ones that are shown on the screen and match the ballot that you were trying to insert. If they do not match then you need to replace your compact flash card or your ballot.
7. Scrutinize the placement of the marks in relation to the ovals/voting locations on the ballot. If there is any discernible rotation of the marks with respect to the voting locations, uniform across all marks, that is an error greater than 0.05 degrees, or a couple millimeters, Calibrate the printer.
8. Once the marks are printing correctly in all orientations (right-side up, upside down, inserted front-wards, inserted backwards), the printing is working properly.
9. As a final check, move the key switch into test mode and check the ink level. (On the bottom left portion of screen.) If it is lower than 10%, replace the ink cartridge. If you do, make sure to reset the ink level meter using the Replace Ink Cartridge button from the test mode menu.

Ballot Read Test

1. Insert a marked ballot into the AutoMARK VAT paper tray.
2. The paper feed mechanism should feed your ballot into the AutoMARK VAT. If the test is successful, The AutoMARK VAT scans the ballot and displays the **Language Selection** screen (if your jurisdiction is programmed for more than one language) followed by the Verification Summary Screen. If the test is not successful, The AutoMARK VAT attempts to eject the ballot or displays an error message.

4.5.2 Accuracy Test Procedures

Accuracy Test Procedures for the Model 100 Scanner

Accuracy testing consists of those processes and procedures necessary to ensure that the hardware to be used in the election is working properly, both as individual units and as a combined system. Emphasis is placed on verifying that Model 100's can read every permissible mark on the ballot, and that individual components as well as any interface between them function as required. These tests shall be run BEFORE Logic Testing in order to assist in isolating problems. Accuracy tests are an integral part of equipment maintenance, and may be run as often as necessary before each election to ensure proper functioning of the hardware to be used in the tallying process. Such testing reports shall be maintained in accordance with election retention period requirements.

Performance of Accuracy Tests

Accuracy tests shall be performed prior to Logic and Accuracy Certification (including amendments and re-certification, if necessary) to the Secretary of State prior to processing ballots on election day. The accuracy tests may be run more frequently and shall be run after equipment has had maintenance work. Any failure of the equipment to perform as expected shall be corrected before using that equipment for election processing, and any ballots tallied on equipment which failed shall be recounted. In the event a Model 100 fails after official ballot processing has begun, accuracy tests must be successfully run on the (failed) component after it has been repaired, replaced, or adjusted, provided the component is to be returned to service. Required accuracy retesting shall be conducted in a manner deemed sufficient by the responsible elections official. Diagnostic tests of hardware on election night are permitted. A loss of commercial power is not to be considered as a failure for purposes of this paragraph, since the Model 100's backup battery unit insures uninterrupted operation for eight hours.

Preparation of Accuracy Tests

The responsible elections official shall cause the accuracy ballot test deck to be prepared and tested. The county may choose to use the automated ballot test deck preparation feature provided within Unity but the county must ensure the ballot test deck used, fully tests the accuracy of the unit. Predetermined results of the accuracy test must be available for inspection and sign off by the Logic and Accuracy Board.

Reusable Accuracy Test Deck

A reusable test deck consisting of pre-printed ballots conforming to a “Famous Names” election is used to test the accuracy of each Model 100 device on an annual basis unless of course, the units are used more than once within a twelve month period. In that instance, a ballot test deck comprised of actual test ballots for that specific election may be used. An annual, reusable test deck consists of ballots of different colored paper stocks with pre-printed ballot information as well as pre-printed vote marks. The ballots are printed on both sides with a demonstration election. The pre-printed vote marks are intentionally printed thin to represent the minimum specified acceptable oval darkening. Reusable test deck predetermined vote totals are made available with the test deck. The ballot test decks described above for performance of the annual and pre-election Accuracy tests may be substituted with other test decks, provided that they meet the specifications for test decks set forth herein and provided that prior approval has been granted by the Secretary of State in compliance with California Election Code.

Logic and Accuracy Testing: Verifying the AutoMARK Correctly Records Votes and Prints Ballots

Option #1

For each ballot style programmed into an AutoMARK unit:

- Insert, vote and print sufficient ballots so that every valid voting position on the ballot, including write-ins, is voted at least once
- For each contest, attempt to overvote to verify overvoting is prohibited.
- Vote and print an entirely blank ballot to verify that the undervote warning is active for each contest and that no vote positions are marked on the ballot.

Each printed ballot must be visually inspected to verify all votes were accurately recorded and printed correctly.

This testing process must be repeated on each AutoMARK VAT used in an election.

Option #2 (For counties that deploy machines configured for multiple ballot styles, at their option.)

Group AutoMARKs by the combination of ballot styles that will be programmed into the units so that all AutoMARKS in the group will have the *identical* programming. Designate one AutoMARK unit in each group as the “**Master”** unit. All others in the group are **“Clones”**.

For each **"Master"** unit, perform a complete test for each ballot style in accordance with the test described in "option 1" above.

Upon completion of the "Master" units testing, the remaining "Clone" AutoMARK units in the group that have identical programming as the "Master" shall be tested as follows:

- AutoMARK to be in "Test" mode
- Insert, print and visually inspect a "test mode" ballot style programmed into an AutoMARK unit.
- AutoMARK to be in "On" mode
- Insert, vote and print a randomly selected programmed ballot style so that every valid voting position on that ballot style, including write-ins, is voted a least once
- For each contest, attempt to overvote to verify overvoting is prohibited
- Select a contest, attempt to skip the contest to verify that the undervote warning is active and that no vote positions are marked on the ballot

Each printed ballot must be visually inspected to verify all votes were accurately recorded and printed correctly.

The "Clone" testing process must be repeated on each AutoMARK VAT designated as a "Clone" used in an election.

4.5.3 Logic Test Procedures

Logic Test Procedures for the Model 100 Scanner

Logic testing consists of those processes and procedures necessary to ensure that the vote tally programs and hardware correctly interpret, summarize and report voters' marks for a specific election. This is normally a series of tests utilizing test ballots which are made from actual printed ballots, and the accumulation of results from individual Model 100's by transferring results from the memory cards via a Model 100 functioning in memory card reader mode to the Summary System. Successful testing will demonstrate that each candidate and ballot measure receives the proper predetermined number of votes, and that the system reports the proper number of over and under votes. This testing will also confirm that the system accepts only the proper ballot styles and rejects improper ones, and that the system is capable of counting the maximum number of ballots possible for a precinct. Logic tests will be conducted using test materials prepared in such a manner as to meet these guidelines. All tests shall result in reporting that matches predetermined results. All reports and test materials must be retained as stipulated in Section 2.8 and in accordance with State and Federal Law.

Performance of Logic Test(s)

1. Pre-Election Tests: An election specific logic test shall be performed on 100% of the memory cards to be used. This logic test may begin within 30-50 days of the election and should be of sufficient duration to assure its adequacy. As each memory card is successfully tested it should be certified, identified and placed in security until needed.
2. The Summary System Logic and Accuracy Test shall employ one memory card of each ballot style.
3. Election Night Testing of upload and report production procedures shall be tested.
4. Summary System Logic Test shall be performed prior to and following election night tabulation, the latter test to occur after the Official Canvass period is concluded.
5. Post Election Testing: Following the Official Canvass, conduct a Logic and Accuracy Test for the Summary System. During the Canvass period all of the Model 100s' Precinct Results Tapes should be checked as outlined by the California Election Code. Discrepancies shall be resolved by referring to the actual ballots for that precinct.

6. The predetermined results for balancing of election processing must be available for inspection and sign off by the Logic and Accuracy Board described in Section 8.4. The official Logic test must be completed, certified, and received by the Secretary of State seven days before each statewide election. It must accompany official copies of the ballot tally programs and files.
7. All ballot tally program(s) and hardware must remain operative from the time of the pre-ballot processing logic test, through the processing of all voted ballots, and finally, the post-ballot processing logic test.
8. Verification of the Model 100 memory card totals is accomplished as part and portion of the 1% random manual recount of cast ballots for a specific election.

Preparation of Logic Test Materials

The responsible elections official shall cause the following logic test materials to be prepared and tested:

All Ballot Styles

A logic ballot test deck and memory cards will be prepared for all ballot styles to be used in the election. This logic test deck is composed of regular official ballots, and shall be marked “TEST” Within 30-50 days of the election, a 100% memory card logic test will occur. Logic Tests for the Summary System shall be for a minimum of one memory card per ballot style.

Logic Test Data

Two identical sets of test ballots shall be created for each ballot style used in the election. For purposes of testing, the elections official may use either the primary or back-up logic test deck, but the backup logic test deck must be subject to the same security provisions as is the primary logic test deck. The logic test ballots shall be distinctively marked “TEST”, and shall include:

Voted Test Ballots

A group of test ballots shall be voted. Varying vote totals should be allocated to adjacent candidates, and the number of “yes” votes on any ballot measure shall be different from the number of “no” votes. In the case of offices for which the voter is allowed to vote for more than one candidate, at least one ballot of the group shall be voted with the maximum allowed number of choices. For purposes of this test, write-in positions shall be treated as declared candidates. No office or ballot measure shall be voted in more positions (overvoted) than are allowed for the office or measure.

As an option for the elections official, an individual ballot may be marked with a repetition count. This indicates the number of times that ballot is to be inserted and re-read in order that each candidate receives a predetermined number of votes. This vote total will be different from the vote total received by any other candidate for the same office. The ballots so prepared will be repetitively entered into the Model 100 the number of times required by the repetition count.

Overvoted Test Ballots

One test ballot shall be an overvoted test ballot, on which every contested office and ballot measure has received more votes than is allowed for that contest. Tests for overvoted test ballots will comply with the Ballot Box Diverter Options if adopted by the elections official.

Blank Test Ballots

One blank test ballot shall be created. It will not contain any marks other than those needed for precinct or ballot style identification. This test should result in undervotes being cast for each contest in every occurrence in the test. Tests for blank test ballots will comply with the Ballot Box Diverter Options adopted by the elections official.

Recall Measure and Candidates Contest Test Ballots

Recall elections, conducted in accordance with California state recall rules and laws and which include two official candidates, shall consist of a series of ballots that provides votes for each candidate listed on the ballot. When the recall election has more than two candidates, additional test ballots shall be marked for each additional candidate with a “Yes” vote and a “No” vote for the candidate, on each ballot. The third candidate should get 4 ballots; the fourth should get 5 ballots, etc. When there is a recall and only one official candidate, test ballot card sets, numbered 1, 2, 3, 4, 9, 12, and 14 only shall be prepared.

Certification of Logic Test

Logic test requirements apply to all elections; however, submission of the seven day certification of logic testing and copy of the vote tabulation software must be provided to the Secretary of State. This seven day certification is required only prior to statewide elections and elections to fill vacancies in the State Legislature or Congress.

4.5.4 Retention of Test Materials

The successful logic and accuracy tests, conducted at the time of certification (or re-certification, if necessary) shall be submitted to the Secretary of State. Storage logs or records, if any, and balancing reports, if any, shall be retained as long as the ballots are kept for the election. The official logic test ballot cards used for balancing prior to, and upon completion of, the processing of official ballots shall also be kept for as long as the ballots. Back-up decks and other test decks may be destroyed or used to train operators for other elections. Memory card totals may be zeroed.

4.5.5 Logic and Accuracy Board and Certification of Testing

The elections official shall establish a Logic and Accuracy Board pursuant to Section 8.4 to complete certification of testing. Not later than seven days before each statewide election, the Secretary of State must receive a copy of the Logic and Accuracy Board's certification. For local and district elections, the Logic and Accuracy Board members shall submit their copy of the Logic and Accuracy Board's certification to the local elections official conducting the election.

4.6 Ballot Tally Programs

The elections official shall send ballot tally programs to the Secretary of State pursuant to Section 8.5. The ballot tally program must be received by the Secretary of State no later than seven days before each statewide election. All software and hardware shall be certified by the SOS and no changes shall be made to any part of the system or operation without written approval from the Secretary of State prior to any such modification.

4.7 Election Observer Panel

The elections official shall establish an Election Observer Panel pursuant to Section 8.1.

Refer to Section 8.1 Election Observer Panel for information about the Election Observer Panel.

4.8 Hardware Maintenance and Preparation for Use

Ballot counting equipment must be maintained in a satisfactory manner in accordance with vendor specifications, where available. Individual component testing, and maintenance if necessary, shall be performed by qualified personnel within 50 days before each election. Maintenance, as required, should also be performed on all components of the Summary System. When installing any vote tabulation equipment or providing any type of maintenance the jurisdiction shall always apply adequate security to ensure the integrity of the process is maintained.

Prior to transporting Model 100s to polling places, the elections official shall insert each memory card (programmed for the election, and carrying appropriate precinct(s) and/or ballot style identification) into a Model 100. Complete the initialization procedures, beginning with the predetermined access code and thereafter, effect initialization. The log/results tape will print messages that initialization is complete, a message displaying precinct or ballot style identification followed by a display of statistical data and vote totals set to zero. The final message is “OK TO OPEN POLLS.” If a memory card cannot be initialized, it shall not be used. If possible, initialization should be witnessed by the Logic and Accuracy Board or Election Observer Panel. A log will be maintained reflecting the memory card identification number and indicating precinct(s) or ballot style, date tested, results of test and signature of the tester. The log will be provided to the Logic and Accuracy Board.

Final Preparation of Model 100s For Precinct Use

Each Model 100 shall be equipped with the memory card for the precinct(s) where it is to be used. It shall be properly identified and sealed within the memory card compartment. The front protective memory card panel on the Model 100 shall be secured. Keys shall be labeled or otherwise identified, and placed in the custody of the elections official for subsequent delivery to the appropriate precinct worker.

Pre-Election and Testing Requirements for the Model 650

Use the procedures in chapter two to prepare and send vote by mail ballots, test your equipment and prepare your polling place for an election. Follow the guidelines in the California Elections Code sections 19320 to 19323 to prepare your scanners for an election. Use your central scanner operator’s guides and maintenance guides to perform the following pre-election maintenance on your scanners:

- Replace the pick belt
- Clean and replace the retard pad
- Clean the rollers
- Clean the fiber optic sensor
- Clean the scanner
- Connect the scanner to the external printer
- Install the election definition for your scanner
- Handling unofficial totals
- Check physical surrounding.

Pre-Election Hardware Maintenance

Use the procedures described in the Model 650 central scanner's maintenance manual to perform any necessary pre-election tests and maintenance.

Checking the System

Send written notice of the testing location and the testing time of your scanners to the chairperson of the county central committee of at least two political parties participating in your election. Allow one representative from each political party in your election to view your scanner tests. Party representatives verify that the scanners tabulate accurately and that county officials set all of the scanner's counters to zero before the election. Lock and seal the scanners after you prepare and test your equipment. Store your scanners at the central count location for your jurisdiction. Make sure you have the following equipment available for each scanner at the central count location:

- **Pick Belts:** Four-inch diameter rubber belts. ES&S manufactures and ships pick belts with your test deck and election definition.

  Quantity: five

- **Retard Pads:** Thin, oval, rubbery pads about one inch wide. Only order from ES&S.

  Quantity: two

- **8.5” x 11”, continuous feed, three-part paper:** Use carbonless paper in your printer to avoid smearing. Use one-part paper if you use Election Reporting Manager.

  Quantity: two boxes

- **Pressurized air cans:** To clean sensors.

  Quantity: two

- **Cloth and Isopropyl rubbing alcohol:** To clean the rollers.

  Quantity: one bottle

- **Small white adhesive labels, ½ inch wide:** Used to cover stray marks on ballots. Only use labels from ES&S.

  Quantity: 12 sheets

- **Formatted Diskettes, 3.5 inches or zip disks (Model 650):** To store results.

  Quantity: 10

- **Spare printer ribbon:** Backup ribbon for your printer. Refer to your printer manual for the ribbon type.

  Quantity: one per printer

Proofing the System

Verify the correctness of all of your election preparations including the following:

- Make sure you assign each ballot type to the correct jurisdiction.
- Make sure each of your precincts receives the correct ballot type.
- Verify the ballot contents for each ballot type. Make sure contests and candidates appear on ballots for the correct precinct. Verify the ballot sequence and ballot code numbers.
- Proofread ballot instructions, contest titles, candidate names and all other ballot text. Make sure each ballot element appears in the correct location on the ballot.
- Verify the sample ballots for each of your polling places. Make sure that the sample ballot is correct and matches the official ballot for the polling place.
- Examine other ballot elements such as print quality, perforations, folds and ballot codes. Make sure each element appears correctly.
- Make sure that the voting target positions on the ballot match the positions programmed into your election definition.

- Verify the voter registration data for the active precincts in your election.

Pre-Election Hardware Maintenance

Refer to the *ES&S Model 650 Maintenance Manual* for procedures to perform pre-election tests and maintenance.

Testing for Error Conditions

Make sure your scanner responds properly to error conditions including the following:

- Pick failures
- Ballot orientation errors
- Multi-sheet errors
- Invalid marks

Consult your *ES&S Model 650 System Operations Procedures* for a complete list of scanner errors.

Model 650 Election Procedures

Follow the procedures outlined in the California Elections Code Division 14, Chapter 3 to distribute and receive central scanner ballots. Follow the guidelines in Division 15 of the Election Code to count ballots and produce final elections reports. Use the instructions in this chapter of the *California Election Procedures* as general guidelines for collecting ballots and counting votes on a central scanner. Consult the Elections Code for specific regulations regarding ballot tabulation in your jurisdiction.

Refer to the *ES&S Model 650 System Operations Procedures* for specific instructions for performing these tasks.

Perform Final Readiness Checks on the Model 650

Perform a final readiness check before you count ballots on Election Day.

1. Turn off the ballot scanner but leave it plugged in.

NOTE: Plug your scanner into a grounded, three-prong electrical outlet with only one scanner plugged into a single wall or floor outlet. Use the power strip that came with your scanner to power the scanner and printer.

2. Verify that your printer is on, properly loaded with paper and that the print head is at the top of the page. Refer to the printer manufacturer's instructions for guidance. Always store the printer manual in the drawer of the scanner stand).
3. Turn on the scanner.

   The indicator lights will flash and the message “MEMORY NOT CLEARED” appears:

   The MODE option defaults to “on-line,” and, the FORMAT in the REPORTS section automatically sets to “SHORT.”

4. An automatic status report with the county or city name, the election type and date, log information reflecting checks on program configuration, election options, and hardware configuration prints.

Contact ES&S customer support if any information on your status report is not correct.

   Make sure the “on-line” lamp illuminates in the MODE section, press **SELECT** until the light goes on if it is not lit by default.

5. Simultaneously press **ZERO TOTALS** and **ZERO/ADD ENABLE**.

   Indicator lights will flash and the message “CLEARING AND TESTING COUNTER MEMORY” will appear. All totals will be erased from the scanner's memory.

   After the totals have been zeroed, the message “TOTALS HAVE BEEN SET TO ZERO” will appear in the display.

6. In the REPORTS section, press **FORMAT** until LONG is selected, and then press **GRAND TOTALS**.

The message “SUMMARY REPORT” will appear. Once the information has been downloaded, “READY” will appear in the display.

7. In the **REPORTS** section, press **STATUS REPORT**.
8. Verify that all totals on both reports are set to zero.

   If the totals are not set to zero, repeat steps 5 through 7. If the problem persists, contact an ES&S technical support representative.

9. Set the appropriate SORT options for your election. Do not change the sort options after ballot scanning begins.

NOTE: If your jurisdiction counts sorted ballots immediately after the machine sorts them, be sure to turn on the appropriate sort option again ***before*** scanning the next precinct’s ballots to ensure that all ballots scanned get sorted.

Post-Election AutoMARK Procedures and Maintenance

Procedures for Closing the Polls which involve the ballots, the tabulator, and such things as dismantling the voting booths are not covered in this document. Please refer to the documentation supplied with the tabulator.

The following paragraphs provide information on maintaining the AutoMARK VAT between elections. It also describes procedures that are completed in the TEST MODE, by an authorized Jurisdiction Official.

Before storing the AutoMARK VAT you must complete the following steps:

1. Remove the ink cartridge.
2. Charge the battery.
3. Clean the AutoMARK VAT.
4. Store the AutoMARK VAT.

The following paragraphs provide more details about these steps. These maintenance procedures may need to be performed before starting an election or at the end of the Election Day.

Remove the Ink Cartridge

Always remove the used ink cartridge from the AutoMARK VAT and discard it before storing the AutoMARK VAT between elections. Spare ink cartridges should be purchased prior to the next election and stored separately from the AutoMARK VAT.

When purchasing extra ink cartridges, contact Automark Technical Systems for:

- Part number 87002 (Non IR)
- Part number 87003 (IR)

Charge the Battery

Between elections and in order to be ready for the next election, you must always charge the battery on the AutoMARK VAT.

Clean the AutoMARK VAT

Before storing the AutoMARK VAT use alcohol wipes to clean the outside panels of the AutoMARK VAT unit.

Store the AutoMARK VAT

The AutoMARK VAT is designed for storage and operation in any enclosed facility ordinarily used as a warehouse or polling place. During operation, facility temperature range should be 50^0 F to 104^0 F and moisture range should be 10% to 50% relative humidity. For storage, facility temperature range should be -4^0 F to 140^0 F and moisture range should be 10% to 85% relative humidity.

Part 5: Polling Place Procedures

Many of the procedures presented herein are supported by illustrations when presented as instruction to Election Boards. Part 5 contains information about the following topics.

- 5.1 Precinct Supplies, Delivery, and Inspection
- 5.2 Polling Place Setup (Including Equipment Setup)
- 5.3 Open the Polls
- 5.4 Polling Place Procedures
- 5.5 Special Needs Voters
- 5.6 Provisional Voters
- 5.7 Closing the Polls and Vote Reporting
- 5.8 Audit Log: Procedures to Locate, Retrieve, Export, and Archive Audit Logs
- 5.9 Troubleshooting and Problem Resolution

5.1 Precinct Supplies, Delivery, and Inspection

Model 100 Precinct Supplies, Delivery, and Inspection

1. Instruct the appropriate precinct worker(s) to make the following checks of their election supply items prior to Election Day.
2. Check all pads of ballots to ensure that ballot style, serial numbers, and precinct numbers (if used) are printed on the ballots correctly.
3. Report any problems to the elections official responsible for the election.
4. Supplies necessary to conduct elections at polling places shall be delivered as follows: ballots shall be in the quantity and manner required by Elections Code and demonstrator ballots marked for demonstration use only will also be included.
5. In elections that contain partisan offices, ballots may, as directed by the Secretary of State, be appropriately tinted to reflect which partisan office appears on a specific ballot.
6. Demonstration placards, signage and “vote here” indicators.
7. General purpose optical scan voting system precinct supplies to include ballot secrecy sleeves, ballot marking devices, two sample ballots of each ballot style and in each language required to be voted on in the precinct, and seals as well as any other supplies and forms deemed necessary.
8. A Certificate of Packaging and Sealing, in duplicate, together with a self-addressed stamped business reply envelope, addressed to the responsible elections official.
9. The elections official shall verify that one **sealed** Model 100 nested in its three-compartment ballot box has been delivered to the polling place. If multiple precinct processing will occur at the polling place, the device shall be located so that it is equally accessible to the voters and precinct officers of each precinct. Keys to the unit and the ballot box will be included in the precinct supply kits and marked as such.
10. All voters voting on paper ballots in a polling place must be provided a secrecy (privacy) sleeve for the ballot and instructed on its use, in accordance with Elections Code section 14272.
11. Anti-static envelopes or appropriate containers and seals to facilitate safe and secure transportation of memory cards and election results tapes shall be supplied.

5.2 Polling Place Setup (Including Equipment Setup)

If multiple precinct processing within a single polling place is to be implemented, the functions hereinafter described shall be performed by the board workers of each precinct acting jointly insofar as is practical. Where forms are to be completed, the elections official shall provide them in such a format and so written as to facilitate notations by each precinct staff. Surrendered and delivered vote by mail ballots, spoiled ballots and provisional ballots shall be maintained separately by precinct.

Polling Place Procedures

Details for polling place procedures such as completing the Oath of Office, assembling the voting booths, verifying the supply of ballots, setting up the tabulator, etc., are covered in the document which is supplied with the tabulator being used.

5.3 Open the Polls

Open the Polls for the Model 100

Before the polls are open, the precinct workers will perform the following tasks.

1. Complete Oath of Office and Declaration of Intention forms pursuant to Elections Code section 12321.
2. Assemble voting booths and in each booth display a copy of the required materials.
3. Insure that a pad of demonstration ballots, markers and suitable demonstration materials are available at the point of ballot issue.
4. Before the polls are open, the precinct board shall verify that the serial number on the Model 100 is the same number that is listed on the Voting Device Report. The board shall also verify that all seals have not been tampered with and the serial numbers match what is recorded by the County office.
5. Check that the memory card plate is secure.
6. Verify that no ballots remain in any of the ballot box bins from testing or previous elections.
7. Verify that the ballot slot cover on the auxiliary bin is closed and the bin is locked.
8. Close and lock all ballot box doors.
9. Insure that the Model 100 is nested into the ballot box and that the power cord is properly threaded through the rear of the unit.
10. When the power cord is plugged into a 120V AC outlet and the unit is keyed on, the Model 100 powers on and automatically prints a Zero Totals Tape to indicate that no ballots have been cast and that no candidate has any votes. The Zero Tape is the final initialization report that shows all of the offices and all of the candidates in the election for all precinct(s). <u>All vote totals for all candidates must be zero.</u> The public counter will display zero ballots cast. If the Zero Tape does not automatically print when the voting device is plugged in and turned on, a different electrical outlet should be tried if available. If the Zero Tape still does not print, this must be reported to the elections official. Voting may commence, but ballots are to be deposited in the front auxiliary bin until corrective action is taken. Such action must be logged.

11. Verify that all offices and propositions appear on the Zero Results Tape. The Zero Totals Tape is signed by two board members; it can be rolled up and placed in a secure place or posted in the polling place for public display. This process is repeated at the closing of the polls. This tape becomes a permanent record of the election as it was conducted at the precinct.
12. Observe the poll opening time. If the recorded time is different from the actual time, note the time that the poll had opened and initial the marked time.

Open the AutoMARK for Use

To setup the AutoMARK table follow the procedures below:

1. Place the table upside down on a smooth flat surface that ensures adequate stability.
2. Remove the legs from the storage area on the bottom of the table.
3. Insert the legs by the end opposite the rubber endcaps into the cylinders on each corner of the table.
4. With the legs securely in place, place the lift the table right side up on the floor.

Take the following steps to open the AutoMARK LCD for use on Election Day.

1. Move the left and right sliding latches outward to unlatch the lid.
2. Fold the front portion of the lid back.
3. Rotate the lid assembly to vertical.
4. Raise LCD screen, and close the lid behind, leaving the front lid section rotated back.
5. Lower the ballot feed tray by lifting up and pulling toward the front.

Start Up Procedure

Take the following steps to start the AutoMARK.

1. Open the AutoMARK unit and position the display.
2. Locate the audio headphone jack on the front lower-right panel (below the keypad) and plug in the headphones.
3. Plug the power cord into a power connection in the back of the unit and the other end of the cord into a nearby AC power source. Make sure the cord is not in a position where it would be hazardous to anyone walking nearby.
4. Turn the security key located in the front of the unit to the ON position and remove the key before voters are allowed to use the AutoMARK VAT.

5. To shutdown the unit when the polls are closed, insert the security key located in the front of the unit and turn it to the OFF position, to turn off the electrical power.

5.4 Polling Place Procedures

A warning must be posted in each voting booth stating that, pursuant to Elections Code sections 18564, 18565, 18566, 18567, 18568, and 18569, tampering with voting equipment or altering vote results constitutes a felony, punishable by imprisonment.

Polling Place Procedures for the Model 100

While the polls are open, the precinct workers will perform the following tasks, and the following activities will occur:

1. During the day, at least every hour, inspect each booth to ensure that there are no electioneering materials present and that the booth is otherwise suitable for voting ballots. As far as possible, defacement conditions shall be corrected.
2. Offer to instruct each voter in the proper method of voting by darkening the oval, casting write-in votes and using the secrecy sleeve. Offer each voter further instruction and practice time, if necessary.
3. Instructions in inserting voted ballots into the Model 100, if necessary, shall be given at the time of stub removal.
4. A write-in space is provided for each office on the ballot. The voter must both write the name of the candidate and completely fill in the voting position oval.
5. The process for surrendering vote by mail ballots at the polling place must be followed. No person to whom a Vote-By-Mail voter ballot was issued is permitted to vote at the polling place unless he or she surrenders the ballot. The ballot is to be marked “SURRENDERED” and placed in the container marked for “VOTE-BY-MAIL BALLOTS SURRENDERED AT THE POLLING PLACE”. The voter is then permitted to vote at the precinct polling place. Any person to whom a Vote-By-Mail voter ballot was issued may vote a precinct ballot provisionally without surrendering the original ballot. This is accomplished by providing the precinct board workers with a signed statement, under penalty of perjury, that the voter has not voted and will not vote any other ballot in that election.
6. The process for leaving voted Vote-By-Mail ballots at the polling place is as follows. If a voter returns a voted Vote-By-Mail ballot, the precinct workers verify that the ballot is sealed and that the signature of the voter is on the Return Identification Envelope. They will additionally require any person who returns a voted, sealed vote by mail ballot to sign a log or record before depositing his or her voted and sealed vote by mail ballot in the specially marked container.

7. Do not store surrendered vote by mail ballots; returned, voted sealed vote by mail ballots; spoiled ballots; or voted provisional ballots in the auxiliary or emergency voting bin of the Model 100. Rather, these ballots should be stored in their appropriately designated containers unless the jurisdiction has adopted procedure to ensure a secure process.
8. The voter, upon leaving the voting booth shall place his/her voted ballot in the secrecy sleeve with stub exposed and proceed to the Model 100. There, a precinct officer shall remove the stub and hand it to the voter. The voter shall retain possession of the ballot and be directed to the Model 100 where he or she shall put the ballot into the throat of the device. The secrecy sleeve may continue to be employed during this process to hide the voted portion from view, but care should be taken not to attempt to introduce the sleeve into the throat of the Model 100. The voter shall return the empty secrecy sleeve as well as the uncapped marking instrument to a designated precinct official who may make it available for re-use. The provisions of this paragraph shall be considered mandatory when ballots are printed on both sides and optional when ballots are printed on one side. In the latter situation secrecy can be assured by advising voters to carry voted ballots face down after voting. Ballots may be processed through the Model 100 face down.
9. A precinct official shall be available near the Model 100 for assistance. This official may be on the board of either precinct if multiple precincts are being processed in a single polling place. The same official need not perform these duties throughout the day; and these duties may be rotated among the multiple precincts.
10. If a precinct worker assists a voter, at the voter's request, in how to insert his or her ballot into the Model 100, an Assisted Voter affidavit need not be completed, unless the assistance requires the viewing of the voting portions of the ballot.
11. Read and inform the voter of the text of messages displayed by LCD, if necessary.
12. The precinct workers will inform the voter of what corrective action, if any, may or must be taken should a ballot error or ballot anomaly condition be encountered. When assisting the voter as described above, the precinct officer shall position himself or herself so that the voted portion of the ballot shall not be in that officer's view.
13. During the time when Polls are open, the Zero Results tape can be removed from the Model 100's printer compartment, but shall be kept in a secure location at the polling place if the tape is removed from the unit the polling place will produce a minimum of two copies which shall be programmed within the ballot coding. One copy for public view in the polling place and one copy as an official record of the election.
14. No poll worker or other person may record the time at which, or the order in which, voters vote in a polling place.

15. If for any reason the Model 100 becomes inoperative, voting shall continue. From the time the device becomes inoperative, until it is repaired, tested and again made available for ballot tabulation; voted ballots shall be placed in the forward emergency or auxiliary bin which shall be opened for that purpose. If such an event occurs the elections official shall follow the California Election Code for processing. If, and when, the Model 100 is restored to operation, ballots which have been stored temporarily in the Emergency or Auxiliary Bin shall be entered into the Model 100 by a Precinct Board member, witnessed by a second Board member and must be fully noted in the delay event log. This process shall not hinder nor delay voting, and shall be performed during inactive voting periods, or after the last voter has voted and before the “Print Totals” key is pressed. During this process, if a damaged ballot is encountered, it shall be placed in an envelope or container appropriately labeled. Such ballots shall be held for duplication by the elections official for inclusion in the Official Canvass and be subjected to the 1% recount as deemed appropriate by the elections official in accordance with the California Election Code.

Polling Place Procedures for the Model 650

1. Follow the guidelines in Division 14, Chapter 3 of the California Elections Code to verify voter qualifications and distribute ballots.
2. Assist voters and instruct voters on how to mark ballots properly.

Polling Place Procedures for the AutoMARK

The AutoMARK VAT™ Voter Assist Terminal (VAT) is used to mark the ballot selections of voters who are visually impaired, have a disability, or who are more comfortable using an alternative language.

Ballot choices and instructions are displayed in large text print on the touch screen monitor, as well as read by the audio system in the language choice selected by the voter. Voters enter their selections by touching buttons on the screen, pressing keys on the keypad, or using an ADA device.

The AutoMARK VAT marks a ballot with the voter’s selections and returns it to the voter. The voter can then submit the marked ballot in the normal manner for tabulation. This guide contains information on how to set up the AutoMARK VAT prior to an election and how to maintain the AutoMARK VAT between elections.

Features of the AutoMARK VAT

A voter can use the AutoMARK VAT to mark a ballot by using:

- The touch screen
- The Braille keypad
- An ADA device (such as puff-sip or foot pedal)

The AutoMARK VAT has the capability to display ballots in alternate languages. Language choices are determined by individual jurisdictions. If the jurisdiction does not choose to allow alternate languages, the voter will not see the Language Screen, and the only Language available will be English. The audio matches the language selected.

The AutoMARK VAT has several privacy features. Audio volume can be increased or decreased as desired, and the screen can be turned on and off for privacy. If you want to use the audio system to listen to ballot choices and instructions, you will use the audio keys on the keypad (shown on the following page) to control audio sound. A jurisdiction can provide headphones with disposable earpieces.

The AutoMARK VAT also has a **ZOOM MODE** feature which enlarges the text on the screen, and a **High Contrast** mode which gives contrast to the screen resolution, for those who are visually impaired.

Using the AutoMARK VAT Keys and Buttons

The AutoMARK VAT is designed so that you can use either the keys on the keypad, an ADA device, or touch displayed text and buttons on the screen to enter your selections.

When you press the keys on the keypad or touch text or buttons on the screen, you are actually sending operating instructions (commands) to the computer. (For example, pressing the Screen Off/On key on the keypad tells the computer to turn the touch screen monitor off or on.)

- Touch the **BACK** button displays the previous screen.
- Touch the **ZOOM** In/Out button on any screen to increase and decrease the size of the text displayed.
- Touch the **EXIT** Return Ballot button displays the EXIT screen.
- Touch the **HIGH CONTRAST** button on any screen lightens or darkens the screen contrast.
- Touch the **NEXT** button to enter your selection and display the next screen.

If you want to listen to choices and instructions in the language of your choice and use the keys on the keypad to enter your selections, plug in your headphones, or use the headphones provided by the jurisdiction.

NOTE: Audio includes keypad instructions. Therefore, no further audio and keypad information is included in this guide.

Using an ADA Input Device

The AutoMARK VAT provides an interface for an input device for disabled voters to indicate their selections. This device is often called an ADA device, after the Americans with Disabilities Act, which requires that access be provided to citizens with disabilities.

The ADA input device allows the voter to make his or her selections, in place of either the touchscreen, or the keypad, on the AutoMARK machine.

ADA input devices supported include a sip and puff device, a paddle switch, a floor switch, or any similar two-position switching device that is comfortable for the voter and meets the electrical specifications below. Typically the voter brings his or her own device to the polling place.

The AutoMARK VAT supports a type of electrical interface standard called DSA, dual-switch access. The ADA input device plugs into the 3.5 mm “stereo” jack in the right section of the ACCESS area on the front panel of the AutoMARK VAT.

Within the input device there are two momentary switches. These switches are connected to a cable terminated with a 3.5 mm stereo plug. One switch connects to the TIP connection on the stereo plug, and the other switch connects to the RING pin on the stereo plug. Each switch is normally open. When actuated by the user, the switch closes either the TIP or the RING circuit to the common BARREL shaft of the stereo plug.

Electrical specifications for the two switches within the ADA input device: switch contact resistance when a switch is closed, less than 100 ohms. DC current handling capability, 5 milliamperes. These specifications are readily met by DSA devices in the market that have been tested by Automark Technical Systems.

Circuitry within the AutoMARK VAT detects when an ADA input device has been inserted into the jack, and activates a special interface mode. The sequences of choices on the LCD screen in ADA input mode are adapted to accept either of two responses, YES and NO, or UP and DOWN, or LEFT and RIGHT, as may be suitable in context for the selections being made. Likewise, the audio prompts that are available at the headphone outputs are also adapted for this two-switch interface mode.

The AutoMARK VAT is designed to work with ADA devices such as:

- Puff-sip
- Foot Pedal

The AutoMARK VAT allows a Voter with an ADA device to perform all of the selections available on the key pad or touch screen. When using an ADA device the system responds to a *yes* or *no* action. The AutoMARK VAT allows you to complete a ballot entirely with the aid of and ADA device.

Instructions for Use of an ADA Device

When a screen is displayed, you may select **NO** to bypass that screen or **YES** to move to the first selectable choice on that screen. When you are on a selectable item of the screen, the item will be highlighted in yellow. Selecting **NO** will move on to the next selectable item on the screen. Selecting **YES** will provide the same results as if you had clicked on that item.

When on a candidate or question choice **YES** will select or deselect that candidate.

When on a **MORE** scroll bar, **YES** will cause the screen to scroll up or down as indicated.

When on a screen button, **YES** will invoke that action. For example, entering **YES** when **ZOOM** is highlighted will cause the screen to ZOOM. Entering **YES** again, will return the screen to non-zoomed mode.

Pressing **NO** at any time will move to the next highlighted item.

As you enter **NO** repeatedly, the highlight will move down the screen, across the bottom from right to left and then loop back to the top.

When you are done making selections on any given screen, enter **NO** repeatedly until the yellow highlight is on the **NEXT** button and then enter **YES** to move to the next screen.

If a voter encounters a problem operating the AutoMARK Voter Assist Terminal, he or she should ask an elections official for assistance.

Setting Up the AutoMARK VAT for Voters

The following procedure must be followed to set up the AutoMARK VAT for normal operations.

1. Follow the start up/shut down procedure above to start the AutoMARK VAT.

2. If headphones are being supplied by the polling place, plug the headphones into the audio jack.

NOTE: Ask voters who do not want, or need, to use headphones to unplug them to prevent them from being distracted by the audio playback.

3. If the voter needs to use a Puff-Sip device, plug the Puff-Sip device into the ADA access port.
4. Assist the voter in adjusting the LCD screen to a comfortable position that minimizes glare or parallax.

NOTE: Caution voters who are unfamiliar with the use of touchscreens against using sharp objects on the screen or using excessive pressure.

5. Blind voters should be assisted to the AutoMARK VAT, and assisted in inserting their ballot for scanning, setting volume levels, and reminded that the display screen can be disabled by pressing the diamond-shaped button. Assist the voter in locating the paper input tray edges and the Braille keypad controls. Explain that the scanning process will take around 30 seconds, and that the VAT will be silent during the scanning process. When the scanning process is complete, the VAT will provide audio instructions for completing the ballot.
6. If necessary to allow for increased accessibility, the input tray can be folded up after the ballot in inserted and the voting session started. To fold the tray up, lift the tray up and push in. Voters should be reminded to fold the tray back down prior to ejecting the ballot.
7. Audio instructions are provided each time a write-in screen is selected. Sighted voters will use the intuitive touch screen, and unsighted voters can follow the audio instructions on entering write-in data using the Braille keypad. Voters should be cautioned against pressing the LEFT or RIGHT keypad buttons during the write in process unless they desire to cancel or exit the write-in screen.
8. The AutoMARK VAT is designed for use in conjunction with the AutoMARK Table which provides the voter with a privacy shield, complies with all ADA accessibility requirements, and ensures stability against movement, or overturning during entry occupancy or exit by a voter. Alternatively, the AutoMARK VAT may be used in conjunction with any ADA compliant table that provides adequate structural stability for unit of the AutoMARK VAT's size and weight and a privacy screen. Both of these items are commercially available from a number of sources.

5.5 Special Needs Voters

What are the procedures for voters who are visually impaired or have other disabilities? What are the procedures for voters who have a language preference other than English?

Assisting a Voter with a Model 100

1. If a precinct worker assists a voter, at the voter's request, in how to insert his or her ballot into the Model 100, an Assisted Voter affidavit need not be completed, unless the assistance requires the viewing of the voting portions of the ballot.
2. Read and inform the voter of the text of messages displayed by LCD, if necessary.
3. When assisting the voter as described above, the precinct officer shall position himself or herself so that the voted portion of the ballot shall not be in that officer's view.
4. Set up the Model 100 with enough room for a voter in a wheel chair to approach the tabulator from the front as well as along the left and right sides of the M100.

Assisting a Voter with an AutoMARK

Alternate Language Support

One purpose of the AutoMARK VAT is to assist voters who are more comfortable with a language other than English. Federal legislation requires certain jurisdictions to provide alternate language support.

Functionality for Visually Impaired Voters

The AutoMARK VAT generates audio voting instructions that guide a visually impaired voter through the election sequence. The voter wears headphones to hear the spoken instructions. The voter makes his or her selections by pressing buttons on a specially designed switch panel. The instructions are generated by speech synthesis software or recorded audio files. The voter can adjust the volume to a level comfortable to him or her. The voter can also command a phrase or message to be repeated. A tempo (or speed) control is available for those languages generated by speech synthesis.

Dual-mode Ballot Concept

The fundamental system concept for the AutoMARK VAT is to provide a means for voters needing assistance in voting to mark a standard paper ballot. Voters who are comfortable with hand-marking a ballot will continue to vote in the standard way. As contrasted with competitive systems that use touch screen technology and electronic data capture exclusively, this architecture preserves the safeguard of a human-readable, verifiable, auditable paper ballot. In addition, this architecture does not force election jurisdictions to replace their existing ballot-scanning equipment, or their centralized election software. It reduces equipment costs by avoiding the need to have touch screen terminals for all voters. Based on recent experience that touch screen voting is actually slower for those voters who do not need special assistance, the dual-mode ballot concept speeds up voting and avoids congestion at the polling place, while providing access for those who require it.

Operating Functions

The AutoMARK Voter Assist Terminal (VAT) offers the following functions:

- Marks voter selections on a standard ballot form in a human-readable format
- Provides Braille keypad and display shut-off to maintain privacy for voters who are visual impaired
- Provides audio and visual instructions in multiple languages
- Processes multiple ballot types and sizes
- Provides secure environment via a Compact Flash card protected in a locked compartment

Assisting the Blind Voter

Blind voters should be assisted to the AutoMARK VAT, and assisted in inserting their ballot for scanning, setting volume levels, and reminded that the display screen can be disabled by pressing the diamond-shaped button. Assist the voter in locating the paper input tray edges and the Braille keypad controls. Explain that the scanning process will take around 30 seconds, and that the VAT will be silent during the scanning process. When the scanning process is complete, the VAT will provide audio instructions for completing the ballot.

Assisting the Voter who uses an ADA Device

If a voter is using an ADA device, the poll worker should

1. Insert the ballot for the voter,
2. Read the following instructions to the voter:

You have plugged in an ADA device. This allows you to navigate through your ballot using YES or NO inputs.

When a screen is displayed, you may select NO to bypass that screen or YES to move to the first selectable choice on that screen. When you are on a selectable item of the screen, the item will be highlighted in yellow. Selecting NO will move on to the next selectable item on the screen. Selecting YES will provide the same results as if you had clicked on that item.

When on a candidate or question choice YES will select or deselect that candidate.

When on a MORE scroll bar, YES will cause the screen to scroll up or down as indicated.

When on a screen button, YES will invoke that action. For example, entering YES when ZOOM is highlighted will cause the screen to ZOOM. Entering YES again, will return the screen to non-zoomed mode.

Pressing NO at any time will move to the next highlighted item.

As you enter NO repeatedly, the highlight will move down the screen, across the bottom from right to left and then loop back to the top.

When you are done making selections on any given screen, enter NO repeatedly until the yellow highlight is on the NEXT button and then enter YES to move to the next screen.

Place ballot into secrecy sleeve immediately and submit ballot in normal manner.

5.6 Provisional Voters

Pursuant to California Elections Code, Section 14310-14312, a Provisional Ballot shall be issued to a voter not appearing on the polling place roster but requesting to vote. These ballots will be distinguished in a distinct manner by the County and should be kept separate from normal ballots. When voted the ballot will be sealed in a signed envelope, similar in process and design as a Vote By Mail envelope, then deposited into the auxiliary bin of the ballot box. At the close of polls this ballot shall be placed with the voted ballots, in its sealed envelop, for transport back to the County. Follow County specific instructions for further detailed processing.

Prior to tabulating, the County will follow verification procedures to determine that voter's eligibility to vote in that election.

5.6.1 Provisional Voters – In Precinct

If the ballot was cast by a provisional voter that is registered to that precinct, the ballot shall be cast in its entirety and in its original form.

5.6.2 Provisional Voters – Out of Precinct

If the ballot was cast by a provisional voter that is not registered in that precinct, the ballot will be duplicated to a ballot specific to that voter's precinct. The duplication will reflect only the offices and propositions in which the voter is entitled to vote.

5.7 Closing the Polls and Vote Reporting

Closing the Polls with the Model 100

The following procedures and activities must be conducted in public view.

1. Promptly at 8 P.M. declare, “The polls are closed.” Any voter in line at the closing must be allowed to vote.
2. All unused official ballots are boxed, noted and sealed into a container meant for this purpose.
3. Place all surrendered vote by mail Ballots in the container provided for that purpose. Place any voted Provisional Ballots in the container provided for that purpose. Set the containers aside for return with the rest of the election supplies.
4. Open the Model 100 printer compartment and unroll the Zero Results Tape if saved within the unit. Respond to the “CLOSE POLLS” message by depressing the “YES” button on the face of the Model 100. Respond to the confirmation message with another depression of the “YES” button. The Precinct Results Tape will now begin to print. The Precinct Results Tape prints ballot statistics and a listing of each office and measure, within which are the tabulated counts of votes for each candidate and each measure (for/against). Said copy of the tape may be posted in a location chosen by the elections official.

AT THIS POINT, A BALLOT ACCOUNTING OPTION IS AVAILABLE.

5. Ballot accounting for the unofficial canvass may be by reference to statistics printed on the Precinct Results Tape. In such case, a physical counting of ballots in certain randomly selected ballot boxes may be performed as an audit trail CHECKPOINT. This physical counting of ballots will be accomplished during the preparation of the official canvass.
6. Ballot counts for each precinct, and in an “Open Primary” Election, ballot counts for those ballots containing a partisan office, shall be copied from the Precinct Results Tape onto the Ballot Accounting Statement. Total ballots cast are also available from the public counter.
7. If the elections official directs that the procedures described in paragraphs 4. and 5. above be followed, it will not be necessary to physically count the ballots. Ballots containing write-in votes will have been separated into the left bin and there will be no need to go through all the ballots searching for write-ins as they will, at the choice of the county, be processed at election central.

8. All precinct workers will sign the certification message at the end of the Precinct Results Tape. The continuous Precinct Results Tape and The Zero Results Tape shall be torn off at this point, and placed in a container designated for this purpose. A second log/results tape shall be printed by again pressing the Print Totals “YES” key. This second tape shall be torn off and posted outside the polling place.
9. Turn off and unplug the Model 100, and break the seal on the memory card compartment, place the memory card in the container provided for that purpose or by choice of the county, place the unit into a secure bag without removing the memory card thus leaving the seal intact for removal at election central.
10. Remove the memory card, and with one copy of the Zero and Precinct Totals Tape, place it in the anti-static bag. This anti-static bag will be delivered to either a collection point or to the central processing facility.
11. Remove the unit from the ballot box, place the unit into the equipment transfer bag with the seal remaining intact, and delivery the unit with other election material to election central for processing.
12. After unlocking the ballot box compartment doors, remove the voted ballots from the ballot box taking care to place those left bin ballots which contain write-in votes, if the diverter is used, on top of the normal right bin voted ballots.

NOTE: If multiple precinct processing in a single polling place occurs, the voted ballots must be separated into unique precinct groupings.

13. Ensure that all ballot box compartments are empty.
14. Where voting equipment is used to record and tabulate vote results in a polling place, upon close of the polls, the poll workers are required to print two copies of the accumulated vote results and one audit log from each device. Each poll worker must sign every copy.
15. One copy of the vote results from each device must be publicly posted outside the polling place. The second copy, along with the audit log, must be included with the official election material that is returned to the jurisdiction headquarters on Election night.
16. Complete the Ballot Statement indicating: the total number of official ballots received from the elections official; the number of spoiled ballots; the number of unused ballots; the number of provisional ballots; and the number of ballot cast at the precinct. The sum of the spoiled ballots, unused ballots, provisional ballots, and ballots cast at the precinct should equal the number of official ballots received from the elections official. Explain any discrepancy in writing on the ballot statement itself.

17. Reconcile the number of ballots voted in the precinct to the number of signatures in the Roster-Index. Again, explain any discrepancy in writing on the ballot statement.
18. Complete the “Certificate to Roster” showing: the name(s) of person(s) who, after signing the Roster, fail(ed) to vote because of challenge, or other reason; plus the number of people who voted in the precinct; and complete the certification attesting to the accuracy of the Ballot Statement. The Ballot Statement must contain the signatures of all the polling place workers.
19. A designated polling place worker will enter the number of vote by mail Ballots Surrendered at the Polling Place in the appropriate space on the Certificate of Packaging and Sealing. Then enter the number of provisional ballots in the appropriate space on the Certificate of Packaging and Sealing.
20. Place all unused, non-voted ballots in a container designated for this purpose and seal the container. It will be returned with the election supplies.
21. Place all voted ballots in a container designated for this purpose and seal the container. Enter the total in the proper box on the Certificate(s) of Packaging and Sealing and elsewhere as directed. This total should agree with the number of ballots cast at the precinct reported on the Ballot Statement.
22. Count the number of vote by mail ballots, if any, that were left at the polling place. These ballots were cast in accordance with Elections Code Sections 13317 and 13265. Seal and return these ballots as directed by the elections official.
23. The following methodology will be used in packaging various election supply items for return to the elections official. All ballots cast, unused ballots, surrendered vote by mail ballots and provisional ballots will be sealed in their designated respective containers. The Roster-Index, Precinct Index and Purged Voter Index will be sealed in accordance with the directions of the elections official. All other supplies will be packed or sealed as directed.
24. Dismantle and stack the voting booths.

25. Review the Certificate of Packaging and Sealing one last time. Verify that the numbers of ballots cast, vote by mail ballots, and provisional ballots have been correctly entered on the Certificate of Packaging and Sealing. Verify that the required materials have been placed into the appropriate container or containers, listing the materials inserted in each container and indicating that the container or containers were appropriately sealed. After all entries have been completed, each member of the board shall sign the Certificate. After the poll closing procedure is completed, the original Certificate shall be mailed to the elections official by a member of the precinct board other than the members who return the election supplies. A self-addressed stamped envelope shall have been provided for this specific purpose. The copy shall accompany the ballot container to the election supply collection point. At least two precinct board members must accompany all ballots and election supplies until they are in the custody of the elections official and a properly issued receipt for these items has been provided.
26. Memory cards and units will be returned in accordance with direction of the elections official.

DO NOT RELEASE BALLOTS OR ELECTION SUPPLIES TO THE CUSTODY OF ANY OTHER PERSON WITHOUT FIRST OBTAINING A RECEIPT.

Closing the Polls for the Model 650

Perform all of the tasks required for closing the polls in plain view of the public.

1. Follow the guidelines in Division 14, Chapter 4 of the California Elections Code when you close the polls.
2. Verbally declare that the polls are closed at the proper closing time.
3. Allow any voters remaining in line to vote but turn away any voters that arrive at the polling place after the official closing time.
4. Package all of your unused ballots according to the guidelines in the Elections Code.

Closing the Polls for the AutoMARK

Take the following steps to shut down the AutoMARK.

1. Insert the security key located in the front of the unit and turn it to the OFF position, to turn off the electrical power.
2. Locate the audio headphone jack on the front lower-right panel (below the keypad) and unplug in the headphones.

3. Unplug the power cord from the power connection in the back of the unit and the other end of the cord from the AC power source.

5.8 Audit Log: Procedures to Locate, Retrieve, Export, and Archive Audit Logs

This section provides a list of all audit log files, the file location within the voting system, and procedures to retrieve, export, and archive audit logs from the voting system.

The close of polls will automatically generate two (2) copies of the results report. One copy shall remain with the machine and the other shall be posted, if listed procedurally by the County, in an open public area. At the discretion of the County Election Administrator, the audit log report for that particular Model 100 can be printed at the close of polls after the results have completed printing. If the audit log is printed keep the log, along with all related election materials, together with the results tape for processing at the County office.

Each jurisdiction shall, before taking any action that could delete or overwrite any audit log, create an electronic copy, when applicable, or a clean paper copy, of all audit logs, to be maintained for a timeframe of 22 months and mandated by California statutes. All jurisdiction's elections officials or designees must promptly submit a signed statement to the Secretary of State attesting that the above requirement has been met.

Election Data Manager

Name and Location of EDM Audit Logs

Election Data Manager uses ES&S Audit Manager to store detailed logs of actions performed to EDM. The user must do the following to locate and view audit logs:

1. Open Audit Manager to access audit logs and select **View Log** under the **Audit** menu to open the View Log window.
2. Select the specific user whose actions you want to view from the **Select User List**.
3. Select **<all users>** for a list of all actions carried out in Election Data Manager and ES&S Image Manager.

Exporting EDM Audit Logs

To export the audit log to other locations or to a disk to save for later printing requires the following steps in Audit Manager:

1. In the **View Log** window, select **Export Data** to send audit data to another file location.
2. Select the location where you want to save your audit data and click **Save** to send your audit file to a new location. Select **Cancel** to return to the Audit Manager main screen without saving the file.

Definition of EDM System Messages

All of ES&S Audit Log Messages and System Log Messages are humanly readable. Below is a table of potential audit log/error messages you may encounter.

EDM System Messages

System Message	Definition/Location
One of the parameters contains an invalid value	Most often due to an illegal pointer
The operating system ran out of memory during the operation.	System Operation Error, reboot should fix problem. Contact ES&S
The CSP ran out of memory during the operation.	System Operation Error, reboot should fix problem. Contact ES&S
The provider DLL file does not exist or is not on the current path	Verify the provider's DLL file exists and the current path selected is correct.
An error occurred while loading the DLL file image, prior to verifying its signature.	System Operation Error, reboot should fix problem. Contact ES&S
Your Election Definition Manager License has Expired.	Contact ES&S
<Filename> does not exist	User entered the incorrect file name
Unable to Create Temp File	User is unable to create temp file
Error Opening Temp File	User is unable to open temp file
Error Closing Temp File	User is unable to close temp file
Unknown Error Closing File	User is unable to close the selected file
Please Import a Bitmap File	User must import a Bitmap file.
<Name> Elections may have a maximum of XXX parties	User has reached the maximum number of parties
Check menu Link Districts to Offices - no Districts are assigned to this office	User must assign districts to offices
Candidates may not be added until offices are added for this election	User must added the offices prior to entering candidates

EDM System Messages

System Message	Definition/Location
One or more parties has been assigned mulitple times. Ensure that each party is assigned only once, and then press the OK button.	User has assigned parties multiple times.
You must enter a Last Name for this Candidate	User must provide the last name of each candidate
You must select the Office for this Candidate	User must select an office for each candidate entered
Candidate BMP pathname and file can not be more than 80 characters	User entered a pathname that exceeds 80 characters
Office Heading Name can not be blank	User must enter an Office Heading Name
District Type Name can not be blank	User must enter a District Type Name
The File name can not be more than 8 characters	User entered a filename that exceeded 8 characters
The file must include an extension of .RTF or .TXT	User needs to include a .RTF or .TXT document
Output Folder cannot be blank	User must provide an output folder to continue
Ballot Set Collection File cannot be blank	User must enter ballot set collection file name
Unable to create directory <Directory Name>	User must recreate directory
Unable to create Wave Report <Filename>	User must recreate Wave Report
The Ballot Definition File folder does not exist or you have insufficient permission to write to the folder	User must provide credentials or select the correct Ballot Definition File
Could not find office - not deleted	User seleted office is not found
Office Title Needed	User must enter an Office Title
Sequence number needed	User must add sequence number
Sequence number must be numeric	User must add a numeric sequence number
Sequence number must be 100 or greater	User must start at sequence number 100 and work up
Vote for number must be greater than 0	User must have vote for number to be one or greater
The Rotation Value entered into Merge Preferences Exceptions is greater than the number of rotations. Precinct: XXXXX	User entered a value greater than the number of rotations for precinct <number>
Party <Party Name> has an invalid device code; merge cannot continue	User must correct the device code, Contact ES&S

EDM System Messages

System Message	Definition/Location
The specified Precinct Name does not match the Precinct Name of other splits for this precinct. Would you like the Precinct Name to be corrected	User needs to specify precinct name
This is a System Generated Party and cannot be removed!	User cannot delete System Generated Parties, Languages, etc.
The Ballot Definition File Path cannot be blank	User must enter a valid Ballot Definition File Path

Back Up and Archiving EDM Audit Logs and Files

Back Up EDM Files

To back up the election programming (EDM and ESSIM), save the following files with the full path information.

1. Right-click the **Start** button and select **Explore**.
2. Locate your election in C:\UNITY\EDM\COUNTYFOLDER, where COUNTYFOLDER is the name of your county.
3. Select every file in the folder, as well as the election name folder of the election to be backed up.

NOTE: Select multiple files by holding the **Shift** key and selecting a sequence of files or holding **Ctrl** and selecting multiple files out of sequence.

4. If you saved Image Manager objects, such as text or graphic frames, outside of the COUNTY folder brows to the appropriate location and include them.
5. Save these files to your choice of media, such as a 3.5-inch disk, a CD, or a USB drive.

Archiving EDM Audit Logs

Perform the following steps to archive the audit log:

1. From the **Audit** menu, select **Archive Log** to open the Archive Database window.

2. In the **From** box, select a beginning date and then select an ending date in the **To** box to set the time frame for archiving records. Enter dates manually or click the arrows to select dates from the calendar.
3. Select **Archive** to archive the selected records or click **Cancel** to return to the main screen without archiving your records.

ES&S Image Manager (ESSIM)

Name and Location of ESSIM Audit Logs

ESSIM uses ES&S Audit Manager to store detailed logs of actions performed to ESSIM. You must do the following to locate and view audit logs:

1. Open Audit Manager to access audit logs and select **View Log** under the **Audit** menu to open the View Log window.
2. Select the specific user whose actions you want to view from the **Select User List**.
3. Select **<all users>** for a list of all actions carried out in Election Data Manager and ES&S Image Manager.

Exporting ESSIM Audit Logs

To export the audit log to other locations or to a disk to save for later printing requires the following steps in Audit Manager:

1. In the View Log window, select **Export Data** to send audit data to another file location.
2. Select the location where you want to save your audit data and click **Save** to send your audit file to a new location.
3. Select **Cancel** to return to the Audit Manager main screen without saving the file

Definition of ESSIM System Messages

All of ES&S Audit Log Messages and System Log Messages are humanly readable. Below is a table of potential audit log/error messages you may encounter.

ESSIM System Messages

System Message	Definition/Location
Ballot On Demand does not support old layout formats.	In BOD setup, an old style layout was used
Ballot Style Number XXX, Page Number XXX Candidate 'xxx' not associated with any office	An invalid candidate number was encountered in the test deck calculations
Ballot Number xxx, Page Number XXX Unknown Record Type X under Office xxx	An unknown office record type was encountered in the test deck calculations
Ballot Style Number XXX, Page Number XXX, Invalid Contest ID xxx	An invalid contest ID was encountered in the test deck calculations
Ballot Style Number XXX for code xxx not Found Check Vrab.val file line xxx	Ballot style not found during validate vrab process
Ballot Sytle xx Not Found. No Ballot will be printed	In BOD mode, the specific ballot was not found
BDF layout record too large - data will be lost	BDF record read was too large
BDF, LDF File Mismatch	The bdf and idf files do not match
Bottom Rule adjustments must be between -0.003 and +0.003	The bottom rule adjustment of a style sheet is out of range
Bottom Rule width must be less than 0.003	The bottom rule width of a style sheet is too large
Can not process ballots on demand	Trying to print BOD ballot when not in BOD mode
Can not process batch ballots	Attempting to process batch BOD ballots when not in BOD mode

ESSIM System Messages

System Message	Definition/Location
Can not use old sytle BDF	Loading election with old Ballot Data File format
Candidate already assigned to another style	Candidate is being applied to more than one style sheet
Candidate Position number too large	The candidate position number is too large
Cannot Process Ballot Data File. No Ballot Styles Found	No ballot data found in the bdf file.
Could not find complete disclosure information. Please contact ES&S for a list of supported devices	No ballot data found in the bdf file.
Could not fit text within frame xxx	Could not fit text within frame xxx
Default Style Sheet cannot be Deleted	An attempt was made to delete the default stylesheet
District specified as a key but no district name selected	In the organization dialog, no district name was supplied
Duplicate Ballot Set Code xxx Found	Duplicate BOD ballot set code found
Duplicate Ballot Set Description Found	Duplicate BOD description found
Error Closing Temp File: xxxx	Error closing temp unencrypted file
Error Opening Temp File: xxxx	Error opening temp unencrypted file
Exceeded RTF font entries	An rtf file exceeded the number of allowable font entries
Frame - xxx Unable to Copy File xxx to xxx	Unable to copy frame data file
Frame display type not read correctly	Invalid frame display type for the frame
Frame Height must be greater than 0	In a frame dialog, the frame height is zero
Frame Width must be greatther than 0	In a frame dialog, the frame width is zero
Invalid Hard Code in RTF File	ESSIM found unknown hard codes in an rtf file used on the ballot
Invalid Page Number	When processing the IFC file, an invalid page number was encountered
Invalid Party Code xxx in VRAB request	While processing a VRAB file, an invalid party code was encountered
Invalid path for the IFC File	In the update IFC dialog, an invalid path was given
Invalid Record Referenced. Please Contact Customer Support if the Problem Persists	Invalid reference in BDF file

ESSIM System Messages

System Message	Definition/Location
Invalid Target Position Number xxx. Maximum Target Position Number is xxx	A calculated target number was over maximum
Line Width (Back Side) should be between 0.1 and 2.0 points	In the Advanced Layout Dialog, the back line width was set too large
Line Width (Front Side) should be between 0.1 and 2.0 points	In the Advanced Layout Dialog, the front line width was set too large
More than one Ballot Set must be present for this operation	In the Copy Layout Dialog, at least two ballotsets need selected
No Printer Driver Installed! Aborting the Program	When starting ESSIM, there is no printer driver installed
Not a Bitmap File	A bitmap file being processed is not a bitmap file
One or more Ballot Sets must be selected	In the Copy Layout Dialog, no ballot sets are selected
Out of memory for DIB bits	Too large of a bitmap file is being processed
Oval position should be less than or equal to oval span	The oval position is set up incorrectly in respect to the oval span
Page xxx Back Side Errors	Frame could not be placed properly on ballot
Page xxx Front Side Errors	Frame could not be placed properly on ballot
Party Index not found	Party index not found in the bdf record
Permission Denied for Ballot on Demand Mode. Please Contact Customer Support	Trying to start ESSIM in BOD mode without permission
Permission Denied for Full Column Ruling Option. Please Contact Customer Support	When starting ESSIM, permission is denied for full column ruling
Please Enter a File Name	In a style sheet row diaglog, no file was given for a file selection
Please Enter a Repeating Sequence Greater Than Zero	For a test deck generation, a value of zero was entered
Please Enter a Style Sheet Name	No name was given for the style sheet
Please Enter a Valid Position	In a style sheet row dialog, an invalid row position has been selected
Please Enter Frame Name	No frame name was given in the frame dialog
Please enter value for flag equals	In a frame dialog, the frame is specified for a geo flag, but no flag value is given
Please Select a Ballot Set Collection File	In BOD setup, a BSC file has not been specified

ESSIM System Messages

System Message	Definition/Location
Please Select a Ballot Style to Delete	In BOD batch mode, a ballot style has not been selected to delete
Please Select a Ballot Style to Edit	In BOD batch mode, a ballot style has not been selected
Please Select a Ballot Style to Print	In BOD mode, a ballot style has not been selected
Please Select a Layout to delete	A BOD layout hasn't been selected to delete
Please Select a Layout to edit	A BOD layout hasn't been selected to edit
Please Select Ballot on Demand Type	A BOD type hasn't been selected
Please Select Position	In a style sheet row dialog, a position hasn't been selected for the row
Please Select Precincts to Print Headers	In the precinct header dialog, no precincts were selected to print
Please Setup Ballot on Demand	Starting ESSIM in BOD mode without a valid BOD layout set up
Please specify a Ballot Set Collection File	A Ballot Set Collection (BSC) file has not been specified
Problem locating district	In the organization dialog, the district index is out of range
Processing Terminated - too many passes required\Something may be wrong with these ballots	When doing a set office positions - No float, to many passes needed
Row offset must be between 1 and xxx	In the Office style sheet, an invalid row offset is specified
RTF formatting too complex	The formatting for a rtf file used on the ballot is too complex
Ruling Box Line width must be less than 0.003	The formatting for a rtf file used on the ballot is too complex
Scaling factors greater than 130% may give undesirable results	In the Advanced Layout Dialog, a scaling factor was set over 130%
Scaling factors less than 80% may give undesirable results	In the Advanced Layout Dialog, a scaling factor was set under 80%
Set Office Positions Failed	Set Office Positions Failed
Style must have a name	A style sheet is being saved without a name
Test Deck Generation Cancelled by User	Test Deck Generation Cancelled by User
Test Deck Generation Failed	Test Deck Generation Failed

ESSIM System Messages

System Message	Definition/Location
Text Frame Height must be greater than 0.10	In the text frame dialog, the height is set too small
Text Frame Width must be greater than 0.25	In the text frame dialog, the width is set too small
The Ballot Set Collection File selected does not contain any Ballot Sets for this Typesetter	The Ballot Set Collection File selected does not contain any Ballot Sets for the current Typesetter
The Combined Election IFC filename can not be blank.	In the IFC Combine, no destination filename was given
The Election Packager utility is missing from the executable path. \nCan not launch the Election Packager	When launching the Election Packager, the utility could not be found
The file Zip32.dll is missing from the executable path. \nCan not launch the Election Packager	When launching the Election Packager, the zip32.dll file couldn't be found
There must be at least 2 IFC files to combine	In IFC Combine, less than 2 files have been selected to combine
This file has already been selected	In the IFC Combine dialog, the same file is selected more than once
Top Rule adjustments must be between -0.003 and +0.003	The top rule adjustments of a style sheet are out of range.
Top Rule Width must be less than 0.003	A style sheet has it's top rule set too low.
Type code xxx is calculated type code for page xxx	In the page layout dialog, a specified type code is the same as a calculated type code
Type code xxx is used for two pages	In the page layout dialog, an attempt was made to specify the same type code for two pages
Unable to Allocate Memory	When starting ESSIM, there's not enough memory to allocate for variables
Unable to copy Frame Data - Unknown Destination Folder	Unknown data folder for election
Unable to create directory!	Unknown data folder for election
Unable to Create Export List File xxx	Unable to create the test deck export file
Unable to Create Temp File	Unable to create a temp file for decryption
Unable to Create Temporary IFC File	When creating the IFC file, ESSIM could not create a temp file
Unable to Create Validation Results File	In the validate VRAB function, the results file can't be created.
Unable to find BDF File - xxx	Unable to find Ballot Data File

ESSIM System Messages

System Message	Definition/Location
Unable to find BSC File - xxx	Cannot find the Ballot Set Collection (BSC) file
Unable to Find License Information	Unable to Find License Information
Unable to Locate Precinct in List	In the Geo Dialog, couldn't find precint user clicked on
Unable to open IFC file for output:	When creating the IFC file, ESSIM encountered problems
Unable to open Interface File (IFF):	When creating the IFC file, ESSIM could not open the IFF file
Unable to open layout - xxx	In BOD mode, could not open layout
Unable to open or locate audit database	When starting ESSIM, the audit database could not be opened or located
Unable to open template file	In the Load Template dialog, the template file could not be opened
Unable to open Validation Request File:	in the validate VRAB function, the VRAB validation file could not be found
Unable to write template file	In the save template dialog, the template file could not be written
Unknown Contest-Candidate combination	Unknown contest-candidate combination encountered in the test deck calculations
Unknown Frame Type xxx	Frame type is not text, graphic, or production
Uknown record type in Layout record	Unknown record type in Layout record
xxx - Invalid file extension	The file being processed isn't a txt or rtf file
xxx does not exist	ESSIM could not fine the file needed
You can not scale to 0	In the scale dialog, the scale factor was given as zero
You must first select a file from the list	In the scale dialog, the scale factor was given as zero
You must specify which GEO Flag to use	In a frame dialog, the frame is specified for partifular geo flags, but none are selected
You need to Set Office Positions for all Ballot Sets before you can update an IFC file	Attempting to do an update IFC without setting office positions for all ballot sets
Your ES&S Image Manager License has Expired. Please Contact Customer Support	License has expired.

Back Up and Archiving ESSIM Audit Logs and Files

Back Up ESSIM Files

To back up the election programming (EDM and ESSIM), save the following files with the full path information.

1. Right-click the **Start** button and select **Explore**.
2. Locate your election in C:\UNITY\EDM\COUNTYFOLDER, where COUNTYFOLDER is the name of your county.
3. Select every file in the folder, as well as the election name folder of the election to be backed up.

NOTE: Select multiple files by holding the **Shift** key and selecting a sequence of files or holding **Ctrl** and selecting multiple files out of sequence.

4. If you saved Image Manager objects, such as text or graphic frames, outside of the COUNTY folder brows to the appropriate location and include them.
5. Save these files to your choice of media, such as a 3.5-inch disk, a CD, or a USB drive.

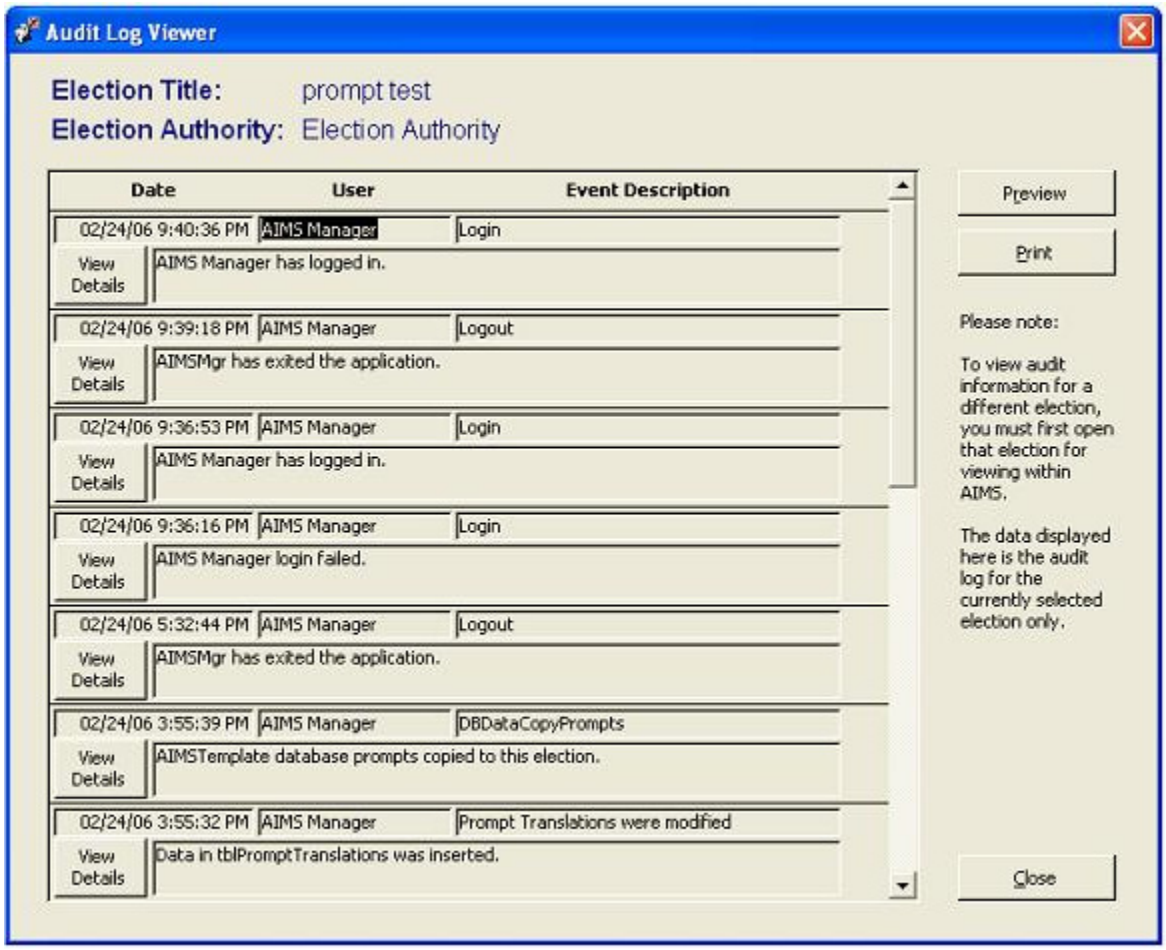
AutoMARK Information Management System (AIMS)

Name and Location of AutoMARK Audit Logs

AIMS' audit log information is specific to the election that is currently being used. To view the audit log, you must do the following:

1. Select **Audit Log** from the **Tools** menu on the menu bar.

2. The Audit Log viewer displays.



3. Using the buttons at the top of the form, the events may be previewed onscreen or printed. Click the **View Details** buttons for more details on the events.
4. Using the print functionality, a hard copy of the Audit Log may be printed and stored for future reference.

To locate audit log information, turn the key to **Test** to enter the Test Mode. Once the AutoMARK Main Menu screen displays, press the on screen button labeled **Operations Log**. When the Operations Log has been opened, user can print the operations log by pressing the **Print** button.

Exporting AIMS Audit Logs

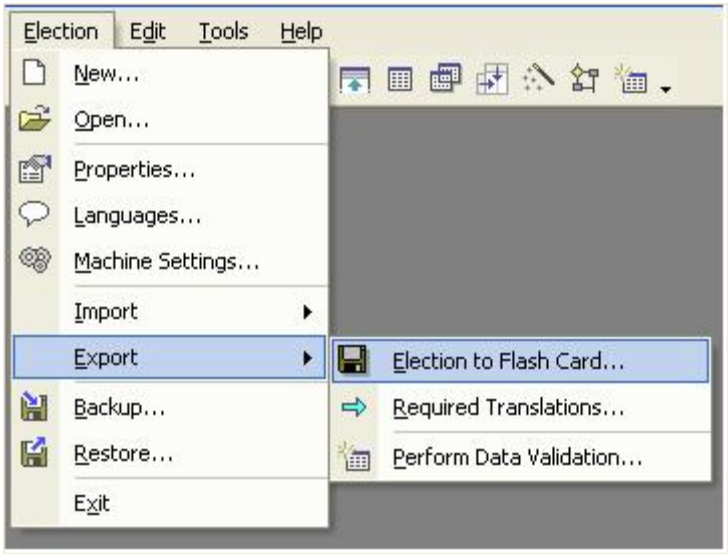
To export election to a flash card, you must do the following:

1. Select **Export >> Election to Flash Card** from the **Election** Menu on the menu bar.
2. The data will first go through a validation process, and once complete click **OK** to continue to the Export Tool Screen
3. On the Export Tool screen, select the Export Options. The choices are:
   - Export an entire election
   - Export all Ballots from Selected Precincts Below
4. Select the Export Destination to either:
   - Blank Flash Card
   - An Empty folder on the hard drive
5. Enter the encryption key
   - Encryption key is an important security measure that provides a level of protection from malicious tampering. The key that is entered here must be remembered and kept secure. This numeric key is entered into the Voter Assist Terminal keypad when you are previewing the election data or ready to use the Voter Assist Terminal on Election Day.
6. Click **Export**.
7. To continue, click **Yes**.
8. Data was successfully encrypted message displays, and the export is complete.
9. Click **OK** to finish.

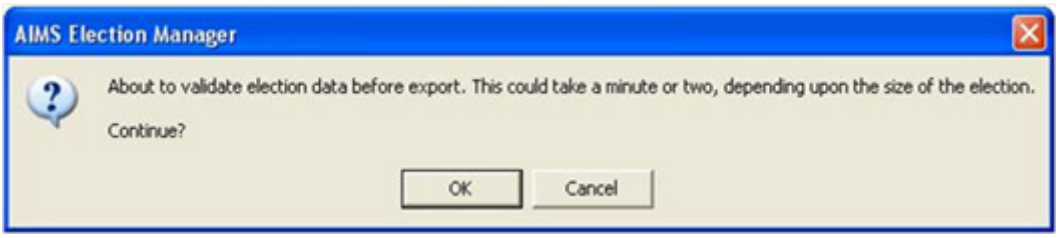
Back Up and Archiving of AIMS Audit Logs and Files

In the case where you have exported election data to a storage folder on your hard drive (as shown in the previous section) you can later copy this data to a flash memory card. You can do this by simply using the Windows file manager, to copy data from the location on your hard drive to the flash memory disk, or by using the Export Tool.

1. From the **Election** menu, point to **Export,** and click **Election to Flashcard.**

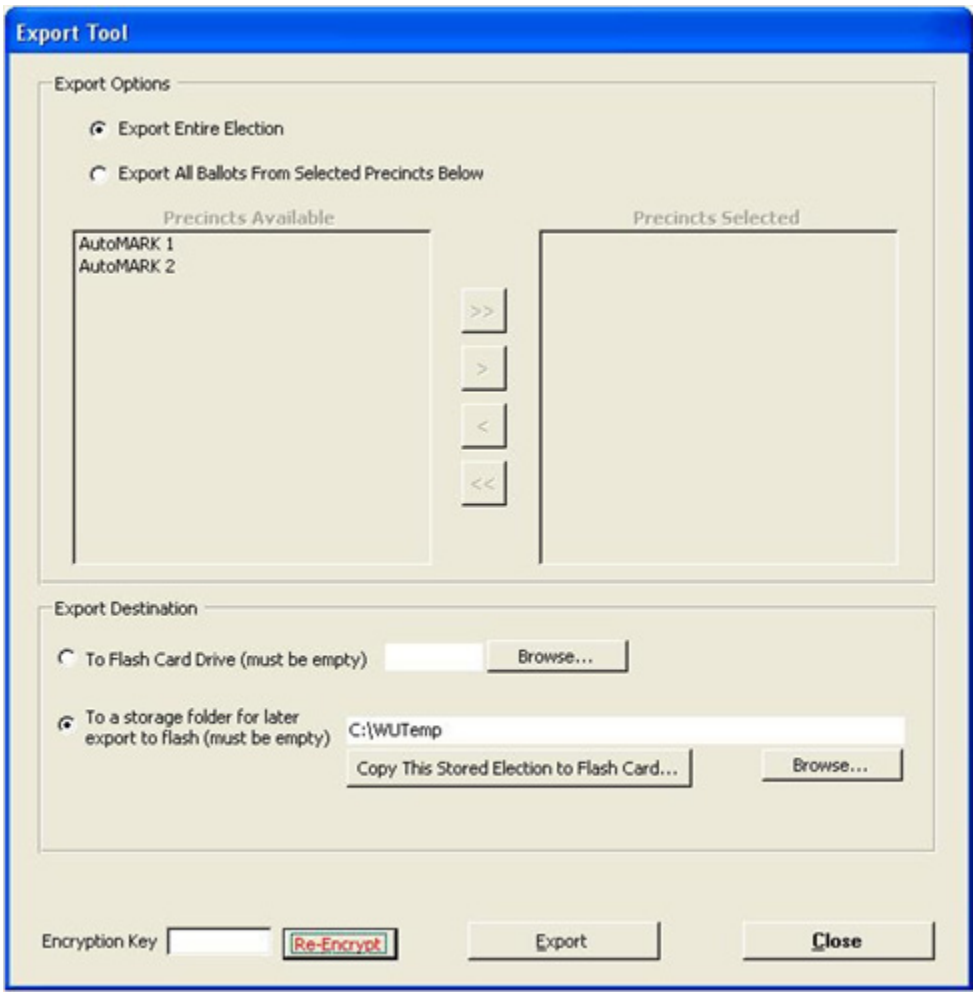


2. The AIMS Election Manager will go through the validation of the current election. (This may not be the same election you will be exporting to the flash card – but must be free of validation errors in order to proceed.)



3. Click **OK** to continue.

   If the system detects one or more errors in the data, AIMS will automatically display error messages with links that take you to the appropriate forms to repair the errors. Processing stops at this point until the errors are resolved. For help in troubleshooting these errors, see the Troubleshooting Guide in Section “Error! Reference source not found.” (Remember – this is not the data which you will be exporting to a flash card, so if possible, select an election with no validation problems.)



4. Choose the appropriate Export Option. For these purposes, it does not matter which option is chosen.
5. In the Export Destination, first select **To a storage folder for later export to flash (must be empty)**.
6. Click **Browse** to locate the folder on your hard drive where you previously exported the election data.
7. Click the **Copy This Stored Election to Flash Card** button.

NOTE: The flash card must be empty, with no folders or data on it.

The following screen will appear.

8. Click **OK**.
9. When the file transfer is complete, a confirmation message will appear:

10. If you wish to copy the files to another flash card, click **OK**. Click **Cancel** when finished.

Definition of AIMS System Messages

All of ES&S Audit Log Messages and System Log Messages are humanly readable. Below is a table of potential audit log/error messages you may encounter.

AIMS System Messages

System Message	Definition/Location
AIMS ERROR	An unexpected error has occurred. This message will give details of location where error occurred, the error number and description, and in some cases, an extra sentence stating the likely cause of the error.
ApplyDefaultRace SegsGlobally	Race candidates re-ordered to default in all ballots
AudioFileCreate	A new audio file was added to the database
AudioFileEdit	An audio file already in the database was edited
BallotDelete	Ballot was deleted
BallotOvalDelete	Ballot oval was deleted
BallotOvalsClear	All ballot oval information was cleared from the ballot and splits
BallotOvalsClearAll	All ballot oval information was cleared from the entire election
BallotRaceRemove	Race(s)were removed from the ballot
BallotRaceSeqMoveDown	A ballot/race was moved down in the sequence
BallotRaceSeqMoveUp	A ballot/race was moved up in the sequence
BallotUpdate	The X or Y Timing Marks on a ballot are edited
CandDefaulSeqMove	Candidate sequence was changed
CandidateCreate	A new candidate was created
CandidateDelete	A candidate was deleted
CandidateDeleteAll	All candidate were deleted
CanSeqMove	Candidate sequence was moved
CreateRaceShortText	Created race Auto-Summary text
DataDictDelete	A data dictionary record was deleted
DBBackup	A database was backed up
DBDataCopyDataDict	Data dictionary items were copied from the specified database over to this database
DBDataCopyPrompts	Prompts were copied from another database to this one
DBDataCopy Scaninfo	Ballot-scan information was copied from the specified database over to this database

AIMS System Messages

System Message	Definition/Location
DBDataCopyTransArchive	Data dictionary items were copied from the specified database over to this database
DBDataPastePrompts	Database prompts copied from this election to the template
DBDelete	An election was deleted
DBLogin	When user logs in, user login name and password are checked against values in login table
DBLoginDoorSet	User password was changed
ElectionDetailsUpdate	The election authority or date were updated
ElectionLangDelete	A language was removed from the election
ExportPFAdd	Precinct(s) were added to the list for export
ExportPFRemove	Precinct was removed from the export list
ExportPFTablesClearAll	All the precinct filter tables are cleared
ExportPFTablesGenerate	Part of precinct export process
GroupDelete	A Group was deleted
HeaderCreate	A new header was created
HeaderDelete	A header was deleted
(U)Import	Performed full Unity Election import
LabelCreate	A label was created
LabelDelete	A label was deleted
LabelGrpFirstWAVCoversAll	Made first label in group the only label that reads aloud
LangSeqMove	Language sequence is changed
Login	User has logged into AIMS
Logout	User has logged out of AIMS
MergeLabelLineUp	Two labels were merged
PrecinctDelete	A precinct was deleted
PromptImportCheck	Prompts import data inspection performed a verification procedure is performed
PromptTransCreate	Prompt translation created/modified
PromptTranslationApply	Changes to a prompt translation were saved to the template

AIMS System Messages

System Message	Definition/Location
RaceDelete	A race was deleted
RaceDeleteAll	Deleted all races
RaceSummaryTextClear	System was cleared of automatic shortened summary race text
RaceSummaryTextReGen	Regenerated automatic race summary text fields
ScanRestore	Restored archived scan data to local election
ScanSave	Archived scan data to backup tables
SplitBallotAdd	Ballot was added to all splits
SplitBallotRemove	Split was removed or a ballot(s) were removed from a split, or a split was dissassociated from all ballots, or a ballot was removed from all splits. The message explains the exact nature of the event.
SplitBallotUpdate	Updated Split/Ballot scan information
SplitDelete	A split was delted
SysClearTables	Tables with election data were cleared
tblAudio	Audio file was added, deleted, or changed
tblBallotCandSeqs	Ballot Candidate Sequence was added, deleted, or changed
tblBallotOvals	Ballot Oval was added, deleted, or changed
tblBallotRaces	Race/Ballot association was added, deleted, or changed
tblBallots	Ballot was added, deleted, or changed
tblCandidates	Candidate was added, deleted, changed, or sequence changed
tblDataDictionary	Data dictionary item was added, deleted, or changed
tblElectionLangs	Election language was added, deleted, or changed
tblElections	Election was added, deleted, or changed
tblGroups	Group was added, deleted, or changed
tblGroupTypes	Group type was added, deleted, or changed
tblHeaders	Header was added, deleted or changed

AIMS System Messages

System Message	Definition/Location
tblLabel	Label was added, deleted or changed
tblPrecincts	Precinct was added, deleted, or changed
tblPrompts	Prompt was added, deleted, or changed
tblPromptTranslations	Prompt Translation was added, deleted, or changed
tblRaceReview	Race was reviewed
tblRaces	Race was added, deleted, or changed
tblSplitBallots	Split Ballot was added, deleted, or changed
tblSplitLangs	Split Language was added, deleted, or changed
tblTranslations	Translation was added, deleted, or changed
TransArchiveAdd	A translations was added or updated
TransExportGenerate	Required translations were exported
TransGrpTransClearAll	All non-English translations were removed from the election
TransGrpTransPopAll	Auto-populated all non-English translations for entire election
TransGrpTransPopOne	Non-English translations were auto-populated for a translation group
ValidateAudio	Audio/phonetic validation performed
ValidateBallotBarCodes	Bar code validation was performed
ValidateBallotTimingMarks	Ballot timing marks validation was performed
ValidateExport	Full export validation performed
ValidateFileNames	File name validations performed
ValidateTranslations	Translation completeness validation performed
ValTransMassCheckOff	Mass checkoff of user-specified items were performed
ValTransMassCheckOffOne	User checked off "Copy English" or English is Universal"
ValTransMissingBulkUpdate	User checked off "Copy English" or English is Universal" for bulk update

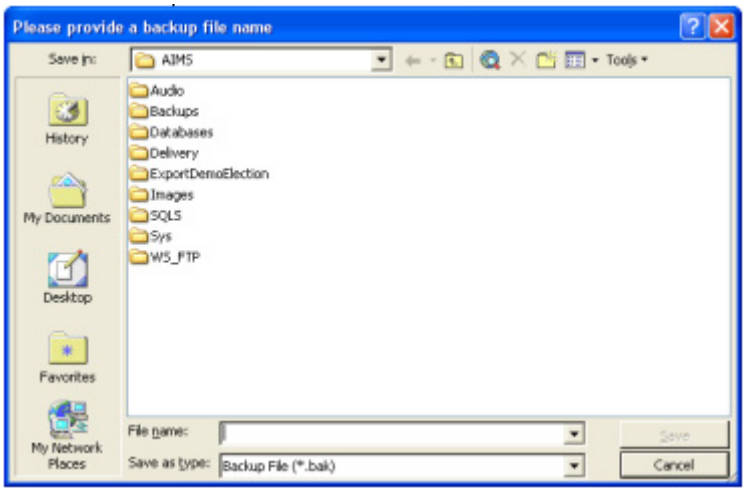
Back Up the AIMS Database

Disaster recovery and secondary security measures are handled through the AIMS Backup/restore procedure. The AIMS database should be backed up on a regular basis throughout the creation process. Backup files should be dated and stored accordingly.

Take the following steps to back up the AIMS database.

1. Select **Backup** from the Election menu.

The following window appears.

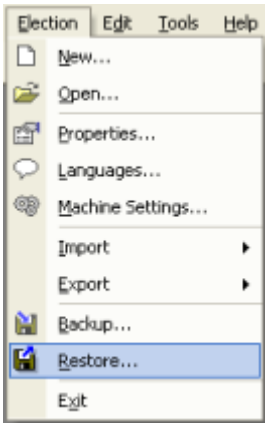


2. Select the folder and enter the filename of the file backup.
3. For security purposes, enter your password twice.

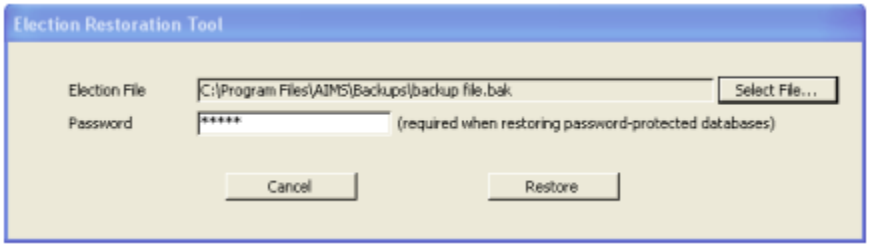
NOTE: If the election contains any labels that link to .WAV files, these files are not included with the backup. The audio folder containing the .WAV files should be kept with the backup file.

Take the following steps to restore the AIMS database.

1. Select **Restore** from the Election menu.



2. Browse for the filename.
3. For security purposes, enter your password.
4. Click **Restore**. The following window appears.



Hardware Programming Manager (HPM)

Name and Location of HPM Audit Logs

You can select the **Print Audit Log** check box to have the Log report print at the end of the results tape. If you choose not to have the log printed automatically, you can use the tabulator menu to go back and print it later. You must click **Model 100** or **Model 650** at the Election Specification screen to open the Model 100 Window. Select **Print**.

Exporting HPM Audit Logs

To find the HPM System Log, select the **Utilities** menu, then click **Report File Utility** to open the Report File Utility window. All saved or printed files will appear in that window. To export, select one report from the Report File Utility window and click **Copy**. Copy will allow you to create a copy to another file name, directory, or drive letter. Log files are also kept in the C:\elecdata folder and can be copied to another memory device for permanent storage.

Definition of HPM System Messages

All of ES&S Audit Log Messages and System Log Messages are humanly readable. Below is a table of potential audit log/error messages you may encounter.

HPM System Messages

System Message	Definition/Location
The Password cannot be blank	Administrator Login, User Login
You password has been successfully changed	Administrator Login, User Login
Invalid Password	Administrator Login, User Login
Precinct Number cannot be zero!	Create Tabulator Parameters
Ending Precinct number is less than beginning number	Create Tabulator Parameters
Jurisdiction name is required	Change Jurisdiction Master
State code is required	Change Jurisdiction Master
PRC Reserved by System to define precincts	Districts on Change Jurisdiction Master
District code must be entered	Jurisdiction Maintenance

HPM System Messages

System Message	Definition/Location
New Election I.D. required	Create New
You may not use _ * . \ or / in election I.D.	Create New
District code must be entered	District Maintenance
District number must be entered	District Maintenance
Valid classes are S,E,M, or N	Secruity Class Entry Error
Valid columns for 3PE are 0 thru 7	Column Number Entry Error
Erase embedded mask first	Column Number Entry Error
Valid positions are 0 thru 99	First Position Number Entry Error
Erase embedded mask first	First Position Number Entry Error
Valid positions are 0 thru 16	Number of Positions Entry Error
Start positions required	Number of Positions Entry Error
Column number required	Number of Positions Entry Error
Erase embedded mask first	Number of Positions Entry Error
Number of positions required	Number of Positions Entry Error
Must be Y or N or space	Non-Partisan Separtate Entry Error
Must be P or H or S or N or B or Space	Security Mask Entry Error
Must be P or H or S or B or Space	Security Mask Entry Error
Hex precinct numbers require 16 positions	Hex Precinct Warning
Too many Precincts	Create Districts from Difs or Precincts
File Error Occurred in Module PR049ALL	PE0183PE File Error Occurred
No selections were specified	System Log Listing
File does not exist	Import IFC
File cannot be unencrypted	Import IFC
You must specify an IFC file name	Import IFC
No polls in the requested range	Create Ballot Data Files
No precincts in the requested range	Create Ballot Data Files
Print the Ballot Data Status Report	Create Ballot Data Files
Page number is out of range	Go to Page
You must select a report to display	Report File Utility
You must select a report to print	Report File Utility

HPM System Messages

System Message	Definition/Location
You must select a report to delete	Report File Utility
You must select a report to copy	Report File Utility
Please enter a user name	User Login
Increment cannot be zero!	Renumber Precincts; Renumber Ballot Styles, Renumber Contests
New number cannot be zero	Renumber Precincts; Renumber Ballot Styles, Renumber Contests
Not a valid number	Renumber Precincts; Renumber Ballot Styles, Renumber Contests
Invalid range	Renumber Precincts; Renumber Ballot Styles, Renumber Contests
Number has already been used	Renumber Precincts; Renumber Ballot Styles, Renumber Contests
Poll number must be > zero!	Polling Place Maintenance
The drive letter cannot be blank	Load Memory Device with Parameters
The tabulator type selection is not implemented	Create Tabulator Parameters
Maximum number of parties reached	Change Political Party Master
Device code already used	Change Political Party Master
Not a valid contest number	Change Straight Party Contests
Thru number cannot be zero	Change Straight Party Contests
Thru number is less than begin number	Change Straight Party Contests
Contest number is not on file!	Change Straight Party Contests
Contest not found or not regular type	Change Straight Party Contests
Style number cannot be zero	Create Precinct/Ballot Style File
Invalid contest number	Regular Contest Maintenance
Not the proper type	Regular Contest Maintenance
Cannot be 0!	Regular Contest Maintenance
Cannot have PRC blank	Regular Contest Maintenance
Votes allowed must be > zero!	Regular Contest Maintenance
No District Code	Regular Contest Maintenance
Invalid District	Regular Contest Maintenance
Invalid with special type	Regular Contest Maintenance

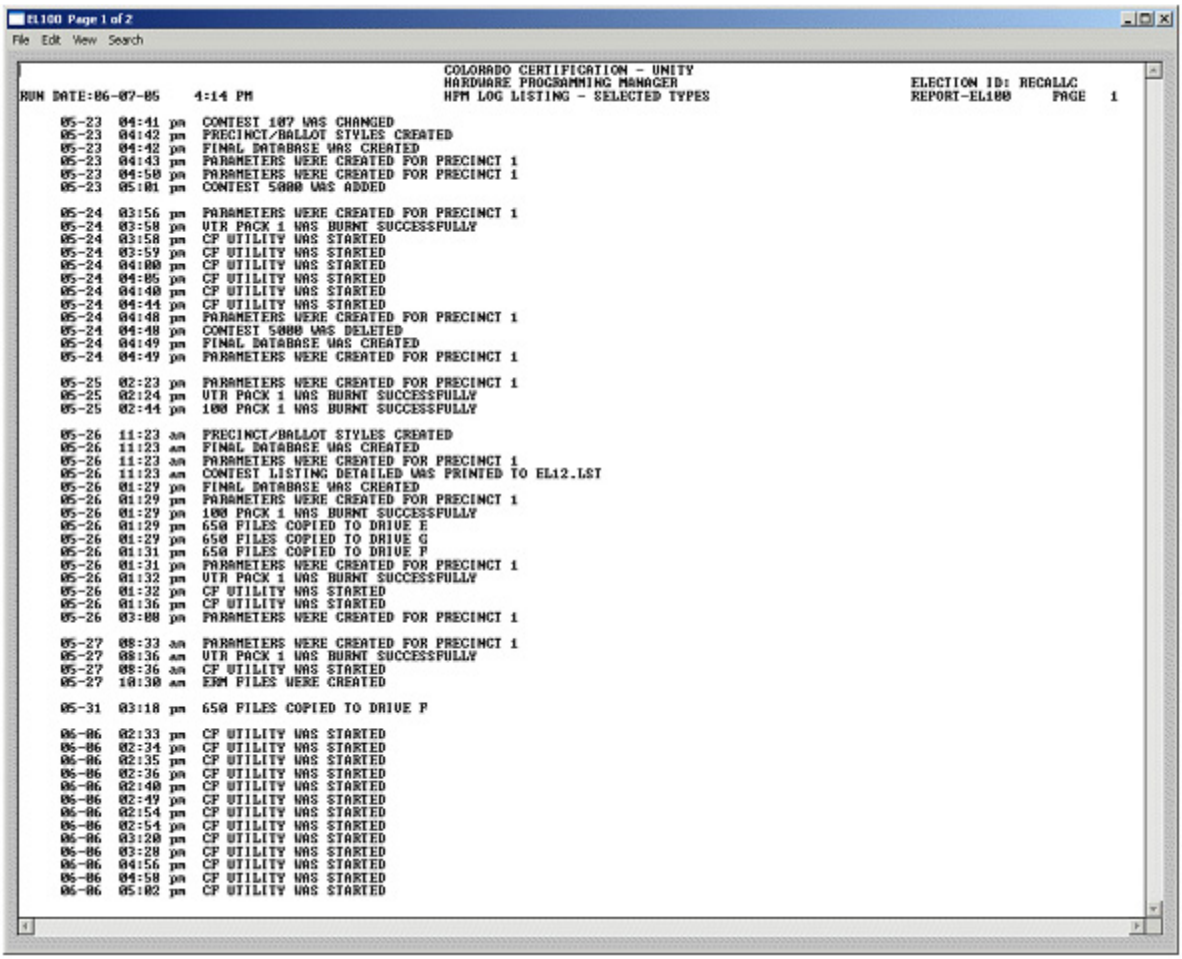
HPM System Messages

System Message	Definition/Location
Party must be entered for this candidate	Regular Contest Maintenance
Valid columns are 0 through 6	Regular Contest Maintenance
Valid columns are 0 through 3	Regular Contest Maintenance
Valid columns are 0 through 7	Regular Contest Maintenance
Column number required	Regular Contest Maintenance
Position number invalid	Regular Contest Maintenance
Ballot position required	Regular Contest Maintenance
Enter candidate name for ballot position	Regular Contest Maintenance
Precinct number required	Regular Contest Maintenance
Invalid party entry	Regular Contest Maintenance
Ballot position number required	Regular Contest Maintenance
Column position number required	Regular Contest Maintenance
District code invalid	Regular Contest Maintenance
Party is invalid	Regular Contest Maintenance
Invalid Precinct!	Regular Contest Maintenance
Not a print only type contest!	Print Only Type Contest Maintenance
Print type must be LIT	Print Only Type Contest Maintenance
Print type must be LIT or TPP or TOP	Print Only Type Contest Maintenance
Party Code is not on file!	Print Only Type Contest Maintenance
Print type must be 0 through 7	Print Only Type Contest Maintenance
Not a ballot counter type contest	Ballot Counter Type Contest Maintenance
Must enter description of ballot	Ballot Counter Type Contest Maintenance
N/C, N/N, W/I, I/C reserved for other uses	ERM Only Candidate Maintenance
Candidate text required	ERM Only Candidate Maintenance
Not on file!	Change Telephone File
Exit without saving changes?	Change Telephone File
There are changes to the file! Update the file?	Change Telephone File
Create the file?	Change Telephone File
There have been no chages made! Exit the program?	Change Telephone File

HPM System Messages

System Message	Definition/Location
Exit without saving new file?	Change Telephone File
Insert zip disk and click OK when ready, else click Cancel	Copy 650 Files to Another Drive
Drive not accessible	Copy 650 Files to Another Drive
Election requested is not available	Change to Another Election
File is not readable, cannot switch to this election name!	Change to Another Election
Sorry, this is not an election file	Change to Another Election
Current directory has no election files	Change to Another Election
Unable to rename the log file	Create Database
has more than 100 ballot styles, only 100 used!	Create Precinct/Ballot Style File
Election type is required	Election Definition
Precinct is not on file	Election Definition
Enter both or neither polls open and close date/ time	Election Definition
Precinct cannot be 9999	Election Definition
Default registration must be 0 to 100	Election Definition
Invalid contest number	Candidate Rotation Maintenance
New election name is required	Create New Elections from Old
Select precincts in election	Create New Elections from Old
The profile already reflects these	Define Current Profile Groups
Invalid Group Number	Current Group
Input exceeds 64K program limit	Indexed Text for 3PE and M2100
Input exceeds 32K program limit	Recreates Parametters in BP order
Output still exceeds 16K limit	Recreates Parametters in BP order
Indexed text already exists - Aborting!	Indexed Text for 3PE and M2100
Number of counters exceeds 1024 - Aborting!	Indexed Text for 3PE and M2100
Precinct cannot be zero or blank	Indexed Text for 3PE and M2100
Too many ballot styles - cannot continue	Create Cross-Reference File
Exceeded Search Limit	Report File Utility

Example of System Log Listing



```
EL100 Page 1 of 2
File  Edit  View  Search

                                        COLORADO CERTIFICATION - UNITY
                                        HARDWARE PROGRAMMING MANAGER                    ELECTION ID: RECALLC
RUN DATE:06-07-05    4:14 PM            HPM LOG LISTING - SELECTED TYPES                REPORT-EL100     PAGE   1

     05-23  04:41 pm  CONTEST 107 WAS CHANGED
     05-23  04:42 pm  PRECINCT/BALLOT STYLES CREATED
     05-23  04:42 pm  FINAL DATABASE WAS CREATED
     05-23  04:43 pm  PARAMETERS WERE CREATED FOR PRECINCT 1
     05-23  04:50 pm  PARAMETERS WERE CREATED FOR PRECINCT 1
     05-23  05:01 pm  CONTEST 5000 WAS ADDED

     05-24  03:56 pm  PARAMETERS WERE CREATED FOR PRECINCT 1
     05-24  03:58 pm  VTR PACK 1 WAS BURNT SUCCESSFULLY
     05-24  03:58 pm  CP UTILITY WAS STARTED
     05-24  03:59 pm  CP UTILITY WAS STARTED
     05-24  04:00 pm  CP UTILITY WAS STARTED
     05-24  04:05 pm  CP UTILITY WAS STARTED
     05-24  04:40 pm  CP UTILITY WAS STARTED
     05-24  04:44 pm  CP UTILITY WAS STARTED
     05-24  04:48 pm  PARAMETERS WERE CREATED FOR PRECINCT 1
     05-24  04:48 pm  CONTEST 5000 WAS DELETED
     05-24  04:49 pm  FINAL DATABASE WAS CREATED
     05-24  04:49 pm  PARAMETERS WERE CREATED FOR PRECINCT 1

     05-25  02:23 pm  PARAMETERS WERE CREATED FOR PRECINCT 1
     05-25  02:24 pm  VTR PACK 1 WAS BURNT SUCCESSFULLY
     05-25  02:44 pm  100 PACK 1 WAS BURNT SUCCESSFULLY

     05-26  11:23 am  PRECINCT/BALLOT STYLES CREATED
     05-26  11:23 am  FINAL DATABASE WAS CREATED
     05-26  11:23 am  PARAMETERS WERE CREATED FOR PRECINCT 1
     05-26  11:23 am  CONTEST LISTING DETAILED WAS PRINTED TO EL12.LST
     05-26  01:29 pm  FINAL DATABASE WAS CREATED
     05-26  01:29 pm  PARAMETERS WERE CREATED FOR PRECINCT 1
     05-26  01:29 pm  100 PACK 1 WAS BURNT SUCCESSFULLY
     05-26  01:29 pm  650 FILES COPIED TO DRIVE E
     05-26  01:29 pm  650 FILES COPIED TO DRIVE G
     05-26  01:31 pm  650 FILES COPIED TO DRIVE F
     05-26  01:31 pm  PARAMETERS WERE CREATED FOR PRECINCT 1
     05-26  01:32 pm  VTR PACK 1 WAS BURNT SUCCESSFULLY
     05-26  01:32 pm  CP UTILITY WAS STARTED
     05-26  01:36 pm  CP UTILITY WAS STARTED
     05-26  03:08 pm  PARAMETERS WERE CREATED FOR PRECINCT 1

     05-27  08:33 am  PARAMETERS WERE CREATED FOR PRECINCT 1
     05-27  08:36 am  VTR PACK 1 WAS BURNT SUCCESSFULLY
     05-27  08:36 am  CP UTILITY WAS STARTED
     05-27  10:30 am  ERM FILES WERE CREATED

     05-31  03:18 pm  650 FILES COPIED TO DRIVE F

     06-06  02:33 pm  CP UTILITY WAS STARTED
     06-06  02:34 pm  CP UTILITY WAS STARTED
     06-06  02:35 pm  CP UTILITY WAS STARTED
     06-06  02:36 pm  CP UTILITY WAS STARTED
     06-06  02:40 pm  CP UTILITY WAS STARTED
     06-06  02:49 pm  CP UTILITY WAS STARTED
     06-06  02:54 pm  CP UTILITY WAS STARTED
     06-06  02:54 pm  CP UTILITY WAS STARTED
     06-06  03:20 pm  CP UTILITY WAS STARTED
     06-06  03:28 pm  CP UTILITY WAS STARTED
     06-06  04:56 pm  CP UTILITY WAS STARTED
     06-06  04:58 pm  CP UTILITY WAS STARTED
     06-06  05:02 pm  CP UTILITY WAS STARTED
```

Back Up and Archiving HPM Audit Logs and Files

Back Up HPM Files

To back up the election files (HPM and ERM), save the following files with the full path information.

1. Right-click the **start** button and select **Explore**.
2. Locate your election in Q:\elecdata, if you are part of a network, or C:\elecdata if you are working locally.

3. Select every file in the folder, with the election name.

NOTE: Select multiple files by holding the **Shift** key and selecting a sequence of files or holding **Ctrl** and selecting multiple files out of sequence.

4. Save these files to your choice of media, such as a 3.5-inch disk, a CD, or a USB drive.

Election Reporting Manager (ERM)

Name and Location of ERM Audit Logs

An .spp file is created to update ERM databases directly from the Model 100's PCMCIA cards. To locate this file in ERM, the user must click **Process 100 Cards** from the **Update** menu. From there, select **Model 100** and follow the prompts to create the .spp audit file.

NOTE: An .spp file is a single file that contains all the audit data from the tabulators.

Exporting ERM Audit Logs

In order to export, you must first generate a system log by selecting **Reports**, pointing to **Logs**, then clicking **System Log**. A Print System Log Listing window will appear, run through the tabs and verify the user has all the settings they desire and that the Output Destination is set to Disk. To export, select one report from the Report File Utility and select **Copy**. Copy will allow you to create a copy to another file name, directory, or drive letter. Log files are also kept in the C:\elecdata folder and can be copied to another memory device for permanent storage.

Definition of ERM System Messages

All of ES&S Audit Log Messages and System Log Messages are humanly readable. Below is a table of potential audit log/error messages the user may encounter.

ERM System Messages

System Message	Definition/Location
No ACU.CFG file found on the source drive	Import Central Scanner Configuration File
The import of the configuration file is complete	Import Central Scanner Configuration File
The password cannot be blank	Administrator Login / User Login
DON'T-MATCH	Administrator Login / User Login
Your password has been successfully changed	Administrator Login / User Login
Invalid password	Administrator Login / User Login
Please enter a user name	User Login
Invalid Number	Create Results Database
Invalid cross reference value	Create Results Database
Invalid drive!	Update Central Scanner Results
You must enter a Results Name!	Update Central Scanner Results
There are no scanner files for this group!	Update Central Scanner Results
Invalid Serial Number	Canvass Reports
You cannot specify group 1 as a valid group	Canvass Reports
You cannot specify the same group twice	Canvass Reports
These headings will be used for this report run only	Canvass Reports
File does not exist	File Error
These options will be used for this report run only	Canvass Reports
Invalid Number	Update Precinct Numbers/Candidate Number LA Cross-Reference
Waiting for Database access	Contest/Candidate Results
Invalid contest number	Contest Number
Invalid precinct number	Precinct Number
Need network drive	Change Control File
Network drive does not exist	Change Control File
There is no Coded Ballot File to process	Process Coded Ballots
Coded Ballots have been updated	Process Coded Ballots
Waiting for Counter file access	Display Contest Results

ERM System Messages

System Message	Definition/Location
Delete central scanner file complete!	Delete Central Scanner Files
No scanner files found	Delete Central Scanner Files
Value to be updated is a negative value!	Delete Central Scanner Files
Not a valid contest number!	Contest Number LA Cross Reference
Invalid contest number!	Contest Number LA Cross Reference
Not a valid precinct!	Contest Number LA Cross Reference
No jurisdiction records exist!	Change Jurisdiction Control File
Error - No response from IDA	Process 100 Cards
File name is required	Make copy of Initial state candidates results file for CA
File extension must be .TXT	Make copy of Initial state candidates results file for CA
The file does not exist	Make copy of Initial state candidates results file for CA
Copy Complete	Make copy of Initial state candidates results file for CA
Real Time Log is not running!	Election Reporting Manager
Election requested is not available	Change to another Election
File is not readable, cannot switch to this election name	Change to another Election
Sorry, this is not an election file	Change to another Election
Current directory has no election files!	Change to another Election
Fatal error! - Too many Counters used.	Create Results Database
Some precinct results have been suspended	Precinct Results Accumulation
Update process has been canceled	Precinct Results Accumulation
There are no packs to be uploaded	Precinct Results Accumulation
Not a valid file name!	Update Voter Registration
Precinct does not exist!	Update Voter Registration
Invalid precinct!	Update Voter Registration
Invalid number!	Update Voter Registration
Description entered without group create	Group Maintenance
Description entered without equipment	Group Maintenance

ERM System Messages

System Message	Definition/Location
Absentee set without equipment	Group Maintenance
Only one absentee group allowed	Group Maintenance
Precinct not on file!	Name Maintenance
Contest not on Database!	Name Maintenance
Reapply changes from log file is complete!	Name Maintenance
You must specify at least one group	Define Current Profile Groups
Current directory has no report files!	Report File Utility
Exceeded Search Limit	Report File Utility
Page number is out of range!	Go to Page
You must select a report to copy!	Report File Utility
You must select a report to delete!	Report File Utility
You must select a report to display!	Report File Utility
You must select a report to print!	Report File Utility
Data Modified - Update (Yes/No)	Data Modified
Cannot open the .PR file	Open Error
Invalid County Number	Create State Transfer File
You must enter the number of ballots left to be counted!	Create State Transfer File
SOS file name entered does not exist!	Create State Transfer File
A SOS contest number cross reference was not found!	Create State Transfer File
Votes entered greater than Contest Write-In's	Create State Transfer File
Registered Voters Contest Not Selected	Contest Selection Error
Contest Not Selected	Contest Selection Error
No Ballot Images have been entered!	Update with Manual Ballot Images
You must specify a Zip Drive	Import 650 Election Files
No EL-80 files found!	Control 650 Network
650 Network Server successfully started!	Control 650 Network
650 Network Server failed to start!	Control 650 Network
650 Network Server failed to start!	Control 650 Network
No process associated with the process id!	Control 650 Network

ERM System Messages

System Message	Definition/Location
No Election Name specified!	Store Results from Zip Disk
Node ID file does not exist!	Store Results from Zip Disk
Too Many local candidates - Aborting!	Update Group with 650 Results
The SSOV Work File Is Empty!	Create District contest/Candidate results file
Waiting for Precinct Results access	Print Precinct Summary
Code all precincts in current group as counted	Close Out Precinct with NO Ballots Cast
Error - No response from IDA	Read PCMCIA Card through OmniDrive for RCV Election
Access to Miscellaneous Menu allowed needs to be checked	User ID System
Percent must be .01 to .99	Suspended Criteria Maintenance
Serial Number does not exist	Specify Serial Number
Registered Voters Contest Not Selected	Contest Selection Error
Ballots Cast Total Contest Not Selected	Contest Selection Error
Contest Not Selected	Contest Selection Error
No file(s) selected to collect audit data from!	Collect Audit Data
The directory path cannot be blank	Collect Audit Data
Waiting for Database file access	Create State Results Files
You must enter a numeric value	Create State Results Files

Back Up and Archiving of ERM Audit Logs and Files

Back Up Election Results

To back up the election files (HPM and ERM), save the following files with the full path information.

1. Right-click the **start** button and select **Explore**.
2. Locate your election in Q:\elecdata, if you are part of a network, or C:\elecdata if you are working locally.

3. Select every file in the folder, with the election name.

NOTE: Select multiple files by holding the **Shift** key and selecting a sequence of files or holding **Ctrl** and selecting multiple files out of sequence.

4. Save these files to your choice of media, such as a 3.5-inch disk, a CD, or a USB drive.

Audit Manager

Name and Location of AM Audit Logs

The Audit Manager's audit log is found in the application and can be found by selecting **View Log** under the **Audit** menu.

Exporting AM Audit Logs

To export audit logs to other locations or to a disk to save for later printing requires the following steps in Audit Manager:

1. In the View Log window, select **Export Data** to send audit data to another file location.
2. Select the location where you want to save your audit data and click **Save** to send your audit file to a new location.
3. Select **Cancel** to return to the Audit Manager main screen without saving the file.

Definition of Audit Manager System Messages

All of ES&S Audit Log Messages and System Log Messages are humanly readable. Below is a table of potential audit log/error messages you may encounter.

Audit Manager System Messages

System Message	Definition/Location
Cannot delete 'Admin' user!	Working as designed. The admin account cannot be deleted.
Cannot delete 'ESSdefault' user!	Working as designed. The default account cannot be deleted.
Cannot add record	User unable to add records
Could not find the user <username>	User account does not exist
Could not save changes	Changes could not be saved in Audit Manager
Invalid Password, try again!	Incorrect password entered
Record will be deleted permanently. Proceed?	Message warning user that the record will be premanently deleted
RecordSet doesn't support the FIND method	Cannot search for the RecordSet
System information is Unavailable At This Time	System operating Error - Contact ES&S
Unable to open audit database	Audit Manager is unable to open the Audit Log
Unknown IKeyValType	System Operating Error - Contact ES&S

Back Up and Archiving Audit Manager Audit Logs and Files

To archive the audit log the user must perform the following steps:

1. From the **Audit** menu, select **Archive Log** to open the Archive Database window:

2. In the **From** box, select a beginning date and then select an ending date in the **To** box to set the time frame for archiving records. Enter dates manually or click the arrows to select dates from the calendar.
3. Select **Archive** to archive the selected records or click **Cancel** to return to the main screen without archiving your records.

Model 100

Name and Location of Model 100 Audit Logs

Model 100 audit logs are compiled on the tabulator's operating system. To print an audit log report with the polls open or to review the Model 100's function history, take the following steps to print an audit report.

1. Open the tabulator's access panel.
2. Insert the control key and turn the key to the **OPEN/CLOSE POLL** position.
3. The **AUDIT LOG-REPORT** option appears next to the **CLOSE POLLS** option. Select **AUDIT LOG REPORT** from the tabulator control panel to print the report. You can cancel the report at any time by pressing **CANCEL**.
4. After you finish printing, turn the key to the **VOTE** position and close the key access panel to enable voting.

Exporting Model 100 Audit Logs

The Model 100 uses PCMCIA Cards to store the scanner's election definition, audit log and other election specific information.

Definition of Model 100 System Messages

All of ES&S Audit Log Messages and System Log Messages are humanly readable. Below is a table of potential audit log/error messages you may encounter.

Model 100 System Messages

System Message	Definition/Location
100 - MISSED ORIENTATION MARKS/Turn Ballot Over and Try Again	Scanner failed to detect the orientation of a ballot

Model 100 System Messages

System Message	Definition/Location
101 - MISSED TIMING MARKS/Turn Ballot Over and Try Again	Scanner failed to detect one or mork marks that appear in the ballot's timing track
102 - NO DATA FOUND/Please Re-Insert Ballot After Beeps	Scanner failed to locate the leading edge of an inserted ballot
103 - SYSTEM ERROR/Please See Election Official	Scanner encountered an unrecoverable error in the operating system
104 - ORIENTATION SKIP ERROR	Scanner failed to read the black checks on the leading edge of ballot
105 - SYSTEM ERROR/Please See Election Official	Scanner encountered an unrecoverable error in the operating system
106 - MISSED TIMING MARKS/Turn Ballot Over and Try Again	Scanner failed to properly read one or more marks from a ballot's timing track
107 - BALLOT ERROR: INVALID CC SEQUENCE	Scanner failed to read the correct sequence code from a ballot
108 - BALLOT ERROR: INVALID CC TYPE	Scanner failed to recognize the type code for a ballot
109 - BALLOT ERROR: INVALID CC SPLIT	Scanner failed to recognize the ballots split code
110 - SYSTEM ERROR/Please See Election Official	Scanner encountered an unrecoverable error in the operating system
111 - SYSTEM ERROR/Please See Election Official	Scanner encountered an unrecoverable error in the operating system
112 - SYSTEM ERROR/Please See Election Official	Scanner encountered an unrecoverable error in the operating system
113 - SYSTEM ERROR/Please See Election Official	Scanner encountered an unrecoverable error in the operating system
114 - SYSTEM ERROR/Please See Election Official	Scanner encountered an unrecoverable error in the operating system
115 - MISSED BACK ORIENTATION MARKS/ Turn Ballot Over and Try Again	Counter failed to read an orientation mark on one side of the ballot
116 - SYSTEM ERROR/Please See Election Official	Scanner encountered an unrecoverable error in the operating system
117 - SYSTEM ERROR/Please See Election Official	Scanner encountered an unrecoverable error in the operating system
118 - SYSTEM ERROR/Please See Election Official	Scanner encountered an unrecoverable error in the operating system

Model 100 System Messages

System Message	Definition/Location
119 - MULTIPLE BALLOTS DETECTED/Please Re-insert One Ballot After Beeps	Model 100 detected more than one ballot in the scanner read area
120 - DIVERTER NOT INITALIZED	Model 100 failed to initialize the ballot box diverter
121 - DIVERTER DETECTION ERROR	Scanner failed to stop the diverter motor in the ballot box from running after scanning a ballot
122 - DIVERTER NOT DETECTED	Scanner failed to detect the ballot diverter during diverter test
123 - UNABLE TO READ TIMING BAND/Turn Ballot Over and Try Again	Scanner detected a problem with a ballot's alignment as it passed through the read area
124 - BALLOT DRAGGED/Turn Ballot Over and Try Again	Ballot did not enter the feed mechanism smoothly causing misalignment
125 - BALLOT TOO LONG/Please See Election Official	Inserted ballot was greatr than the ballot length specific in the scanner's election definition
126 - BLACK CHECK:FACE DOWN HEAD EDGE/Turn Ballot Over and Try Again	Scanner failed to read one or more of the orientation marks that appear at the top and bottom of each ballot column
127 - BLACK CHECK:FACE DOWN TAIL EDGE/Turn Ballot Over and Try Again	Scanner failed to read on or more of the orientation marks that appear at the top and bottom of each ballot column
128 - BLACK CHECK:FACE UP HEAD EDGE/ Turn Ballot Over and Try Again	Scanner failed to read one or more of the orientation marks that appear at the top and bottom of each ballot column
129 - BLACK CHECK:FACE UP TAIL EDGE/ Turn Ballot Over and Try Again	Scanner failed to read one or more of the orientation marks that appear at the top and bottom of each ballot column
130 - POSSIBLE FOLDED BALLOT/Turn Ballot Over and Try Again	Scanner detected a ballot that is either folded, or shorter than the ballot length specified in the scanner's election definition
131 - BALLOT READ ERROR-Please See Election Official	Scanner detected possible counterfeit marks on the ballot
132 - TOP SCANBAR HAS BLOCKED SENSORS/Please See Election Official	Scanner detected a particle blocking one of its top sensors or a sensor has failed
133 - BOTTOM SCANBAR HAS BLOCKED SENSORS/Please See Election Official	Scanner detected a particle blocking one of its top sensors or a sensor has failed
134 - BOTH SCANBARS HAVE BLOCKED SENSORS/Please See Election Official	Scanner detected a particle blocking one of its top sensors or a sensor has failed
135 - UNKNOWN ERROR, CODE: XXX	Scanner detected an undefined error during the scanning routine

Model 100 System Messages

System Message	Definition/Location
136 - UNKNOWN ERROR, DECODE: XXX	Scanner encountered an undefined error while attempting to decode a ballot
137 - BALLOT TOO SHORT: XXX	Length of inserted ballot was less than the ballot length specified in scanner's election definition
Audit Log Full	User has reached capacity for audit log entries stored to the PC Card
Accept Ballots for Precinct	Model 100 enables precinct that has been programmed in inactive in the election definition
Attempt Send Results	Model 100 located a TCP/IP protocol, CDPD, or landline network to send election results
Ballot Jammed	User has a ballot trapped in the scanner's read area
Blank Ballot Accepted	Model 100 scanner accepts a blank ballot
Blank Ballot Returned	Model 100 scanner rejects and returns a blank ballot to the voter
Blocked Sensor Continuous	The scanner detects an obstruction on part of the Read-Head or a contiguous vertical line on the ballot
Counter Block Failed CRC	Counter block fails a cyclic redundancy check
Counters Are Full	Scanner blocks on the PC Card are full and unable to write further election data to the card
Counters Are In Overflow	Counter has exceeded its storage limit
Counters Cannot Hold Next Count	Insufficient counter space to store the count for the current race
Counters Cleared	DRAM counters are successfully cleared in the election definition
Cross Voted Ballot Accepted	Confirmation that a cross-voted ballot has been accepted
Cross Voted Ballot Returned	Rejection of cross-voted ballot has been returned to voter
Diverter Control Error	Scanner has failed to change the diverter position after a ballot has been fed
Diverter Not Detected	Scanner cannot detect the diverter on a second attempt
Diverter Not Found	Election definition is programmed for a diverter unit, but no diverter unit is detected

Model 100 System Messages

System Message	Definition/Location
DRAM Counter Space Bad	Scanner encounters a problem with the DRAM memory section that stores election results
Election Card Recovered In The Machine	Inserted card has been opened and removed from another machine, while still in the vote mode
Election Certified - Card In Rom Mode	Election has been certified and card is closed
Election Definition Failed CRC	Election definition failed the CRC
Election Totals Cleared	Election totals are set to zero
Error Accessing NVRAM	Scanner encounters a problem accessing the NVRAM (Non-Volatile Random Access Memory)
Error Getting Machine ID	Scanner encounters a problem retrieving the machine identification number
Error Reading Ballot Retry Ballot Black Check	Scanner cannot read one of the black boxes printed at the top/bottom of each ballot column
Error Reading PCMCIA Card	Scanner encounters a problem reading a block of data from the PC Card.
Error Reading System Audit Log	Scanner is reading the system Audit Log in Non-Volatile Random Access Memory
Error Writing System Audit Log	Scanner is writing the system Audit Log in Non-Volatile Random Access Memory
Error Seeking On PCMCIA Card	Scanner encounters a problem while seeking a specific offset on the PC Card
Error Setting Real Time Clock	User encounters a problem setting the real-time clock
Error Writing PCMCIA Card	Scanner encounters problem while writing data to the PC Card
Error Writing To The Print Device	System encounters a printer processing error
Event Log Failed CRC	Event Log failed the Cyclic Redundancy Check (CRC)
Factory Parameters Corrupt-Reset	Factory parameter values in NVRAM do not match the CRC calculation
Incompatible PCMCIA Card Format	PC Card format is incompatible with the current application code version
Incompatible System Log Format	System Log format is incompatible with the current application code version

Model 100 System Messages

System Message	Definition/Location
Invalid Instruction	ES&S internal error message. Contact ES&S for techincal service
Invalid Memory Reference	ES&S internal error message. Contact ES&S for techincal service
Invalid Parity Error	ES&S internal error message. Contact ES&S for techincal service
Invalid Seq-Type-Split (X-X-X)	Sequence-Type-Split code on the inserted ballot does not match the election definition
Invalid Sub Routine	ES&S internal error message. Contact ES&S for techincal service
Memory Allocation Error	Scanner did not sucessfully allocate system memory
Menuing System Error	Scanner encounters a system error
Missing Precinct Counter Block	Scanner cannot locate the race counter block for a given race
More than one party has votes. Votes In Party Contests Will Be Ignored	Occurs during open primary election indicating a party preference selection could not be established and the voter marked contests afilliated with more than one party.
NO BACK IMAGE DETECTED/Please See Election Official	Model 100 does not detect a contest on the back of the ballot when the ballot's sequence-type-split code indicates that information should appear on the back of the ballot
One Contest Has Too Many Votes	Number of valid marks detected exceeds the number of votes allowed for that contest
(X) Races Have Too Many Votes	Number of valid marks detected exceeds the number of votes allowed for that contest
OS Shell Command Fail	System call in Model 100 code fails to function correctly
Overvoted Ballot Accepted	Scanner accepts a ballot that contains an overvoted contest
Overvoted Ballot Returned	Scanner rejects a ballot that contains an overvoted contest and returns ballot to voter
Party Preference Race Missing	Scanner processes a ballot that includes a party preference contest and the selected party preference is not detected in the election definition

Model 100 System Messages

System Message	Definition/Location
PCMCIA Card Not Inserted	PC Card is removed while the scanner attempts to access the card
PCMCIA Driver Missing	Scanner cannot access the QNX/PC Card driver
PCMCIA Header Section Failed CRC	Header section of the PCMCIA card fails the CRC
Possible Bad Sensor	Scanner detects an unacceptably long vertical line on a ballot
Status Results Cross-Check Fail	Counters fail the cross-check between the precinct and master counters
System Audit Log Failed CRC	System Audit Log stored to the NVRAM fails the CRC
System Halted	System has halted
Unable to Initialize Scanning System-System Halted	Error occurred when Model 100 attempted to automatically initialize the machine scanner board
Unable to Load Keypad Server-System Halted	Scanner fails to detect the keypad server
Unable to Load Signal Handlers-System Halted	Scanner fails to detect signal handlers
Unable to Load Speaker Server-System Halted	Scanner fails to detect speaker server
Unable to Update Counters	Scanner software fails to update the counters after user scans a ballot
Unable to Close Election	Scanner software fails to access the PC Card when user attempts to close the election
Unable to Read PCMCIA Counter Block	System software fails to read the PC Card counter block
Unidentified Mark - Check Your Ballot	Scanner detects a mark but is not dard enough for scanner to read as a vote
Unknown Error	Model 100 detects an internal system error
Voltage Too Low	Scanner's battery voltage falls below the acceptable operating level
Voting Continued Prev Unit	Model 100 transfer of PC Card to another Model 100 during active voting was sucessful
Warning - The Unit is on Battery Power	AC Connection has been unplugged or scanner's outlet fails to receive power
Working Parameters Corrupt-Reset	Working parameter values stored to the scanner's NVRAM do not match those calculated during the CRC

Model 100 System Messages

System Message	Definition/Location
XBIN Directory Not Found	Required XBIN directory does not exist since it was not programmed to the election definition

Model 100 Audit Log Report

The audit log lists all of the scanner events that occur from the time you load your election definition PC Card into the scanner to the time you remove the card after your election is complete. The audit log also displays the total number of write-in votes counted by the scanner as well as the number of accepted and rejected blank ballots, the number of overvoted ballots and the number of crossover ballots scanned.

Audit Log Report Sample

*** Audit Log Report ***
11:08:09 06/19/2002

System Events
Last Clock Change: 15:10:11 12/18/2001
Last Power On: 11:02:49 06/19/2002
Last Polls Open: 11:04:16 06/19/2002
Number of System Halts: 62

Ballot Accounting
Precinct:
WARD 3
Total Blank Accept:0
Total Blank Reject:0
Total Overvote Accept:0
Total Overvote Reject:0
Total Crossover Accept:0
Total Crossover Reject:0
Total Marginal Accept:1
Total Marginal Reject:0
Total Write-ins: 0
Total Undervote Accept0
Total Undervote Reject0

Master Accounting:
Total Blank Accept:0
Total Blank Reject:0
Total Overvote Accept:0
Total Overvote Reject:0
Total Crossover Accept:0
Total Crossover Reject:0

Total Marginal Accept:1
Total Marginal Reject:0
Total Write-ins: 0
Total Undervote Accept0
Total Undervote Reject0

11:02:49 06/19/2002
ELECTION DEFINITION LOADED UNIT: 3159

11:03:05 06/19/2002
User Event: Open Polls

11:03:09 06/19/2002
SUPERVISOR SWITCH DISENGAGED

11:03: 09 06/19/2002
DIAGNOSTICS CHECK COMPLETED

11:03:10 06/19/2002
COUNTERS CLEARED
11:04:16 06/19/2002
Polls Opened

11:04:53 06/19/2002
FIRST BALLOT PROCESSED

Back Up and Archiving of Model 100 Audit Logs and Files

The Model 100 saves election results to a PCMCIA Card in order to make a permanent record of the election or to use as backup data. The log may be transferred to other memory devices for storage purposes and later placed back on the PCMCIA card for printing.

Model 650

Name and Location of Model 650 Audit Logs

The Model 650 audit log is located on the central tabulator's operating system and is printed in real time on the audit log printer. This internal report tracks scanner functions from the time the user turns the scanner on, until the user turns the scanner off.

Exporting Model 650 Audit Logs

To export M-650 election data from the M-650 to ERM, you must copy the initialization files from the tabulator to a zip disk, then save them to the \ELECDATA directory on the PC. To transfer data, do the following:

1. Insert a zip disk into the Model 650.
2. Hold down the **Enable** button while you press the **Save** button. This copies the blank results (initialization) files to the zip disk.
3. Using Windows Explorer, copy the files from the zip disk to the \ELECDATA directory on the PC. There is no need to overwrite any existing files. The initialization files copied are the .ec, .ei, .pr, and .log files.
4. Copy the results to the PC in ERM.

Audit Log information from the \ELECDATA folder can be saved to a removable memory device (ex. zip disk, flash, cd-rom, etc.) for the mandated time set in California statutes. The user must transfer audit log information on to a zip disk and reinsert the zip disk into the Model 650 for printing at a later time.

Model 650 Audit Log Report

This internal report tracks scanner functions from the time you turn the scanner on, until you turn it off. Different types of messages compose the audit log, including:

- Switch Log Messages - identify each action performed by the scanner.
- Ballot Count Log Messages - identify the number of ballots read, sorted and saved in each run.
- Event Log Messages - identify the near-actual time that each scanner event occurred, providing a crosscheck of major events such as the last precinct read or when a disk was last stored.

Definition of Model 650 System Messages

All of ES&S Audit Log messages and System Log messages are humanly readable. The table below lists Model 650 System Error Messages you may encounter.

Model 650 System Messages

System Message	Definition/Location
Invalid Sequence Code Detected	User ran a ballot with a sequence code that did not match the code in the .pre file
Invalid Split Code Detected	User ran a ballot with a split code that did not match the code in the .pre file
Invalid Type Code Detected	User ran a ballot with a type code that did not match the code in the .pre file
Could not Read Code Channel	User ran a ballot with multiple mismatches
Invalid Header Card Detected	User runs a header that does not match any known header number
Operator changed Time Zone from <OldTimeZone>\n…to <NewTimeZone>	User modifies the system time zone setting
Ecode Checksum Failed at Precinct End	If the program is closing a precinct and finds missing or mismatched Ecode
Could not Read <Elecname>.pr file	Program could not read the .pr file
Could not Write <Elecname>.pr file	Program could not write the .pr file
Could not Read <Elecname>.pr File from Transfer Disk	During add totals, program could not read the .pr file on the external drive
Precinct Key Mismatched	The index_table key does not match the key from the .pr file
Precinct Number Mismatched	The number used to index the index_table does not match the precinct number from the .pr file
Precinct ID <PrecinctNum> Mismatch - Invalid Ballot Style	User ran a ballot for a precinct other than the one currently active
Split Code <SplitNum> Mismatch - Invalid Ballot Style	User ran a ballot with a split that does not match the currently active precinct
Type Code <TypeNum> Mismatch - Invalid Ballot Style	User ran a ballot with a type that does not match the currently active precinct
<SystemName> Switch to Header Mode	User ran a header while in mixed mode
<SystemName> Switch to Mixed Mode	User ran the Mixed Mode header
<SystemName> Printing Enabled	User ran the Print Enable/Disable header to disable printing
<SystemName> Printing Disabled	User ran the Print Enable/Disable header to disable printing
Ready to Tabulate Ballots: Entering On-Line Mode	System start up

Model 650 System Messages

System Message	Definition/Location
Flush Precinct Header Detected	User ran a flush header to begin the flush procedure
Precinct Flush Cancelled	User ran a flush header twice in a row
Request Flush Confirmation for Precinct <PrecNum>	User ran flush header and either precinct header or ballot
Precinct <PrecNum> Flush Complete	User completed flush precinct process
…Tabulation in Progress, User Prompted to SAVE	User requested an action that requires totals and they are not all saved
Save Request Denied - No Totals in Memory	User requested a save with nothing to save
Ballot Scanned Before Header to Start Precinct	User ran a ballot before a header in header mode. User should run a header through scanner.
Precinct ballots exceed expected turnout!\n…Ballot NOT counted	Precinct ballot count exceeds percentage coded in .pre file
Precinct ballots exceed registered voters!\n…Ballot NOT Counted	Precinct ballot count exceeds voters coded in .pre file
Blank Ballot Found	Sort Blank is selected and a Blank Ballot is found
Write-In Found	Sort Write-In is selected and a Write-In is found
Overvote Found	Sort Overvote is selected and an Overvote is found
Operator turned Networking <On/Off>	User turned Networking On or Off
Mixed Mode Memory Allocation Failure	Memory allocation fails during startup
Mixed Mode Precinct Data Read Failure	Disk read of precinct data fails during startup
Precinct ID <PrecNum> Undefined	User ran a ballot with a sequence code not recognized
Cp Command Could not Find or Read Transfer Drive	User requested totals transfer to/from external drive and there is an error accessing the disk
<SystemName> Precinct ballots exceed registered voters!	Precinct ballot count exceeds voters coded in .pre file
System Could not Run Shell	Internal OS error
System Could not Run cp (copy)	Internal OS error
Database Counters are Clear	System starts up with zero totals
Flush Volatile Memory Header Detected	User ran a flush volatile header to begin the flush volatile procedure

Model 650 System Messages

System Message	Definition/Location
Flush Volatile Memory Cancelled	User cancelled the flush volatile procedur
Operator set Machine ID to <NewID>	User changed system Machine ID
<SystemName> Cleared Current Batch of <Number> Ballots	User completed the flush volatile procedure
Absentee Button Pressed - 2 Counters not Defined	User pressed absentee button and election definition does not include two counters
Multiple Ballots Detected in Read Head	More than one ballot under MultiSheet sensor
Ballot Jam During Read	Ballot stuck under head during read
... Processing absentee ballots	User pressed absentee and toggled absentee mode on
... Processing regular ballots	User pressed absentee and toggled absentee mode off
Back Door Open	User pressed start and back door is open
Front Access Panel Open	User pressed start and front access panel is open
Counts Present in Database	System starts up with totals present
Ballot Jam Before Read	A ballot jammed in the transport before it could be tabulated
<SystemName> Incorrect header; precinct <PrecNum> does not exist	User ran a header for a precinct that does not exist
Ballot Detected Under Exit Sensor on Start	User pressed start and a ballot is under the exit sensor. User must clear the scanner to continue.
Header <PrecNum> <PrecName> repeated	User scanned a header more than once
Header <PrecNum> <PrecName>	User scanned a header for the first time
<PrecNum> Saved ZERO Ballots	User pressed Save or scanned a new header with nothing to save
<PrecNum> Saved <Number> Ballots	User pressed Save or scanned a new header
Invalid Ballot Length Detected - Too Short	User ran a ballot shorter than what's defined in the .rpt file
<SystemName> Unknown E-code <Opcode> at <Address>	If the E-code interpreter sees an unknown instruction
Backward or Upside-Down Ballot Detected	User ran a ballot upside-down or backward
Invalid Timing Track Detected - Contrast Low	System can’t read the timing track reliably

Model 650 System Messages

System Message	Definition/Location
Row Count Error Detected	System found incorrect row count for the ballot type defined in the .rpt file
Sensor Error - Contrast Low, Channel(s) <SensorList>	System can't reliably read one or more sensor channels
Start Bar not Detected, Channel(s) <SensorList>	System didn't find one or more starting black check marks
Stop Bar not Detected, Channel(s) <SensorList>	System didn't find one or more ending black check marks
One Sided Ballot Detected - Two Sides Required	System detects a one-sided ballot when two are required
Ballot Jam After Read	Ballot did not clear the exit sensor after being tabulated
Error reading index file	System can't read .ei file
<SystemName> I/O error in precinct file	System fails while reading .pr file
Precinct <PrecNum> vote totals set to zero	User completed flush precinct process
All Precinct vote totals set to zero!	User pressed Enable-Clear
Errant Ballot found in Transport Area	A ballot was detected at the read head before a pick attempt
<SystemName> <PrecNum> Precinct ballots exceed registered voters!	A batch of ballots was saved that caused a precinct ballot count to exceed its registered voters
Operator requested Log Report	User pressed Monitor Print in On-Line mode
…Error Generating Log Report	An error occurred while preparing a Log Report
…Completed transfer of report to printer	A report was completely transferred to the printer
…Operator halted transfer of report to printer	User pressed Stop while report was being sent to printer
Operator requested Long Grand Totals Report	User pressed Grand Totals button with Format Long
Operator requested Short Grand Totals Report	User pressed Grand Totals button with Format Short
Blank Sorting Selected	User pressed the Blank Sort button to turn it on
Blank Sorting Cancelled	User pressed the Blank Sort button to turn it off
Overvote Sorting Selected	User pressed the Overvote Sort button to turn it on

Model 650 System Messages

System Message	Definition/Location
Overvote Sorting Cancelled	User pressed the Overvote Sort button to turn it off
Write In Sorting Selected	User pressed the Write In Sort button to turn it on
Write In Sorting Cancelled	User pressed the Write In Sort button to turn it off
Crossover Sorting Selected	User pressed the Special Sort button to turn it on
Crossover Sorting Cancelled	User pressed the Special Sort button to turn it off
Network Error: Network Down	Machine can not establish network connection
Network Error: Data Receive Failed	Reception of data from network server fails
Network Error: Data Transmit Failed	Transmission of data to network server fails
Network Error: No Buffer Memory	Memory allocation for network operation fails
Crossover Found	Special Sort is selected and a Crossover is found
Error: Failure Reading Local Totals File	Disk error occurs while transmitting totals to network server
Network Error: Socket Creation Failed	QNX runtime networking fails
Server Error: <ServerErrorString>	An error occurs on the network server
Network Error: No Route to Server	QNX runtime networking configuration failure
Network Error: Server Not Found	Network server not running when connection attempted
Election coded for major revision <Number>\n…program is major revision <Number>	The election was initialized for incompatible firmware
Election coded for minor revision <Number>;\n…program is minor revision <Number>	The election was initialized for incompatible firmware
Election coded for reader revision <Number>\n…program is for reader revision <Number>	The election was initialized for incompatible firmware
Copied Totals <Elecname>.pr to External Drive	User pressed Enable-Save to save results to an external disk
Operator setting clock to <Date/Time>	User sets system time

Model 650 System Messages

System Message	Definition/Location
Clear Precinct <PrecNum> REGULAR vote totals set to zero	User runs precinct flush header sequence (Regular Mode)
Clear Precinct <PrecNum> ABSENTEE vote totals set to zero	User runs precinct flush header sequence (Absentee Mode)
Indeterminate Reading(s), Sensor(s) <SensorList>	One or more sensor readings were not clearly defined
Batch Ballots Scanned: <Number>(<Numver>Saved)\n Batch Sorted: <Number>(<Number>)Write-ins Saved)\n Total Ballots Tabulated: <Number>	Ballots are saved, including sorted Write-In ballots
Batch Ballots Scanned: <Number> (<Number> Saved)\n Batch Sorted: <Number>\n …Total Ballots Tabulated: <Number>	Ballots are saved
Import <Number> Ballots to <PrecNum>	The user pressed Enable-Import to merge results from disk with internal results
Import <Number> Reg and <Number> Abs Ballots to <PrecNum>	The user pressed Enable-Import to merge results from disk with internal results when Regular and Absentee counts are separate
Possible Counterfeit Ballot Found	Counterfeit mark was detected on a scanned ballot
Operator Pressed START to Begin Scanning	User pressed Start while machine was idle
Operator Pressed STOP to Halt Scanning	User pressed Stop during ballot scanning
Ballot Hopper Empty – Scanning Halted	Sensor detected empty hopper after scanning the last ballot
Operator Pressed SELECT to Enter Diagnostics	User pressed Select while in On-Line mode
Operator Pressed SELECT to Return to On-Line Mode	User pressed Select while in Diag4 mode
Pick Failure – Scanning Halted	No ballot was detected in transport after a pick attempt
Operator Bypassed Turnout Warning	User chooses to continue after turnout warning
Operator Bypassed Precinct Overvote Warning	User chooses to continue after warning that ballots exceed the number of registered voters for the precinct
…Totals NOT Transferred to Network Server	Results file could not be transferred to the network server

Model 650 System Messages

System Message	Definition/Location
Totals Transferred to Network Server Successfully	Results file transfer to network server was verified
System Name: <LongSystemName>	System startup
Operator set Lines Per Page to <Number>	User changed Lines Per Page report configuration
Operator set Show Accumulated Totals flag to <No/Yes>	User changed Show Accumulated Totals report flag
Operator set Show Ballot Positions flag to <No/Yes>	User changed Show Ballot Positions report flag
Operator set Show Over/Under Percentages flag to <No/Yes>	User changed Show Over/Under Percentages report flag
Operator set Order Candidates by Rank flag to <No/Yes>	User changed Order Candidates by Rank report flag
Operator temporarily set Background to <NewSetting>	User changed the system configuration Background level
Operator requested Long Precinct Report	User pressed the Totals By Precinct button with Format Long
Operator requested Short Precinct Report	User pressed the Totals By Precinct button with Format Short
Operator requested Long Last Precinct Report	User pressed the Last Precinct button with Format Long
Operator requested Short Last Precinct Report	User pressed the Last Precinct button with Format Short
Operator requested Precincts Processed Report	User pressed the Precincts Processed button with Format Long
Operator requested Precincts NOT Processed Report	User pressed the Precincts Processed button with Format Short
Operator requested Ballot Image Report	User pressed the Print Ballot Image button
…Failure setting System Clock	Internal OS error when user attempts to set system clock
…Failure setting Hardware Clock	Internal OS error when user attempts to set system clock
…Successfully set System and Hardware Clocks	User attempts to set system clock and no error occurs
<SystemName> <PrecNum> Precinct ballots exceed expected turnout!	A batch of ballots was saved that caused a precinct ballot count to exceed its expected turnout

Model 650 System Messages

System Message	Definition/Location
Election must run in header mode only	The election definition is coded by style
<SystemName> Early Voting Enabled: Front <Number>, Back <Number>	The 650 detects an <ElecName>.EV file

Audit Log Report (Real Time) Sample

20	Database Counters are Clear	10:16:54 26-Apr-2003
20	Ready to Tabulate Ballots: Entering On-line Mode	10:17:01 07-Apr-2003
20	Operator Pressed START to Begin Scanning	10:17:54 07-Apr-2003
20	Ballot Hopper Empty – Scanning Halted	10:18:25 07-Apr-2003
20	0001 Saved 1 Ballots. Precinct Total 1	10:19:12 07-Apr-2003
20	Batch Ballots Scanned: 1 (1 Saved)	10:20:22 07-Apr-2003
20	Batch Sorted: 0	10:20:54 07-Apr-2003
20	Total Ballots Tabulated: 1	10:21:32 07-Apr-2003
20	Grand Totals Report Generated	10:21:33 07-Apr-2003
20	Copied Totals giloin24.pr to External Drive	10:21:34 07-Apr-2003
20	Status Report Generated	10:22:10 07-Apr-2003
20	Status Report Generated	10:22:24 07-Apr-2003
20	Operator Pressed START to Begin Scanning	10:10:15 07-Apr-2003
20	Ballot Hopper Empty – Scanning Halted	10:24:10 07-Apr-2003
20	Precinct ID 4 Undefined	10:24:45 07-Apr-2003
20	Operator Pressed START to Begin Scanning	10:25:14 07-Apr-2003
20	Ballot Hopper Empty – Scanning Halted	10:25:10 07-Apr-2003
20	Mixed Tabulation in Progress User Prompted to Save	10:26:33 07-Apr-2003
20	Grand Totals Report Generated	10:27:44 07-Apr-2003
20	0001 Saved 3 Ballots. Precinct Total 4	10:28:15 07-Apr-2003
20	Batch Ballots Scanned: 3 (3 Saved)	10:28:26 07-Apr-2003
20	Batch Sorted: 0	10:28:53 07-Apr-2003
20	Total Ballots Tabulated: 4	10:29:39 07-Apr-2003
20	Grand Totals Report Generated	10:31:14 07-Apr-2003
20	Blank Sorting Selected	10:31:22 07-Apr-2003
20	Blank Sorting Cancelled	10:31:43 07-Apr-2003
20	Overvote Sorting Selected	10:32:12 07-Apr-2003
20	Overvote Sorting Cancelled	10:33:33 07-Apr-2003
20	Log Report Generated	10:33:43 07-Apr-2003
20	Status Report Generated	10:34:13 07-Apr-2003
20	Precinct Report Generated	10:37:10 07-Apr-2003
20	Last Precinct Report Generated	10:37:44 07-Apr-2003
20	Absentee Button Pressed – 2 Counters not Defined	10:37:54 07-Apr-2003
20	Absentee Button Pressed – 2 Counters not Defined	10:38:11 07-Apr-2003
20	Copied Totals giloin24.pr to External Drive	10:39:54 07-Apr-2003
20	Write In Sorting Selected	10:39:54 07-Apr-2003
20	Write-In Sorting Cancelled	10:39:45 07-Apr-2003
20	Status Report Generated	10:40:21 07-Apr-2003
20	Cleared Totals for Current Batch	10:40:24 07-Apr-2003

Back Up and Archiving Model 650 Audit Logs and Files

The Model 650 saves election results to a zip disk in order to make a permanent record of the election or to use as backup data.

5.9 Troubleshooting and Problem Resolution

Each polling place must be equipped with a method or log, in a format specified by the Secretary of State after consultation with elections officials, to record all problems and issues with the voting equipment in the polling place as reported by voters or observed by poll workers. Such records must include the following information for each event.

- Date and time of occurrence
- Voter involved, if any
- Equipment involved
- Brief description of occurrence
- Actions taken to resolve the problem or issue, if any
- Elections official(s) who observed and/or recorded the event

Immediately after any repair or modification of any voting system component that requires opening the housing, the integrity of the firmware and/or software must be verified using available automated mechanisms or by the reinstallation of all software by the jurisdiction from a read-only version of the approved firmware and/or software, supplied directly by the federal testing laboratory or Secretary of State, before the equipment can be put back into service.

Fatal Error

If a voting device experiences a fatal error from which it cannot recover gracefully (i.e., the error is not handled through the device's internal error handling procedures with or without user input), such that the device must be rebooted or the device reboots itself to restore operation, the following actions must be taken.

- Notify the chief elections official of the jurisdiction immediately.
- Remove the equipment from service immediately and replace it as soon as possible.
- Any votes cast on the device prior to its removal from service must be subject to a 100% manual tally, by the process described in Elections code section 15360, over and above the normal manual tally conducted during the official canvass as defined in Elections Code section 336.5. Notice to the public of this manual tally may be combined with the notice required by any other manual tally required in this order or by Elections Code section 15360.
- Any memory card containing data from that device must be secured and retained for the full election retention period

- If possible, an image of all device software and firmware must be stored on write-once media and retained securely for the full election retention period.
- The jurisdiction shall provide an analysis of the cause of the failure.
- Upon request by the Secretary of State, the vendor or jurisdiction shall retain the device for a reasonable period of time to permit forensic analysis.
- All device software and firmware must be reinstalled from a read-only version of the approved firmware and software supplied directly by the federal testing laboratory or the Secretary of State before the equipment is placed back into service.

Troubleshooting the AutoMARK

The following paragraphs contain common troubleshooting procedures and a description of error messages. Contact a Jurisdiction Official if you have a problem that is not described in this chapter.

Clear a Paper Jam

Take the following steps to clear a paper jam.

1. Open the top panel or the rear clean-out panel. Top cleanout tray can be removed by pushing in on the round tabs at the sides of the tray and lifting. Rear panel can be removed by pulling tab sideways and out.
2. Remove the ballot.
3. If ballot is not damaged, not folded in any way, and not marked, re-insert the ballot correctly.

If the machine repeatedly jams, make sure the cleanout tray has the reversible roller in the proper position. The reversible roller needs to be wheels-down for 3”-17” ballots and wheels-up (into the cleanout tray) for 18”-22” ballots. Also make sure the cleanout tray is pressed down firmly so that tabs on both sides are properly fastened in the corresponding slots.

Reversible Roller Guide and Ballot Size

A Reversible Roller Guide allows the AutoMARK unit to be configured for various ballot lengths. It must be configured appropriately to prevent paper jams. The Reversible Roller Guide is located in the Top Cleanout.

Ballot Size	Position of Reversible Roller
Under 15 inches	Reversible roller nip active (roller wheels down)
15 inches or more	Reversible roller nip inactive (roller wheels up)

To accommodate long ballots (15” or more), the reversible roller guide must be flipped over so that the black plastic rollers are not exposed. To complete this operation, insert a coin into one of the slots on the Reversible Roller Guide as shown in the picture below.

Removing the Roller Guide. Locate small rectangular window on Top Cleanout opposite to where the coin is inserted. Insert finger through window and push out the Reversible Roller Guide. Repeat removal process for other end of the Reversible Roller Guide.

Reversing Roller Guide. Once the Reversible Roller Guide has been removed it may be flipped over so that the rollers are hidden for long ballots, or installed such that the rollers are exposed for short ballots.

Flash Memory Card Errors

The following procedures are used if you receive a flashcard error.

Unlocking the Flash Memory Card. You may need to unlock the flash card to set a new pin. Take the following steps to unlock the flash card and set a new pin.

1. Turn the key switch to the TEST position. Confirm that the *AutoMARK Main Menu* appears.
2. Select *Unlock Flash Card*.
3. Enter the correct PIN number for the compact flash memory card by pressing the white box for the unlock code and typing the numbers on the touch screen keypad that appears, then press *DONE*.
4. Press the *Unlock* button when you are done typing the correct PIN number. If the PIN number was correct and the data on the compact flash card has not been tampered with, and there are no hardware problems on this machine, then the system will respond with Unlocked successfully.
5. Press *DONE* then turn the key switch back to the ON position to resume use of the machine.

Changing the Flash Card. If the flash card is bad, take the following steps to change the flash card.

1. Turn the power off to the unit by switching the key switch to the OFF position.

2. Touch the key switch with one hand to discharge any static build-up.
3. Remove the old compact flash card if there is one in the system. You may need to unlock the access door to reach the compact flash card. A special circular key is used to unlock this access door.
4. Insert the new compact flash card into the card reader. There is only one correct orientation of the compact flash card and the system will not allow you to insert it the wrong way. Do not force the card in if there is resistance as you may damage the compact flash card reader.
5. Close and lock the access door using the circular key.
6. Turn the key switch to the ON position.

If the Flash Card is Removed When the AutoMARK is on. IF the Flash Card is removed when the AutoMARK is on, follow procedure described under *Changing the Flash Card.*

Resetting the Machine

If you receive any of the following errors you will need to reset the AutoMARK VAT.

- You hear a “hissing” noise coming from the inside of the AutoMARK mechanism.
- The key switch fails to bring the unit into test mode.
- The system appears to lock up with no buttons available to press.
- The system repeatedly fails to recognize a correct ballot.
- The compact flash card has been removed.
- There was an error reading the compact flash card at power-up.

Take the following steps to reset the machine.

1. Turn the key switch to the off position.
2. Wait at least 3 seconds for the charge to die down.
3. Turn the key switch to the on position.

Calibrating the Printer

NOTE: This procedure is used to calibrate the machine whenever there is a significant rotation or consistent X or Y offset during normal printing operations. For manual calibration instructions, see the Jurisdiction Guide.

The AutoMARK VAT implements an automatic printer calibration function that is accessible from the Test Ballot Print feature of Test Mode and may be used with any AutoMARK VAT compatible ballot that uses ovals.

1. Enter the Test Mode screen by turning the key switch to **Test**.
2. Press **Test Ballot Print**.
3. Use the touch screen to select the **Enable Calibration Suggestions** checkbox in the center top of the screen.
4. Insert a ballot compatible with the currently installed FMC. The ballot should be inserted first page up, front first for best results. Ballot should have timing marks on both sides.
5. After printing, the system will provide feedback based on the print accuracy and will prompt the user whether or not to implement the new settings.
6. Press **yes** to accept the new settings.
7. Insert another ballot compatible with the currently installed FMC.
8. After the ballot prints, examine it for print accuracy.
9. If additional refinement is desired, continue steps 6-8 until the accuracy is acceptable.
10. When the print accuracy is finalized, press **no** when prompted to accept the new settings.
11. Press **done.**
12. Exit Test Mode by turning the key switch.

Calibrating the Touch Screen

The need for touch screen calibration is indicated when the area of the screen pressed does not correspond to the correct response. For instance, if one screen button is pressed, yet the machine responds as if another button was pressed, or you have to press higher or lower on the screen than the button appears, calibration is required.

Calibration may also be required if the touchscreen does not respond to regular pressure. Excessive pressure should never be required and may result in tipping the VAT on the table.

Take the following steps to calibrate the touch screen.

1. Enter the Test Mode screen by turning the key switch to **Test**.
2. The **AutoMARK Main Menu** Screen will appear.
3. Press the **Calibrate Touch Screen** button on the touch screen.

4. Press the **Calibrate** button on the touch screen.
5. Press the center of the moving cross hairs on the screen. After the fifth point, the following text will appear:

   “New calibration settings have been measured. Tap the screen to register saved data”

6. Tap anywhere on the touchscreen.
7. Press the **Done** button. If you skip this step, the settings will not be saved when the VAT is powered down.

AutoMARK Error Messages

Error messages are displayed on the touch screen monitor when AutoMARK VAT detects a critical condition that requires operator intervention to correct the problem before the selection process can be continued.

The international symbol may accompany various error messages. These messages may or may not be translated into the voter’s native language. For this reason, the Jurisdiction may wish to place a multi-lingual sign in the polling booth that explains that the symbol means an error has occurred and they should alert one of the elections officials.

Any of the Error conditions listed below may result in an unstable system. If an unrecoverable error message exists on the screen or the system is exhibiting unstable behavior, or the machine locks up and will not respond to any input, use the following method to restart the system.

1. Make sure that you have at least two precinct board members present.
2. Turn the keyswitch to the **OFF** position.
3. Press the **OK** button on the message box (if there is one).
4. If the system does not power off within 5 to 10 seconds, try pressing the
5. **OK** button again if it is still on the screen.

NOTE: The system may take up to 30 seconds to turn off.

6. After the system has powered off, turn the keyswitch **ON** again.

The system will reboot If there is a ballot in the VAT, it will be ejected, and any voting sessions that were in progress will have to be restarted. Note that if the ballot was being marked when the error occurred, a security cover should be placed over the ballot as it comes out, the ballot should be spoiled, and the voter should be given a new blank ballot.

The following table contains a list of error messages that may be displayed, the probable causes and resolutions.

Error Messages

Error Message/ Description	Probable Cause	Solution
PAPER MISFEED. Please contact Election Official	Ballot was inserted incorrectly (excessive skew, stub attached) and the AutoMARK paper feed mechanism was not able to align the ballot for scanning operations. Top or rear cleanout trays are not inserted correctly.	If the ballot was ejected by the VAT: 1. Inspect the ballot for possible torn or folded corners. If ballot is undamaged, reinsert. 2. If the ballot was “captured” and not ejected: 3. Turn the operations key switch to **TEST**. 4. Press the **Eject Ballot** button displayed on the screen. 5. Ballot will be ejected. If the ballot remains captured and not ejected, it may have to be manually removed: 1. Open the top panel or the rear clean out panel. 2. Carefully remove the ballot, ensuring that no ballot debris remains inside the machine. 3. Reinstall removed clean out panels. 4. If the ballot is not damaged, re-insert the ballot correctly.

Error Messages *(continued)*

Error Message/ Description	Probable Cause	Solution
Alert! A problem has occurred. Please notify an Election Official. **PAPER JAM**	Paper ballot was inserted correctly, but the AutoMARK VAT tractor feed mechanism cannot move ballot into the next position. **NOTE:** In all instances of this error, the ballot will be captured and must be removed.	Attempt to remove the ballot by having the VAT eject normally: 1. Turn the operations key switch to **TEST**. 2. Press the **Eject Ballot** button displayed on the screen. 3. Ballot will be ejected. If the ballot remains captured and is not ejected, it may have to be manually removed: 1. Open the top panel or the rear clean out panel. 2. Carefully remove the ballot, ensuring that no ballot debris remains inside the machine. 3. Reinstall removed clean out panels. 4. If the ballot is not damaged, re-insert the ballot correctly.
Ballot Has Not Been Recognized. Please try again or contact an Election Official for assistance. Please double-check to ensure that you are inserting a single ballot.	Election data stored on the installed CF card is incorrect, unreadable, or incomplete. The VAT is not able to adequately identify the ballot style or ID code. More than one ballot are being inserted (ballots stuck together). **NOTE:** In all instances of this error, the VAT should automatically eject the unrecognized ballot.	1. Attempt to reinsert the ballot using various orientations (top-in, upside down, etc.). 2. Attempt to insert a different ballot of the same ID number. 3. Inspect the rejected ballot for possible printing errors. See the ballot printing specifications supplied by the associated tabulator manufacturer for lists of unacceptable printing errors which may be causing the rejection. If no obvious cause for the rejection can be found, the election data on the CF card should be suspected. 1. Remove CF card. 2. Reprogram CF card with correct data. 3. Touch the key switch with one hand to discharge any static build-up 4. Insert CF card in AutoMARK VAT. 5. Startup AutoMARK VAT and attempt to reinsert the ballot.

Error Messages *(continued)*

Error Message/ Description	Probable Cause	Solution
Alert! A low memory condition has occurred.	The VAT senses that the election data ballot configuration on the CF card is M100 (oval) style.	1. Turn the keyswitch to the **OFF** position. 2. Press the **OK** button on the message box (if there is one). 3. If the system does not power off within 5 to 10 seconds, try pressing the **OK** button again if it is still on the screen. **Note:** the system may take up to 30 seconds to turn off. 4. After the system has powered off, turn the keyswitch **ON** again. 5. The system will reboot. If there is a ballot in the VAT, it will be ejected, and any voting sessions that were in progress will have to be restarted. Note that if the ballot was being marked when the error occurred, a security cover should be placed over the ballot as it comes out, the ballot should be spoiled, and the voter should be given a new blank ballot.

Error Messages *(continued)*

Error Message/ Description	Probable Cause	Solution
General Error	Probable cause is an error in the software or a low memory condition.	1. Make sure that you have at least two precinct board members present. 2. Turn the key switch to the off position. 3. Press **OK** on the message box (if there is one). 4. If the system does not power off within 5 to 10 seconds, try pressing the okay button again if it is still on the screen. **Note:** the system may take up to 30 seconds to turn off. 5.After the system has powered off, turn the key switch ON again. 6. The system will reboot. If there is a ballot in the VAT, it will be ejected, and any voting sessions that were in progress will have to be restarted. If the ballot was being marked when the error occurred, a security cover should be placed over the ballot as it comes out, the ballot should be spoiled, and the voter should be given a new blank ballot.

Error Messages

Area	Error message/ Description	Probable Cause	Solution
Startup	Waiting for Flash Card to become available... (this may take 30 seconds or more)	There is either no flashcard inserted or the inserted flashcard is not complying with the export format. Another cause for this in DV2.0 machines is that the system was not powered up properly and the compact flash card reader was not enumerated properly.	Try turning the system off, waiting for 15 solid seconds with the system off, and then turn the system on again. If the problem keeps repeating, then try a different compact flash card or have the machine serviced.

Error Messages *(continued)*

Area	Error message/ Description	Probable Cause	Solution
Startup	There are no ballots on the Flash Card and file read error is seen. Turn OFF the machine and check if a valid Flash Card is present.	The Automark VAT library was not able to import the ballots. There are no ballots available for the GUI to process.	Try a different compact flash card.
Startup	AutoMARK Datafile Read Error. Message: <system err. Msg> Filename: <impacted file> Please power-off the system and replace the flash card. Touch the OK button after you have turned the key switch to the OFF position.	There is either a missing data file or a data file is not formatted right.	Try turning the system off, waiting for 15 solid seconds with the system off, and then turn the system on again. If the problem keeps repeating, then try a different compact flash card or have the machine serviced.
Startup	Alert! A problem has occurred. Please notify an election official. Files have been tampered with or wrong access code!	The system detected that the flashcard data has been tampered and is not the original data that was exported. An additional cause could be that the pin code that was entered in the unlock screen was not the correct pin code for this particular set of data.	Make sure the pin code is correct. See earlier instructions for unlocking the compact flash card. If possible, get a new compact flash card or data set.
Startup (Win XP)	The ballot could not be loaded.	The system was not able to load the ballot that the user attempted to preview.	Restart the computer.
Scanning	File read error. <Error number>	Displayed when a file error occurred during the scanning process.	Try turning the system off, waiting for 15 solid seconds with the system off, and then turn the system on again. If the problem keeps repeating, then try a different compact flash card or have the machine serviced.

Error Messages *(continued)*

Area	Error message/ Description	Probable Cause	Solution
Scanning	Unknown scanner event <event code>	This message and the displayed event code should be reported to the Automark customer service team.	This message and the displayed event code should be reported to the Automark customer service team.
Flash Card	The Flash Card has been removed. Turn OFF the machine and insert a valid Flash Card.	System detected that the flash card was removed or tampered with.	Turn the key switch to the off position. (Touch the key switch with one hand to discharge any static build-up.) Replace the compact flash card, if necessary, and then turn the key switch to the ON position.

Error Messages *(continued)*

Area	Error message/ Description	Probable Cause	Solution
Printing	Alert! A problem has occurred. Please notify an Election Official. There was an error while printing.	This error is called a “PV” or Print Validation error. The error message is displayed when the VAT senses one of several potential problems: 1. The VAT PV scanners sense that the voter’s selections have been printed outside the tabulator’s scanning tolerance (inaccurate marks). 2. The VAT PV scanners sense printed marks or targets that the VAT should NOT have printed (stray marks). 3. The VAT PV scanners do NOT sense marks or targets that the VAT SHOULD have made (missing marks). 4. The VAT senses that a large amount of skew is present either before or after duplexing the ballot **NOTE:** In all cases of this error, the VAT will capture the ballot. To retrieve the ballot, the elections official must place the key switch in “TEST” and press the “Eject Ballot” button on the screen. Although the ballot must be treated as a spoiled ballot, the marks on it may assist in isolating the cause of the PV error. If the marks are accurate on one side but missing from the other, this indicates that the PV error occurred on the first side printed so the VAT will not print the second side.	Eject the ballot by: 1. Turn the operations key switch to “TEST” 2. Press the “Eject Ballot” button displayed on the screen. 3. Ballot will be ejected. 4. Treat the ballot as spoiled as required by election law. 5. Return key switch to ON If possible to inspect ballot, inspect for the following: 1. Are any marks present? In no, check for missing ink cartridge or dry ink. 2. Are marks present, but light in density? If so, replace ink cartridge. 3. Are marks centered on one end of ballot but off center at the other? If so, suspect excessive skew upon duplex. Insert new ballot and try again. 4. Are all marks printed out of center? If so, calibrate printer. Marks present on only one side of the ballot does not indicate a specific problem, only that the printing error occurred on the first side of the ballot that was printed.

The following table consists of additional troubleshooting suggestions.

Troubleshooting Checklist

Problem	Probable Cause	Solution
Ballot selections not marked	Ink supply is low.	Replace ink cartridge.
Ballot selections marked incorrectly	Election information may be setup wrong on the compact flash memory card (FMC).	Re-program information on FMC and test.
Marked ballot cannot be read	Ballot style is unacceptable or optical cameras in scanner device are not functioning correctly.	If ballot style is unacceptable, have the voter mark an acceptable ballot style. Insert Proper ballot style.
AutoMARK will not start up without plugging it into an AC outlet.	Battery is low.	Recharge battery.
No response when screen images are touched.	Unknown	Shutdown and restart system. If problem still exists, call your service representative for service.
Unable to hear audio presentation	Headphone connection is not properly inserted into the audio jack.	Check all connections, then shutdown and restart the system if necessary.

Spoiled Ballot Procedure

If you encounter an error that causes a spoiled ballot, eject the ballot to the voter and **do not** look at the voter's selections. Follow your local procedures for a spoiled ballot.

Part 6: Vote-By-Mail Ballot Procedures (Central Tabulation)

Part 6 contains information about the following topics.

- 6.1 System Start-up and Pre-tabulation Report Procedures
- 6.2 Tabulation Procedures
- 6.3 Post-tabulation Report and Shutdown Procedures

6.1 System Start-up and Pre-tabulation Report Procedures

This chapter contains instructions for the following tasks.

- Perform Final Readiness Checks
- Scanning ballots
- Using headers.
- Scanning vote by mail ballots separately.
- Sorting over-voted, blank, and write-in ballots.
- Storing vote totals on a zip disk.
- Printing reports
- Adding vote totals from a zip disk into the scanner.

The ballot scanner should be adequately prepared for election operations.

Refer to the *Model 650 System Operations Procedures* for preparation instructions including election definition installation, testing procedures and pre-election maintenance.

Activate the Scanner

If you plan to use the uninterruptible power supply (UPS), make sure you connect it before you activate the scanner. To connect the UPS follow the instructions in the UPS manual.

NOTE: Make sure you follow the proper charging and maintenance instructions listed in the manual that came with your UPS.

Startup Conditions

It is important to be aware of the status of the scanner when you start it. The scanner will react differently dependent on the following start-up conditions:

Printers off

If the printers are off when you turn the scanner, it will not initialize and an error message will appear. If you then turn the printers on, a confirmation message will appear and the scanner will continue to initialize.

No zip disk or zip disk without election definition inserted

If the zip drive is empty or a zip disk without an election definition is loaded when you turn on the scanner, it will use the election definition currently stored on the internal drive. The message “Reading Election Files,” will appear, followed by the message “Printing System Ready Report.” After the report is printed, the message, “Ready for Regular Counting,” will appear and ballot scanning can begin.

Zip disk with election definition inserted

If you insert a zip disk with an election definition and then start the scanner, the message “Press Stop to Keep (Election Name 1) Press Start to Initialize (Election Name 2)” appears. Press STOP to continue using the current election definition, or press START to load the new file.

Zip disk with election results inserted

When you insert a zip disk that contains saved results and then start the scanner, the election definition and the saved results will transfer from the disk to the scanner. Initialization of these machines will be faster than it was when the election definition was loaded onto the first scanner. Make sure that you zero totals on any scanners for which you load the election definition with a results disk, unless you want to include those totals with the ballots you scan.

Perform Final Readiness Checks

Perform a final check on Election Day to verify the scanner’s readiness.

Start the Scanner and Check the Ready Report

When you start the scanner, make sure it is on-line and the machine readiness report is correct.

1. Make sure the ballot scanner is off. Do not unplug the scanner at this time.

NOTE: Make sure that you have plugged the scanner into a grounded, three-prong electrical outlet and that you plug only one scanner into a single wall or floor outlet at a time. Do not plug the scanner into an extension cord. Use the power strip (with 6-foot cord) that ES&S sent with your scanner.

Warning: Route or install the power supply cord for this product in such a manner to protect it from being walked on or pinched. Make sure you power down the unit completely before connecting or disconnecting the power cable. Remove the power cord before moving the unit. You must place the power cord near an easily accessible unobstructed socket outlet.

2. Remove any old reports logs and turn on the printers. Verify that paper is loaded properly and that the print head is at the top of the page.

Refer to the printer manufacturer's instructions for guidance (the printer manufacturer's manual should always be kept in the drawer of the scanner stand).

3. Turn on the scanner. If you have previously loaded the election definition, do not insert a zip disk. If you have not loaded the election definition, do so by following the instructions in the section of this manual titled Load the Election Definition. The display will show an underscore character then the message “Booting M650” appears. The “Ready for Regular Counting” message will appear and the Machine Readiness Report will print.
4. Check the Machine Readiness Report for accuracy.

Contact an ES&S technician if any of the printed information is not correct.

5. Check the MODE functions. Make sure the “ON-LINE” lamp illuminates. Press SELECT if necessary to put the scanner on-line.

Zero Totals and Run Zero Reports

Zero the scanner before you run Election Day ballots, and check your reports to ensure that all totals equal zero.

1. Press ZERO TOTALS while holding down the ENABLE button to clear scanner totals. The message “Confirm Zero Totals? Press Stop to Cancel, Start to Continue” appears. Press START then press STOP. The message, “Ready for Regular Counting” appears after the scanner clears totals.

2. In the REPORTS section, press FORMAT until you select LONG, and then press GRAND TOTALS to generate a “zero report.”

   The message “Printing Grand Totals Report Summary (Long) Format” appears. The message, “Ready for Regular Counting” appears after the scanner prints the report.

3. Check the Grand Totals Report to make sure that all totals are zero. After verifying that they are all zero have the operator sign-off on the report.
4. Set the SORT options for your election. You cannot change sort options after ballot scanning begins. The ballot scanner can sort blank, over-voted, under-voted, and write-in ballots from regular ballots. Be aware of your jurisdiction’s rules for separating ballots before selecting a sort option. The scanner does not tabulate blank, over-vote, under-voted and crossover ballots when they are sorted. The scanner will only tabulate sorted write-in ballots if the election definition contains the option to tabulate write-ins. The scanner lists this option on the ready report, which prints automatically when you start the scanner.

NOTE: If your jurisdiction counts sorted ballots immediately after the machine sorts them, be sure to turn on the appropriate sort option again before scanning the next precinct’s ballots to ensure that all ballots get sorted.

6.2 Tabulation Procedures

Scan Vote-By-Mail Ballots on the Model 650

Follow the guidelines in sections 15100 to 15112 of the California Elections Code when you count vote by mail ballots. Depending on the laws in your jurisdiction, you can sometimes count Vote-By-Mail ballots before the polls close.

NOTE: Program your election definition with your vote by mail scanning method.

Vote by Mail ballots should be counted into their respective precincts, whether they are pre-programmed duplicate precincts or the same precincts as Election Day. To separate the data between Vote-By-Mail and Election Day, use the Group function in Election Reporting Manager during the upload session to keep the totals separate.

NOTE: As you are processing your ballots, be sure to verify that the header card processed is correct.

NOTE: A header card that is passed and totals on multiple scanners will show as processed on each scanner. Double-check to ensure that the proper upload process is used in Election Reporting Manager to assure accurate results.

6.3 Post-tabulation Report and Shutdown Procedures

This chapter contains information about the following processes.

- Save Totals
- Save Results to the Internal Drive
- Save Results to a Zip Disk
- Print Precinct Processed Reports
- Add Totals to the Scanner from a Disk
- Audit Log Reports
- Shutdown Procedures

Save Totals

You must save election data to the internal drive and to at least one blank zip disk. ES&S recommends that you save to the internal drive frequently as this prevents losing data if the scanner loses power or is turned off. Save to the zip disk as often as necessary to back-up results. Use the zip disk to transfer election results to Election Reporting Manager and to archive your results.

Caution: Do not reuse the election definition disk to store election data. Use blank zip disks instead so that results data is not corrupted. Zip Disks must be formatted with a FAT file system.

Save Results to the Internal Drive

Press SAVE to transfer vote totals from volatile memory to the internal drive. A confirmation message indicating the number of ballots scanned, saved and sorted appears after the scanner saves the data and then clears volatile memory.

NOTE: Results saved to the internal drive will be stored there until you zero the totals.

Save Results to a Zip Disk

1. Insert a blank formatted disk into the zip drive.

Caution: Do not reuse the election definition disk to store election data. Use blank zip disks instead so that results data is not corrupted. Zip Disks must be formatted with a FAT file system.

2. Hold down the ENABLE button and press SAVE to save from the internal drive to the zip disk.
3. The message “Confirm Save Totals to Transfer Disk? Press Stop to Cancel, Start to Continue” appears. Press START. The message, “Totals copied to transfer disk” appears after the scanner copies the totals.

NOTE: If you have not saved election data to the internal drive, a message indicating that tabulation is in progress will appear. You need to save vote counts to the internal drive before saving them to a zip disk. Press SAVE, and then repeat step two to store election results on the zip disk.

4. Remove the disk and label it with the date, time, election title, disk number, scanner number and total number of ballots saved to disk.

NOTE: To get the total number of ballots saved to the zip disk go to the audit log printer and note the number associated with the time stamp of that save.

Print Precinct Processed Reports

When you run the Precincts Processed Report, a long format report shows the precincts that are processed, and a short format report shows the precincts that are not processed.

1. Press FORMAT in the REPORTS area of the control panel, to select either short or long format.
2. Press PRECINCTS PROCESSED.

NOTE: If you have scanned ballots but not saved to the internal drive, the message “Tabulation in Progress Press SAVE” appears. Press SAVE, and then press the appropriate report button to print the report.

3. To stop printing a report, press and hold STOP. The message, “Operator Halting Report Printing” appears. The scanner cancels any portion of the report that has not yet spooled to the printer.

NOTE: Wait for the READY indicator light to appear before printing additional reports.

Add Totals to the Scanner from a Disk

You can reload the scanner with the last totals saved to disk if you need to restart counting from zero, if you mistakenly zero the totals on a scanner, if you are adding previously scanned vote by mail ballots, or if you are adding totals from another scanner.

1. Insert a zip disk with previously saved totals into the disk drive.
2. Hold down the ENABLE button and press IMPORT RESULTS. The message “Confirm: Add Totals from Transfer Disk? Press Stop to Cancel, Start to Continue” appears. Press START. The message “Totals from Transfer Disk added to System” appears.

   The Ready indicator light will appear after the scanner has imported all totals.

3. Remove the disk from the scanner.

Audit Log Reports

This report shows current system settings and it prints automatically every time you turn the scanner on. This will be printed on the Audit Log printer and should be kept associated with that machine until *all* tabulation has completed. This internal report tracks scanner functions from the time you turn the scanner on, until you turn it off. Different types of messages compose the audit log, including:

- Switch Log Messages - identify each action performed by the scanner.
- Ballot Count Log Messages - identify the number of ballots read, sorted and saved in each run.
- Event Log Messages - identify the near-actual time that each scanner event occurred, providing a crosscheck of major events such as the last precinct read or when a disk was last stored.

Keep this log along with the zero report as Election Day records. These records can be used to verify processing procedures or any operation questions specific to that tabulator.

NOTE: Audit Log reports are not electronically stored on the Model 650 so safe keeping of the report is essential for record keeping of Election processing.

Shutdown Procedures

When tabulation has completed on the equipment and all saves have been completed, turn off the Model 650 using the ON/OFF switch then power off the power strip associated with that cart. Clear out any dust in the hoppers and read head then cover the machine for later use.

NOTE: If you do not expect to do any further processing also remove the pick belt and reserve if in still usable condition. Otherwise discard the belt and replace with a fresh one when processing continues.

Part 7: Semi-Official Canvass Tabulation and Reporting

Part 7 contains information about the following topics.

- Semi-Official Canvass Tabulation and Reporting
- 7.1 System Start-up and Pre-tabulation Reports
- 7.2 Processing Vote Reports
- 7.3 Integration with County Systems and Calvoter

Semi-Official Canvass Tabulation and Reporting

Appointment of Boards

The elections official responsible for the conduct of an election shall appoint boards to carry out the following semiofficial canvass functions:

1. Vote by Mail Voter and Provisional Voter Ballot Processing
2. Logic and Accuracy Testing
3. Seal and Container Inspection
4. Ballot Inspection
5. Ballot Processing
6. Ballot Duplication
7. Write-in Ballot Processing
8. Ballot Storage
9. Memory Card Control
10. Elections Observer Panel
11. Other boards deemed necessary by the responsible elections official.

Individuals appointed may perform more than one function or serve on more than one board. The semiofficial canvass functions listed above must be performed by a minimum of two persons. Each board member shall be appointed to perform the function designated. Each person who handles ballots at the central or remote counting location shall sign the following declaration:

"To the best of my knowledge and belief, I did not tamper with any ballot, memory card, or ballot counting equipment, nor did I observe any other person in any way tamper or interfere with the ballot counting process. And to the best of my knowledge the said process was done in accordance with both State and Federal law and in compliance with the California Election Code."

Precinct Tabulation Via a Model 100 with a Centrally Located Summary Count System

Establish Election Audit Trail Checkpoints

The responsible elections official shall establish procedures to account for all voted ballots during the semiofficial canvass. These procedures shall record the time voted ballots and memory cards and units were received from each precinct and shall indicate from whom they were received and to whom they were submitted. In addition, each function listed under Section 4.6.2 (above) is designated as an Audit Trail CHECKPOINT, and the responsible elections official must document the receipt and processing of voted ballots and memory cards by the various boards assigned to perform these functions.

Vote-By-Mail and Provisional Ballot Processing

All surrendered and/or returned voted Vote-By-Mail ballots and provisional ballots will be processed in compliance with approved administrative or Election Code procedures. Prior to any processing, the appropriate board must insure that all vote by mail and provisional ballots received from the precinct(s) were properly sealed in their respective containers. The inspection and documenting of this reception process is an Election Audit Trail CHECKPOINT. Any defects or discrepancies noted during this process should immediately be brought to the attention of the elections official. All provisional ballots will be verified closely to ensure that votes are only processed for eligible races.

Ballot Duplication

There is no need to remake ballots that have been processed by Model 100s at the polling place. All ballots deemed non-processable for whatever reason **must** be remade. A non-processable ballot must be duplicated and its original kept on file as an Election Audit Trail CHECKPOINT. Voter intent shall be determined only by the elections official in accordance with the California Election Code.

Ballot Processing Board (Memory Card Processing)

When Model 100s are used in the polling places, the Ballot Processing Board has the function of uploading precinct memory card totals to the Summary System. Memory card upload processing shall be done in the presence of at least two people, one of whom will be the summary system manager. A record or log of the sequence in which the precincts' memory cards were processed along with a recording of system irregularities in processing will be printed on the Model 100 that is uploading memory card precinct totals in its memory card reading mode.

Summary System Processing

The Summary System operator(s) will receive the memory cards, properly identified and logged-in, from the memory card control board. Upon receipt of the memory card, the Summary System operator shall: cause the memory card data to be read or uploaded into the Summary System. Upon completion of reading, the memory card will be returned to the memory card control board. From the memory card uploads, the Summary System operator will produce jurisdiction wide election results bulletins as required.

All Summary System activity is logged. At specified periods throughout the process, the Summary System is backed up to diskette or tape. The elections official shall report election results, as specified, to the Secretary of State for statewide elections and for specified special elections.

The voted ballots shall be treated in the following manner beginning with their return to the election facility. A Ballot Storage Board shall receive and secure all voted tabulated ballots delivered from the precincts. The voted ballots must be maintained in a locked and sealed room or containers any time the ballots are unattended. Any authorized entry into ballot containers must be accompanied by a record or log noting time, place, persons involved, and reasons for breaking the seal. The jurisdiction should always be aware of the security requirement in the storage of election equipment and ballots.

At each precinct wherein Model 100s were installed, the memory card and units for that precinct shall be logged in, and a receipt for same issued. At a minimum this precinct log shall carry a precinct ID, The date and time memory cards and units are received and the initials of the appropriate memory card control board member. Properly received memory cards will be delivered to the Summary System operator for upload. Upon completion of uploading, the memory cards will be returned to the memory card board were the units will remain in secured storage. It is the duty of the jurisdiction to exercise strict supervision over the identification, receipt, issue, movement and storage of memory cards. All such activity is to be logged or otherwise documented. Memory cards are an intermediate storage medium used for the transfer of precinct(s) election results from Model 100s to the Summary Systems. In as much as the ballots themselves are a permanent record of a cast ballot that can be manually recounted, sufficient for the long term retention of election data, and inasmuch as the printed Precinct Results Tapes (Zero and Precinct Totals) are available for comparison against Summary System reports, and inasmuch as memory cards may be needed for subsequent elections which may occur prior to the expiration of a mandated period for retention of election materials, the requirements of Elections Code sections 17301 through 17306 shall be deemed not applicable to memory cards. Such election data can be stored on a CD or other memory device that shall not reside on a network and be subject to all security requirements sited within the California Election Code.

7.1 System Start-up and Pre-tabulation Reports

Open the Polls

Before your polling location open for voting, retest and check the system configuration for each of your scanners.

Refer to Part 5: Polling Place Procedures for information about testing and configuring scanners.

1. Turn the Model 100 control key to the OPEN/CLOSE POLL position on each scanner at the polling location. The Initial State Report will print.
2. Verify that the date and time printed at the top of the report is accurate. If the time is off, note the correct time and initial the report.
3. Verify that the precinct information printed in the first section of the report is the precinct that the machine was assigned to. If this information does not match alert the County office immediately.
4. Once the Initial State Report has completed printing, the system initializes and the message “ELECTION CARD INSERTED: OPEN POLLS NOW?” appears.

   Select YES to open the polls.

5. After you open the polls, the message “PLEASE TURN KEY/SWITCH TO VOTE” appears on the scanner display screen. Turn the key to the VOTE position to initialize the following scanner functions:

   The Model 100 prints a Status Report, a Zero Totals Report and/or a Zero Certification Report on activation.

6. The Precinct officials must review the zero totals report. Once that has been verified to be all zeros, the officials must sign the Zero Certification Report along with other required precinct officials.
7. County method of storing the Zero Report and Certification will vary. Follow the County procedures for proper storage and transportation.

7.2 Processing Vote Reports

7.2.1 Central Tabulation

Processing Ballots on the Model 650

Refer to the California Elections Code, Division 15, for the regulations that govern scanning and tabulating ballots. Use the instructions in the “Scanning Ballots” section of the *California Election Procedures* manual as a general guideline for scanning your ballots. Consult the operator’s manual for your central scanner for more detailed instructions for scanning ballots.

Guidelines for Processing Central Count Ballots

Use the following guidelines from the California Elections Code sections 15200 to 15213 when you transport and count ballots at a central count location:

- **15200.** If paper ballots are used in conjunction with this system, counting shall be as provided in Article 5 (commencing with Section 15270) and Article 6 (commencing with Section 15290).
- **15201.** (a) As soon as the polls are closed, the precinct board shall, in the presence of the public do all of the following: (1) Seal the container used to transport voted ballots and insure that the precinct number is designated on the ballot container. (2) Certify, sign, and seal the several packages or envelopes as directed by the elections official. (3) By not less than two of their number, deliver the ballot container and packages to the elections official at the central counting place in the manner prescribed by the elections official. The ballot container and packages shall remain in their exclusive possession until delivered to the elections official. (b) This section also applies to ballots counted manually pursuant to Article 6 (commencing with Section 15290).
- **15202.** If the ballots are to be counted at a central counting place, no fewer than two precinct board members shall, following the close of the polls, deliver the ballots, in a sealed container, to the central counting place or a designated receiving station. There may be two or more central counting places.
- **15203.** The vote tabulating device may be located at any place within the state approved by the elections official of the county or other political subdivision using the device. The same device may be jointly owned, borrowed, leased, or used by two or more counties, cities, or other political subdivisions to tabulate ballots cast in any election.

- **15204.** All proceedings at the central counting place, or counting places, if applicable, shall be open to the view of the public but no person, except one employed and designated for the purpose by the elections official or his or her authorized deputy, shall touch any ballot container. Access to the area where electronic data processing equipment is being operated may be restricted to those persons authorized by the elections official.
- **15205.** (a) A person may be employed to count, tally, and certify the ballots if he or she is not a candidate at the election and if he or she satisfies either of the following requirements: (1) Has the qualifications required for a precinct board member. (2) Is a deputy or employee of either of the following: (A) The governing board. (B) The elections official. (b) No person selected to count ballots need reside in any particular precinct.
- **15206.** The elections official or any deputy authorized by the elections official may excuse or dismiss any person from any counting board and enforce the order.
- **15207.** The elections official or authorized deputy shall segregate the persons employed to count the ballots into counting boards. These counting boards shall be deemed to be precinct boards, and are subject to all laws governing precinct boards where ballots are counted at the polling place.
- **15208.** Each container of ballots shall be opened and its contents removed. The ballots shall be checked to ascertain if the ballots are properly grouped and shall be arranged, if necessary, so that all similar ballots from the precinct are together. Any ballot that is torn, bent, or mutilated shall be segregated in the manner directed by the elections official and a duplicate shall be prepared as provided in Section 15210. Any ballot that is marked in a manner so as to identify the voter shall be marked “Void” and shall be placed in the container for void ballots.
- **15209.** Any magnetic or electronic storage medium used for the ballot tabulation program and any magnetic or electronic storage medium containing election results shall be kept in a secure location and shall be retained for six months following any local election and 22 months following any federal election or so long thereafter as any contest involving the vote at the local or federal election remains undetermined.

- **15210.** In preparing the voted ballots for processing, any ballot that is torn, bent, or otherwise defective shall be corrected so that every vote cast by the voter shall be counted by the automatic tabulating equipment. If necessary, a true duplicate copy of the defective ballot shall be made and substituted therefor, following the intention of the voter insofar as it can be ascertained from the defective ballot. All duplicate ballots shall be clearly labeled "duplicate," and shall bear a serial number that shall be recorded on the damaged or defective ballot. Should what appears to be a validly marked ballot be deemed unreadable in part or in its entirety by the scanner, processing will stop and operator intervention will be required. If, after the operator inspects the ballot, the ballot appears to be validly marked, it will be reprocessed. If, upon reprocessing, the ballot is again deemed unreadable, it will be sent to the Ballot Duplication Board wherein a true and accurate copy will be made and the duplicate ballot reentered into the ballot tabulation process.
- **15211.** If paper ballots are used for vote by mail voting, the canvass may be conducted in accordance with Chapter 1 (commencing with Section 15000), or the elections official may have a true duplicate copy of vote by mail voter paper ballots made on punchcard ballots that shall be verified in the presence of witnesses. After verification the punchcard ballots shall be counted in the same manner as other punchcard ballots.
- **15212.** If voting at all precincts within a county is not conducted using the same voting system, the result as to the precincts not subject to this article shall be determined in accordance with other provisions of this code and the result of the vote at precincts subject to this article shall be determined as provided in this article. The statement of the vote in that case shall represent the consolidation of all the results and the results of the canvass of all Vote-By-Mail voter ballots.
- **15213.** In case of an emergency in which it becomes impossible to transport the ballots from the precinct to a central counting place, the elections official may direct that the ballots be counted at the precinct. In those cases, counting shall be conducted substantially in accordance with Article 5 (commencing with Section 15270).

Process Provisional Ballots on the Model 650

Distribute provisional ballots to voters who do not appear on the voter registration record. Allow the voter to vote and separate the provisional ballot from the general ballot population. Use the guidelines in section 14310 of the California Elections Code to scan and record totals from provisional ballots.

Scan Election Day Ballots

Use the following general procedure to scan your Election Day ballots. Read the California Elections Code, Division 15, and the instructions in your central scanner operator's manual for specific guidelines for scanning and tabulating ballots.

1. Push the input hopper tray down until it latches making sure to press down on the middle of the tray and not the edges.
2. Arrange the ballots so that they are all face-up and facing the same direction.
3. "Jog" the ballots by gently shuffling them until the pages separate to prevent ballots from sticking together and reduce paper jams in the scanner.
4. Load the ballots face-up into the input hopper tray with the cut corners placed directly under the pick belt. Only one corner of each ballot is cut. When facing the front of a ballot, the cut corner is the upper-right corner. Lightly tap the ballots so that they are flush against the two metal sides of the input hopper.
5. Push the input hopper tray down until it the latch releases, and then let the hopper rise.
6. Press the **START** button to begin scanning ballots.

   Ballot information will not be saved until a ballot moves all the way through the read area and is deposited in the output hopper.

   If the scanner suddenly stops, read the error message on the display screen and consult your operator's manual to resolve the problem.

7. Press the **STOP** button to stop scanning if you need to stop the machine before the input hopper is empty.
8. Remove ballots from the output hopper when the hopper begins to fill and place the counted ballots in an appropriate location specified by local election procedures. **Separate the counted ballots from the uncounted ballots** to make sure ballots are not counted more than once.

NOTE: If you suspect that counted and uncounted ballots have been mixed, print a precinct status report and compare it to the ballot accounting form to verify if ballots have been scanned more than once.

Additional Ballot Processing Procedures

Use the following procedures when you process ballots.

- Sort and record write-in ballots. Central scanners automatically sort ballots with write-in votes as you process ballots.

- Present any damaged or unreadable ballots to the resolutions board for interpretation and duplication.

Store Totals on a Disk

Store scanner results to a a zip disk if you use the Model 650. Save and store your scanner results or use the totals disk to transfer election information to election reporting software.

1. Insert a disk into the disk drive.
2. Press **SAVE TO DISKETTE** on the control panel.

   The scanner automatically assigns system and diskette numbers to the disk. These numbers appear on the display screen.

3. Remove the disk and label it with the date, time, election title, disk number, scanner number, operator initials, precinct number, type of ballots (such as vote by mail, provisional, etc.) and total number of ballots processed.

Add Totals from a Disk to a Scanner

If there is a power failure, or if you mistakenly zero totals on a scanner, take the following steps to reload the scanner with the last totals saved to disk.

1. Zero election totals by simultaneously pressing **ZERO/ADD ENABLE** and **ZERO TOTALS** on the control panel.
2. Insert a disk with previously saved totals into the disk drive.
3. Simultaneously press **ZERO/ADD ENABLE** and **ADD TO MEMORY**.

   The system and diskette number appears on the display screen. In addition, the messages “VERIFYING,” “LOADING” and “ADDED” will appear during the process to indicate the current processing stage of the load.

4. The READY indicator light appears after you add totals.
5. Remove the disk from the scanner.

Print Model 650 Reports

There are four ballot tabulation reports that you can generate directly from the ballot scanner – the Grand Totals report, the Status report, the Precinct report and the Last Precinct report. Use any of the reports to provide vote summary information to candidates and the media. Consult your central scanner operators manual for report explanations. Take the following steps to print reports.

1. In the REPORTS area of the control panel, press **FORMAT** to select either short or long format.
2. Press the appropriate button to print a report.

NOTE: Wait for the READY indicator light to appear before printing additional reports.

Handling Model 650 Unofficial Totals

Report your preliminary vote by mail vote counts, according to section 15101 of the Elections Code, to the Secretary of State immediately after the polls close. This requirement applies to all elections that require you to report results to the Secretary of State.

7.2.2 Precinct Tabulation (as appropriate)

7.3 Integration with County Systems and Calvoter

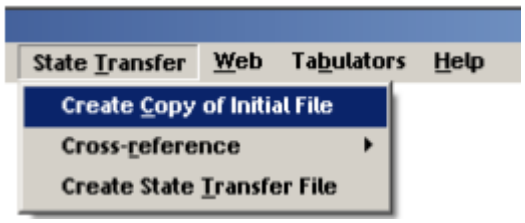
Prior to the election, the Secretary of State (SOS) will distribute to counties the forms and/or files for election night results reporting. County Election Administrators must then decide whether to provide election night results to the SOS via fax or electronic copy. If the County chooses to submit the files electronically, the existing Election Reporting Manager database must be updated with the associated SOS office and candidate numbering scheme.

NOTE: Verify that the ERM database was initialized with the *Initialize State Cross Reference File* option checked.

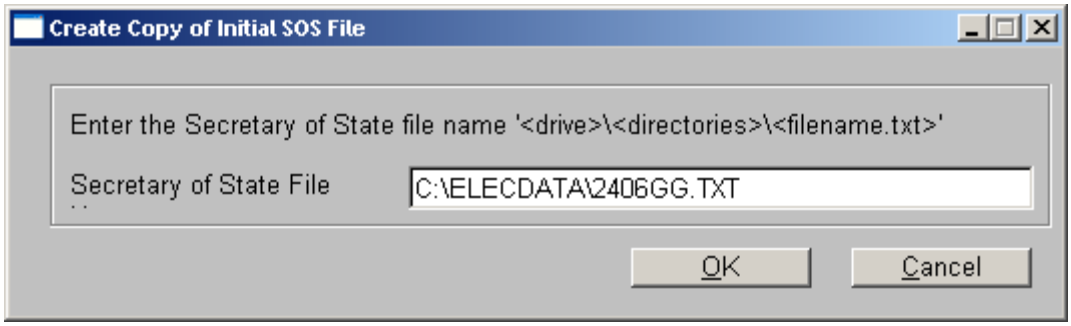
Update ERM with SOS File Information

Perform this update as soon as you receive the data from the SOS office. This will provide you ample time to prepare and update as necessary.

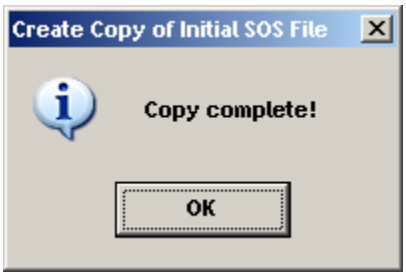
1. Save a copy of the SOS file template in the root of your **elecdata** folder (it may be on the C or Q drive, depending on a network connection).



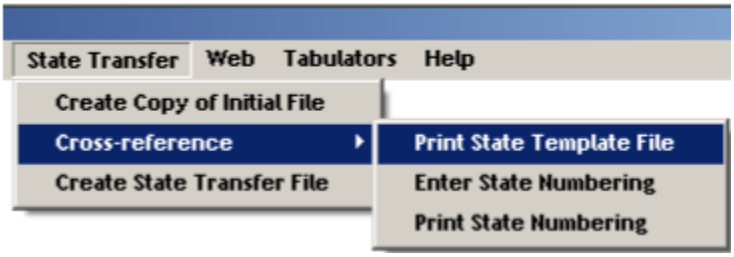
2. In ERM, from the **State Transfer** menu, select **Create Copy of Initial File.** The Create Copy of Initial SOS File window will appear.



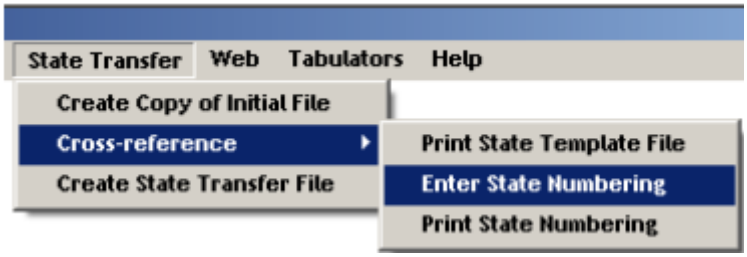
3. Type the full address of the file location in the **Secretary of State File** field.
4. Click **OK**. The following confirmation window will appear.



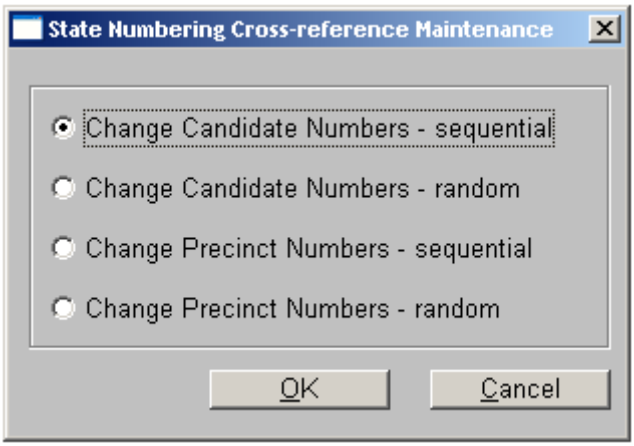
5. Click **OK** to confirm.



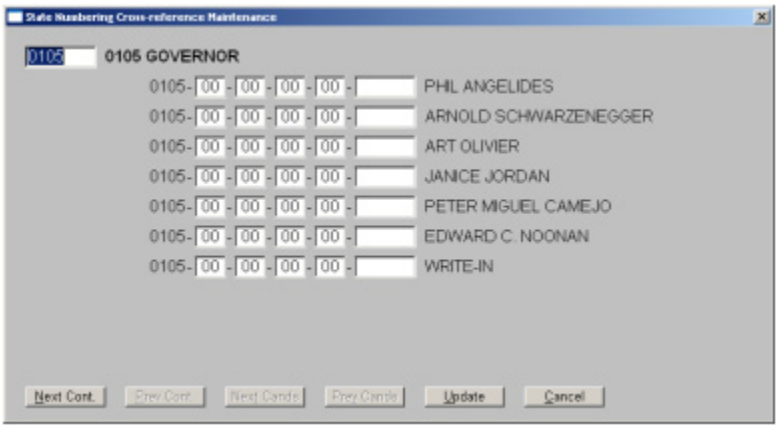
6. From the **State Transfer** menu, point to **Cross-reference**, and click **Print State Template File**.



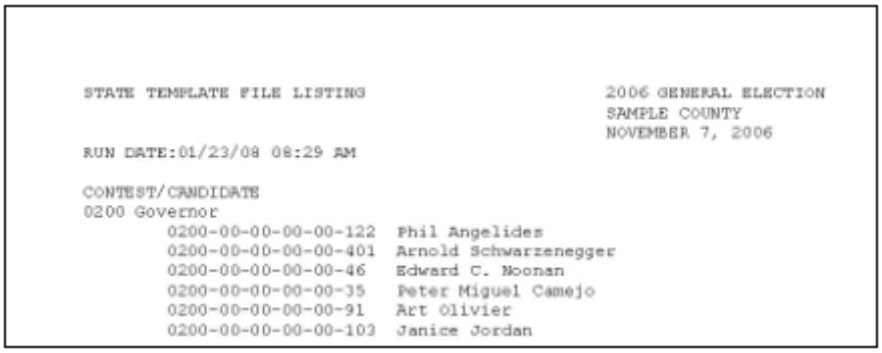
7. After the file prints, from the **State Transfer** menu, point to **Cross-reference**, and click **Enter State Numbering**. The following window will appear.



8. Click **Change Candidate Numbers – sequential**. Click **OK**. The following window will appear.



9. Using the State Template File Listing that you printed, copy the number associated with the Contest and type it in the text box in the upper-left corner of the State numbering Cross-reference Maintenance window the press **Enter**.

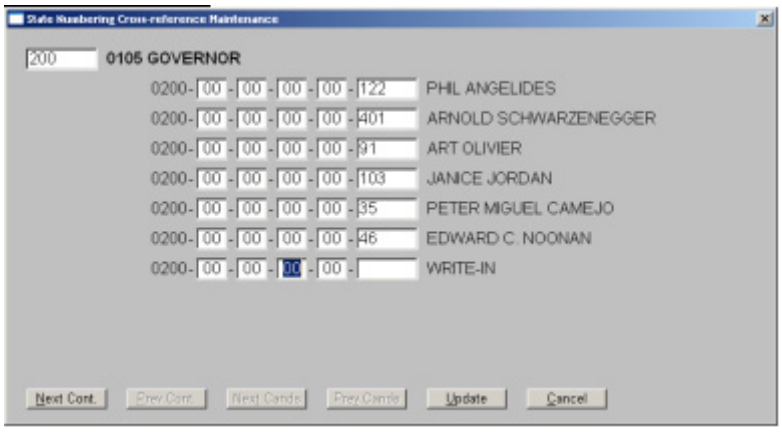


```
STATE TEMPLATE FILE LISTING                          2006 GENERAL ELECTION
                                                     SAMPLE COUNTY
                                                     NOVEMBER 7, 2006
RUN DATE:01/23/08 08:29 AM

CONTEST/CANDIDATE
0200 Governor
        0200-00-00-00-00-122  Phil Angelides
        0200-00-00-00-00-401  Arnold Schwarzenegger
        0200-00-00-00-00-46   Edward C. Noonan
        0200-00-00-00-00-35   Peter Miguel Camejo
        0200-00-00-00-00-91   Art Olivier
        0200-00-00-00-00-103  Janice Jordan
```

10. In the same manner, copy the numbers associated with each of the candidate lines to the related lines in the window.

NOTE: It is important that you press **Enter** to forward to the next candidate. Pressing **Enter** applies the change to that field.

The following example shows how the screen will look after you make the changes using the previous example report.



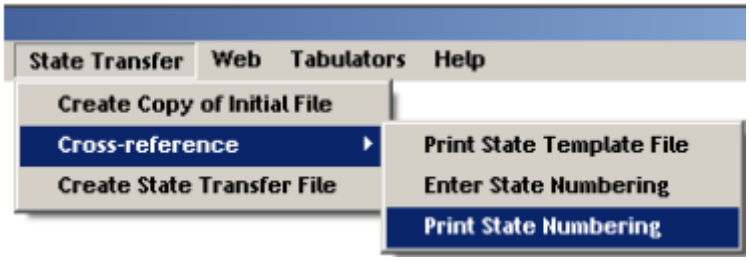
NOTE: If there are more candidates for a specific contest than will fit on one screen, click **Next Cand.** to advance to the next screen of candidates for the contest.

Warning: Do not change the numbers associated with the Write-In line.

11. When you have completed all the changes for a contest, click **Update**.

Important: It is very important to click **Update** on each screen as it is being formatted, so that the changes will be applied to the database.

12. Click **Next Cont.** to continue the same process for all the contests the Secretary of State Office has listed on the template file.



13. When you have completed the election file, from the **State Transfer** menu, point to **Cross-Reference**, and click **Print State Numbering**.

This will provide you the EL139, a print out of the numbers that you have just entered.

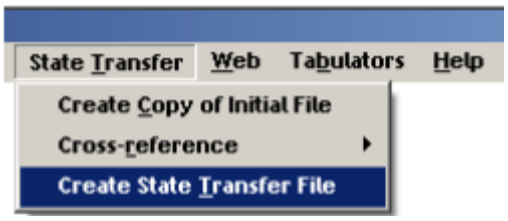
Refer to the Print State Numbering heading in the California State Transfer File chapter of *Election Reporting Manager System Operations Procedures* for a sample of the EL 139 report and information about how to print it.

14. Proof this file against the State Template File that you were using earlier.
15. Verify the files are correct.

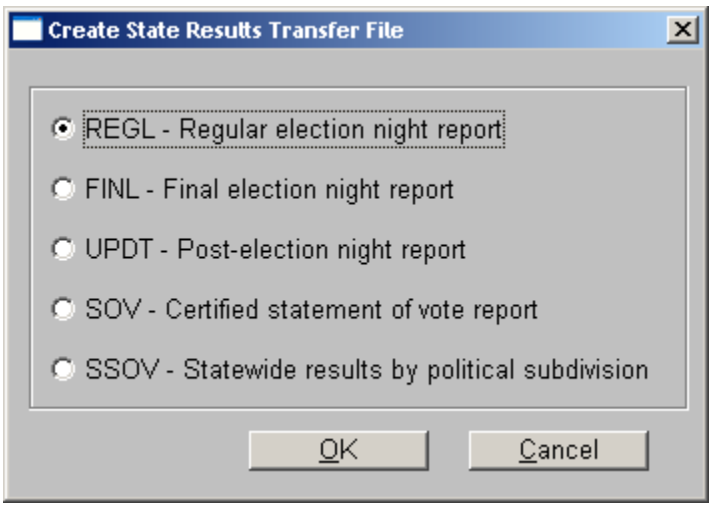
You are ready for electronic reporting. Be sure to review the testing schedule set-up by the SOS office to ensure that the file transfer is successful prior to election night.

Election Night Reporting

Load election totals as needed for your first report. When you have printed and verified the summary reports, you are ready to generate your electronic transfer file.



1. From the **State Transfer** menu, click **Create State Transfer File**. The following window appears.



2. Select from following reporting types.

Report types:

REGL - File used to generate all reports on election night except for the final election night report.

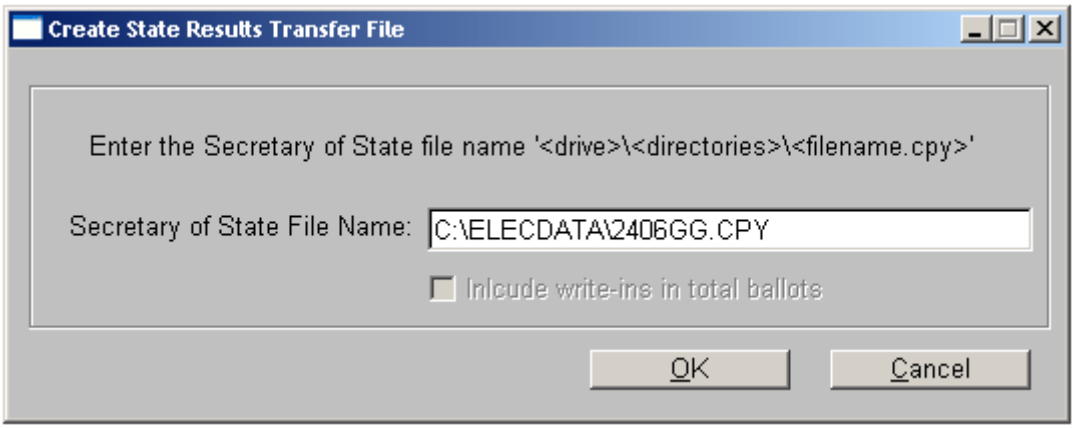
FINL - Last report upload for election night reporting.

UPDT - Any report that is uploaded after election night. This will include intermediate report ran after further processing of Vote By Mail ballots, provisional ballots and duplicated ballots.

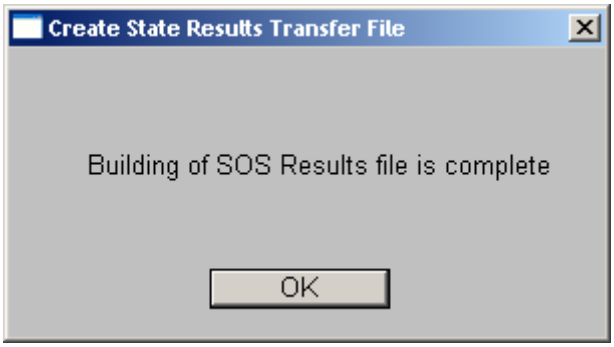
SOV - Final reporting for County including all verified write-ins.

SSOV - Final reporting for County with specific breakdown of political subdivision.

3. Click **OK**. The following window will appear.



4. Type the SOS file name in the **Secretary of State File Name** field. This is the copy of the SOS template file that was generated earlier in the process and has the extension CPY.
5. Click **OK**. The software will then run the totals through the update. When complete, the following screen will appear.



6. Click **OK** to continue.
7. Using Windows Explorer, browse to the root of elecdata. Find the file that was initially used to generate the SOS template (for example. 2406GG.TXT).
8. Save that file to removable memory device and upload it to the Calvoter system. A copy of the Election Summary report may also be requested for submission to ensure that results are transferred correctly.

Part 8: Official Canvass and Post-Election Procedures

Part 8 contains information about the following topics.

- Official Canvass and Post-Election Procedures
- 8.1 Election Observer Panel
- 8.2 Canvassing Precinct Returns
- 8.3 Canvassing Vote-By-Mail Ballots
- 8.4 Canvassing Provisional Ballots
- 8.5 Canvassing Write-in Votes
- 8.6 1% Manual Tally Procedures
- 8.7 Handling Ballot Exceptions (definition of vote, determining voter intent)
- 8.8 Post-Election Logic and Accuracy Testing
- 8.9 Final Reporting of Official Canvass
- 8.10 Back-up and Retention of Election Material

Official Canvass and Post-Election Procedures

Per the California Secretary of State, all jurisdictions are required to comply with the document entitled Post-Election Manual Tally Requirements and all subsequent revisions and related documents. This document is available on the Secretary of State's website or can be requested from the Secretary of State's Office.

Purpose of the Official Canvass

The Official Canvass consists of a post-election audit of all of the voting precincts' returns and the vote by mail voter ballot returns. Its purpose is to validate the outcome of the election by verifying that there were not more ballots cast than the sum of the numbers of voters who signed the Precinct Roster/Index and who applied for, and were issued vote by mail voter ballots, as well as to account for all official ballots produced for the election. Additionally, the Official Canvass verifies that all required certificates and oaths were properly executed by the precinct board. Verification of the computer or Model 100 count is accomplished by manually recounting the voted ballots from at least one percent of the voting precincts and comparing the manually tallied results to the Model 100 and Summary System produced results. Each of the following Official Canvass functions must be performed by a minimum of three persons.

Official Canvass Guidelines from the Elections Code

Use the following guidelines from sections 15.01 to 15304 of the California Elections Code when you perform the official canvass:

- **15301.** The canvass shall commence no later than the Thursday following the election, shall be open to the public, and, for state or statewide elections, shall result in a report of results to the Secretary of State. The canvass shall be continued daily, Saturdays, Sundays, and holidays excepted, for not less than six hours each day until completed.

- **15302.** The official canvass shall include, but not be limited to, the following tasks: (a) An inspection of all materials and supplies returned by poll workers. (b) A reconciliation of the number of signatures on the roster with the number of ballots recorded on the ballot statement. (c) In the event of a discrepancy in the reconciliation required by subdivision (b), the number of ballots received from each polling place shall be reconciled with the number of ballots cast, as indicated on the ballot statement. (d) A reconciliation of the number of ballots counted, spoiled, canceled, or invalidated due to identifying marks, overvotes, or as otherwise provided by statute, with the number of votes recorded, including vote by mail and provisional ballots, by the vote counting system. (e) Processing and counting any valid vote by mail and provisional ballots not included in the semifinal official canvass. (f) Counting any valid write-in votes. (g) Reproducing any damaged ballots, if necessary. (h) Reporting final results to the governing board and the Secretary of State, as required.
- **15303.** If the returns from any precinct are incomplete, ambiguous, not properly authenticated, or otherwise defective, the elections official may issue and serve subpoenas requiring members of the precinct board to appear and be examined under oath concerning the manner in which votes were counted and the result of the count in their precinct. This section shall apply when ballots are tabulated manually or automatically at the polls.
- **15304.** In jurisdictions using a central counting place, the elections official may appoint not less than three deputies to open the envelopes or containers with the materials returned from the precincts. If, after examination, any of the materials are incomplete, ambiguous, not properly authenticated, or otherwise defective, the precinct officers may be summoned before the elections official and examined under oath to describe polling place procedures and to correct the errors or omissions.

8.1 Election Observer Panel

Assigning Election Boards

Before processing ballots, the election administrator appoints election boards to carry out the following tasks:

- Vote-By-Mail and Provisional Ballot Processing
- Logic and Accuracy Testing
- Seal and Ballot Container Inspection
- Ballot Inspection
- Ballot Processing
- Ballot Duplication
- Write-in Ballot Processing
- Ballot Storage
- Election Observation

Vote-By-Mail and Provisional Ballot Processing

Any person wishing to cast a provisional ballot must be allowed to do so and will be subjected to the verification process outline within the California Election, said ballot will be verify the legitimacy of the voter eligibility to cast said ballot. Examine the ballots for defects or irregularities. Check the Vote-By-Mail and provisional voters against the voter record. Make sure the Vote-By-Mail voter cast only one ballot and make sure the provisional voter can legally cast a ballot.

Logic and Accuracy Testing

Perform scanner logic and accuracy tests before and after the election. See chapter two for instructions for clearing and testing the scanner. Logic and accuracy testing consists of processing a group of pre-marked ballots whose totals are known in advance. These predetermined groups of test ballots or test decks will also contain an example of any error type ballot that can occur. All contests in all ballot types and/or ballot styles are tested in this manner. Any deviation from the predetermined totals are rectified prior to the conclusion of Logic and Accuracy Testing. Only when the foregoing conditions have been satisfied is the tabulating equipment certified for processing that specific election.

Seal and Ballot Container Inspection

Ensure the security of the ballot boxes. Report any irregularities with the ballot boxes to the election administrator.

Ballot Inspection

Remove voted ballots from the ballot boxes. Remove any remaining portions of the ballot stub. Align and jog the ballots for scanning. Inspect all ballots for any apparent inadvertent mismarking, i.e., improper color of ink, x'ing or circling of candidate names, etc. If clear voter intent is present in these ballots then they should be forwarded to the Duplicate Ballot Board for appropriate action.

Ballot Processing

Process voted ballots on the central scanner. Sort write-in, blank, over-voted and unreadable ballots from the general population and give them to the resolutions board for interpretation and duplication. Return counted ballots to the correct ballot boxes and maintain the working order of the scanner.

Ballot Duplication

Members of the resolutions board interpret and duplicate unreadable and over-voted ballots. Unreadable ballots are those that the scanner cannot process because they are entirely blank or contain one or more unreadable marks. Ballots containing unreadable marks are defined in section 15210, on page 17, of these procedures.

Write-in Ballot Processing

Members of the resolutions board view and record write-in votes according to the guidelines in the California Elections Code.

Ballot Storage

Receive counted ballots from the ballot processor. Secure the counted ballots until you run a final logic and accuracy test on your central scanners. Store the ballots after the legal period for calling a recount passes. Deliver the counted ballots to the Secretary of State according to the guidelines in the California Elections Code.

Election Observation

Appoint a panel to observe the counting process without interfering with the vote count. The panel ensures that all procedures are carried out legally and accurately.

Scanning Ballots from Early Voting

Early voting allows voters to cast valid ballots at the election office in advance of your election. If your jurisdiction allows early voting, use the guidelines in the California Elections Code to carry out early voting and store ballots until the polls close on Election Day.

Scanning Vote-By-Mail Ballots

Follow the guidelines in sections 15100 to 15112 of the California Elections Code when you count Vote-By-Mail ballots. Depending on the laws in your jurisdiction, you can sometimes count Vote-By-Mail ballots before the polls close.

Some election offices scan vote by mail ballots separately from the Election Day ballots and other jurisdiction mix vote by mail ballots with regular precinct ballots. ES&S central scanners can use either method to process Vote-By-Mail ballots.

To scan Vote-By-Mail ballots separately from Election Day ballots, press **ABSENTEE MODE** on the control panel. A confirmation message appears and the scanner adds all of the totals from the ballots that you scan to Vote-By-Mail results.

NOTE: Program your election definition with your vote by mail scanning method.

Mix your vote by mail ballots with your Election Day ballots to add the totals from each Vote-By-Mail ballot to the totals for each ballot's home precinct.

8.2 Canvassing Precinct Returns

Canvassing Precinct Returns from the Model 100 and Model 650

Canvassing Precinct Returns consists of processing the provisional ballots returned from each precinct; verifying the eligibility of persons who cast ballots provisionally; opening the envelopes of eligible voters and removing the provisional ballots; examining the ballots for write-in votes; noting cause for rejection and damage identifying original or duplicate provisional ballots by precinct and delivering same to the designated official responsible for updating the ES&S tabulators (Model 100 or Model 650) and/or computer tallies; writing the reason for rejection on the envelopes of ineligible provisional voters (these unopened envelopes are to be retained for the period prescribed by law), and processing the Statement of Votes in the manner prescribed for Ballot Inspection Boards in Sections 3 and 4.

The Ballot Statement prepared by each precinct board is examined. The number of official ballots reported received by each precinct is compared to the number issued by the elections official, and any discrepancy is explained or resolved. The number of ballots voted (including those voted provisionally), plus spoiled and unused ballots, should equal the number of ballots delivered to the precinct. Any discrepancy is resolved or explained.

The number of signatures in the Roster-Index is compared to the number of ballots cast and reported on the Ballot Statement. Any difference between the two is resolved. Complete the duplication and reprocessing of any ballots not counted on election night because of damage, invalid identification markings, or other reasons. Election supplies and equipment, including unused and spoiled ballots, ballot containers, etc., are searched for ballots not accounted for. Any ballots found are processed.

8.3 Canvassing Vote-By-Mail Ballots

Report Preliminary Vote-By-Mail Voter Tally Results from the Model 100

Preliminary Vote-By-Mail ballot tallies, compiled pursuant to Elections Code section15000, will be reported to the Secretary of State immediately following the close of the polls. This requirement shall apply to all elections for which election results are reported to the Secretary of State. These results will be compiled from the central processing of Vote-By-Mail ballots on specialized high speed, optical scanners designed for this purpose. This equipment and its attendant procedures are not a subject for this document. Refer to California-approved procedures for Model 650 central ballot tabulation systems.

8.4 Canvassing Provisional Ballots

Canvassing Provisional Ballots on the Model 100

Provisional ballots issued and verified pursuant to sections 14310 and14311 do not need to be completed on Election Night. The ballots will be tabulated with the precinct to which the provisional voter is assigned.

8.5 Canvassing Write-in Votes

Canvassing Write-in Votes from the Model 100

If ballots containing write-in votes are diverted into a specific Model 100 ballot box compartment (usually the left bin), the Write-in Ballot Processing Board, shall prepare the ballots for manual tabulation in the following manner. This procedure can occur during the Official Canvass period, and does not need to be completed on Election Night.

In those rare uncounted vote by mail or provisional ballot cases where a write-in vote has been cast without the corresponding write-in oval being darkened, the number of candidates to be elected for that office must be checked. Examine the voting positions on the ballot within the office where the write-in vote occurs. If any of the voting positions for that office are marked and the number of voting position marks plus the number of write-in votes exceeds the number of candidates to be elected, an overvote exists. In this instance, none of the votes for that office may be counted and the ballot must be sent to the elections official to determine voter intent. The ballot must be duplicated prior to processing, with the office containing the overvote and write-in left blank. If so determined by the elections official, invalidate all votes for the overvoted office by writing “VOID” across the write-in name(s) on the original ballot.

Refer to the list of qualified write-in candidates provided by the elections official, and if the name written in is not on the list, write “VOID” across the name and place the ballot in the container with its precinct’s ballots. If the name is on the list but the write-in is not made in the space(s) provided for the office in which the candidate is qualified as a write-in candidate, write “VOID” across the name and place the ballot in the designated container with its precinct’s ballots. If the write-in vote is for a qualified candidate in the precinct, place the write-in ballot in the container designated for valid write-in votes, if such votes are to be tallied by a separate board. If the board examining the ballots with write-ins is assigned to tally them, they shall do so, using the result sheets and other control documents provided by the elections official. This is an Election Audit Trail CHECKPOINT.

Examine the ballots with write-ins that were processed by Ballot Inspection Boards, separate Write-in Processing Boards, Vote-by-Mail Voter Ballot Processing Boards or Canvassing Boards to verify that the names written in are for valid candidates. Review the tallies of valid write-in votes by precinct or Vote-by-Mail voter ballot style, and summarize by jurisdiction. Prepare “Statement of Write-in Votes” for inclusion in the official “Certified Statement of Election Results”.

8.6 1% Manual Tally Procedures

1% Manual Tally Procedures from the Model 100

For the purpose of validating the accuracy of the computer count, a public, manual recount of the ballots cast in at least one percent of the precincts shall be conducted within fifteen days after every election in which the Model 100 system is used. This one percent precinct sample shall be chosen at random (except as described below). If the random selection of precincts results in an office or ballot measure not being manually recounted, select and manually recount as many additional precincts as necessary so as to include all candidates or ballot measures not recounted in the original sample.

Precincts selected at random shall be chosen by an individual who is designated by the responsible elections official and who is not the same person, or a relative of the person responsible for election coding. Selected precinct numbers shall not be revealed to such personnel until the tally is complete.

In the event a Model 100 fails after the semiofficial or official ballot tally process has begun, the ballots from the last precinct tallied on the equipment prior to the failure shall be included in the automatic manual recount. If a discrepancy is discovered between the automated tally and the manual recount tally, each precinct's ballots which had been read and processed by the failed equipment, subsequent to the time the equipment last successfully completed logic and accuracy test, shall be tallied again.

The California Secretary of State requirements set forth in Section 6.5 concerning the interpretation and counting of valid voting position marks, shall be followed during the automatic recount of ballots.

8.7 Handling Ballot Exceptions (definition of vote, determining voter intent)

The California Secretary of State requires defined procedures to determine voter intent and how to handle various incorrect markings.

Update Computer Counts for the Model 100

Computer vote counts are updated as often as is deemed necessary by the elections official. During the Official Canvass, previously uncounted validly voted ballots must be counted in compliance with provisions of this section. Model 100s and their attendant memory cards, Model 100's functioning in the memory card upload mode and Summary Systems may be used again. When the provisional ballots, add-on ballots from election night, those found during the canvass, and add-on vote by mail ballots have been verified, the ballots are ready for processing. Process ballots, by precinct, or ballot style, through the Model 100 and the Summary System ballot counting program. Compare the new computer counts to Ballot Statements. Resolve or explain any remaining discrepancies. Updated Model 100 Precinct Result Tapes are printed and stored with the original Zero and Precinct Result Tapes produced Election Night. If the original computer count for any precinct is found to be incorrect, or if there are precincts in which unresolved discrepancies remain, the ballots from such precincts shall be reprocessed through the Model 100 in their entirety. Compare the new counts to Ballot Statements. Resolve or explain any remaining discrepancies.

Upon completion of the update session, rerun Logic and Accuracy Tests and confirm results.

8.8 Post-Election Logic and Accuracy Testing

All post-election logic and accuracy testing of election equipment must come under the direction of the county. When imposed, this test will analyze the calibration requirements as specified for election use.

Use the same procedures described in Section 4.5 Logic and Accuracy Testing of System and Components for any post-election logic and accuracy testing.

8.9 Final Reporting of Official Canvass

Model 650 Ballot Security and Reporting Results

Use the following instructions as a general guideline for reporting results. Consult sections 15370 to 15376 of the California Elections Code for specific regulations governing the reporting of results.

1. Complete the official canvass and add any write-in votes or other totals to the final vote count. Then, post the final vote count at the counting location for public inspection.
2. Prepare a certified statement of the election results and submit the statement to the governing district within 28 days of the election. Show results on a precinct by precinct basis. Include the following information on your statement of results:
   - The total number of votes cast
   - The number of votes cast at each precinct for each candidate and for and against each measure
   - The total number of votes cast for each candidate and for and against each measure
   - The number of votes cast in each city, assembly district, congressional district, senatorial district, State Board of Equalization district and supervisorial district located in whole or part of the county.
3. Send a copy of the results to each of the following:
   - All candidates participating in your statewide election.
   - All of the candidates voted for in the following offices:

     Member of the Assembly

     Member of the Senate

     Member of the U.S. House of Representatives

     Member of the State Board of Equalization

     Justice of the Court of Appeal

     Judge of the superior court

     Judge of the municipal court

     All persons voted for in a presidential primary
   - The vote given for persons for electors of President and Vice President of the United States.

- All statewide measures.

8.10 Back-up and Retention of Election Material

What to back up and how. What materials and reports to retain.

Back-up and Retention of Model 100 Election Material

Upon the certification of the election results, Elections Code sections 17300 through 17306 and 15307 apply to the handling, security and disposition of unused ballots and other election materials. As noted in various sections of this document, Memory cards are not deemed to fall within the purview of these Elections Code sections. The retention period for ballots and related election materials is six months for all elections if no federal elections are involved. The federal election retention period is twenty-two months. Retention periods may be extended in the event of a court challenge.

Adherence to Established Procedures

All operations associated with the official canvass and postelection procedures shall be performed in accordance with the applicable control and security provisions of Sections 2, 3, and 4. No operation or activity which results in a revision to voting data produced by the semiofficial canvass shall be performed without the presence of a properly constituted Election Observer Panel, Logic and Accuracy Board, or an equivalent administrative and technical control body authorized to verify the correctness of the operations and responsible for maintaining accurate and complete audit records.

Checking Unused Ballots

Unused ballots will be processed in accordance with Elections Code section 14403 or 14404

Precinct officers will seal or deface unused precinct ballots, and election personnel in the office of the elections official will seal or deface unused vote by mail ballots. The elections official may inspect and count unused ballots as necessary to reconcile the ballot count during the official canvass.

Post Official Canvass Period Disposition of Election Materials

Following certification of the election results and upon expiration of the period for recount requests, the ballots may be moved to secure storage for the required ballot retention period, during which time, the ballot containers remain sealed. The elections official shall not open any ballot containers or permit any ballot containers to be opened except as permitted in Elections Code sections 15305 and 15306, or in the event of a mandated recount. Seals used for the foregoing purposes shall be numbered, destructible seals.

Certification by Unescorted Personnel.

All unescorted persons present within the security area, including visitors, media representatives, and standby personnel, shall be clearly identified by a badge or other means and a log of their arrival and departure times. All unescorted personnel shall be subject to restrictions established by the responsible elections official to ensure the efficiency and integrity of the vote tallying process.

Completing the Official Canvass from Model 650 Scanners

Retaining Model 650 Election Materials

Consult sections 17300 to 17506 of the Elections Code for guidelines on retaining election materials. The retention period for ballots and related election materials is six months for all elections if no federal elections are involved. The federal election retention period is 22 months. Extend retention periods in the case of a court challenge.

Part 9: Manual Recount Procedures

Part 9 contains information about the following topics.

- Manual Recount Procedures

Manual Recount Procedures

Per the California Secretary of State, all jurisdictions are required to comply with the document entitled Post-Election Manual Tally Requirements and all subsequent revisions and related documents. This document is available on the Secretary of State's website or can be requested from the Secretary of State's Office.

NOTE: Poll workers are not permitted to participate in any post-election manual count auditing of precinct results from a precinct in which they were poll workers.

Request for and Procedures Governing a Manual Recount for the Model 100

A request for a recount and the conduct of the recount shall be made in accordance with Elections Code section 15600. The following additional personnel and procedures will govern the recount. Each candidate, and each side in the case of a ballot measure, shall be allowed not more than two observers for each recount board. Observers may not interfere in the recount process, may not direct questions to any member of the recount board, and may not touch or handle the ballots. All questions must be directed to the elections official in charge of the recount. Prior to the beginning of the recount, all parties will be notified of the hours of operation. At least two people will attend ballots at all times during the recount, including breaks and lunch periods. Recount boards will be permitted break periods in the morning and afternoon, in addition to a lunch break. They will not stop for a break or for lunch while recounting a precinct. A manual recount of an optical scan voting system is straight forward in that the names of all contests, candidates and issues appear on the ballot face. The votes/marks on the ballot are a secret, permanent record of the election and become part of the Election Audit Trail CHECKPOINT of the voting system. The ballots are manually tallied for the office(s) to be recounted and these results are compared to the Model 100 generated Precincts Results Tape for that precinct. Should the totals not agree, then the ballots are reviewed for any ballot marking anomaly that would cause the ovals on a particular ballot to not be scanned. Once these differences are resolved, the next precinct is manually tallied. This process continues until all precincts have been tallied manually.

Oval Markings

Invalid Marks

Marks partially outside or that fill less than 10% of the oval probably were not scanned, and therefore were not counted as votes. Marks made with red or green pens are not read by the Model 100 scanner and therefore were not counted as votes. If it is clear that the elector intended to vote for a specific candidate then these votes must be tallied as a part of the manual recount such determination shall always be referred to the California Election Code when processing. These are the ballots that must be examined if the manual tally and the Model 100 produced total for a candidate do not agree.

Overvote

A ballot condition which arises when the voter darkens more candidate ovals than the number of candidates to be elected. In an office to which one candidate can be nominated or elected, a second vote for any other candidate or write in position oval within that office creates an overvoted condition. The result is that no vote for any candidate in that office can be tallied, since the voter's intent is unknown. In the case of ballot measures, a "Yes" vote and a "No" vote for the same measure creates the overvoted condition. No vote shall be counted for any candidate or ballot measure when an overvote occurs. The number of overvotes shall be recorded for each office or ballot measure.

Undervote

An undervote is a ballot condition which arises when a voter darkens the ovals for fewer candidates than the number to be elected for that office, or when the voter does not darken either a For or Against oval in a ballot measure. Tallying the number of undervotes in a manual recount will add significant time to the manual recount process. The undervotes should be tallied only as part of the machine tally process. Voter intent shall fall to the elections official as outlined in the California Election Code.

Blank or Unvoted Ballots

A blank or unvoted ballot condition arises when a voter does not darken an oval for any candidate in any office or measure on the ballot. Tallying the number of blank votes in a manual recount will add significant time to the manual recount process. Blank votes should be tallied only as part of the machine tally process.

Part 10: Security

Part 10 contains information about the following topics.

- Security
- 10.1 Physical Security of System and Components
- 10.2 Logical Security of System and Components
- 10.3 Security Procedures for Central Processing
- 10.4 Security Procedures for Polling Places
- 10.5 Audit Trails
- 10.6 Protective Measures and Prohibited Practices

Security

The goal of this section is to provide requirements to be used in conjunction with all of the other sections of this manual to, not only detect and correct any errors in the results of the election process from fraudulent and/or intentional manipulation, but to prevent such manipulation that would affect the result of the election process. Equally important is the public perception regarding the safeguarding of the election process.

It is absolutely critical that elections officials for each jurisdiction work to continuously improve the security of the systems, supplies, and processes used in the election process and provide feedback to ES&S and the Secretary of State's office for improvement in the safeguarding of the process.

Election administration security must be a part of a jurisdiction's overall security plan to prevent lapses in adjacent or interconnected departments and processes from compromising the election function.

A full and thorough definition and documentation of all roles and responsibilities for staff used in the election process is required. Access to each function must be regularly audited against those roles and responsibilities and periodically reviewed in terms of separation of duties to ensure that no one person is capable of compromising the election process without chance of detection.

Per direction from the Secretary of State, each jurisdiction is required to have a minimum of two elections officials or poll workers to perform or directly observe critical security processes, such as the following.

- Sealing and locking equipment for transport
- Conducting logic and accuracy testing
- Verifying the integrity and authenticity of security locks and seals
- Setting up voting equipment
- Opening the polls
- Closing the polls and printing results.

Monitoring and verification of tasks by a second person can greatly reduce the risk posed by a rogue employee or contract staff member. Establishing frequent and random audit checks of all processes and procedures can also greatly reduce the risk of collusion. In addition, vendors, observers, or other necessary personnel not directly employed by the jurisdiction should never be allowed unsupervised, unrestricted access to election systems, components or materials.

Staff members should be required to wear identification badges at all times. When visitors, vendors, maintenance personnel, and other non-staff individuals enter election office work areas, log their entry and exit dates and times, record the purpose of their visit, and issue them numbered temporary identification badges.

Each jurisdiction must establish qualification guidelines for choosing the person(s) who will operate and administer the voting system and perform background checks on elections officials who are authorized to define and configure elections and maintain voting devices.

New security threats continue to be developed and must be continually addressed with ever-improving best practices. Each jurisdiction should establish a clear channel of communication between the Secretary of State's office, jurisdiction IT and security resources, and vendor user forums to raise awareness and develop procedures for the protection of the election process.

The California Secretary of State requires each jurisdiction to establish emergency contingency plans for ballot counting, including either backup ballot counting facilities under the elections official's supervision, or the availability of such facilities from another jurisdiction, or from a vendor, or from another source.

Elections officials must develop appropriate security procedures for use when representatives of qualified political parties and bona fide associations of citizens and media associations, pursuant to their rights under Elections Code section 15004, check and review the preparation and operation of vote tabulating devices and attend any, or all, phases of the election. The security procedures must permit representatives to observe, at a legible distance, the contents of the display on the vote-tabulating computer or device. This requirement may be satisfied by positioning an additional display monitor, or monitors, in a manner that allows the representatives to read the contents displayed on the vote tabulating computer or device, while also observing the vote tabulating computer or device and any person(s) operating the vote tabulating computer or device.

Finally, the California Secretary of State requires that each jurisdiction document and submit for approval to the Secretary of State a training plan and schedule that includes the items covered in this manual.

Training of poll workers must include the following.

- Secure storage of voting equipment while in the poll worker's possession.
- Chain-of-custody procedures required for voting equipment and polling place supplies.
- Seal placement and procedures for verification of seal integrity.
- Placement and observation of voting equipment.

- Observation of activity that could indicate tampering or an attempt at tampering.
- The Voter Bill of Rights set forth in section 2300 of the Elections Code.
- The nature of the AutoMARK voter-assist terminal as a device that marks official paper ballots, and unlike a direct recording electronic (DRE) voting machine, does not create an electronic record of votes.
- The public right to inspect voting equipment and security seals, and how to handle requests for such inspection.
- How to handle a lack of sufficient paper ballots or equipment failure in a polling place, including AutoMARK ballot jams or other AutoMARK operational problems, and how to ensure continuity of the election in the event of such a failure.
- How to properly log all events and issues related to voting equipment in the polling place, including voter complaints and malfunctioning equipment.

Highlighting security principles can heighten the awareness of employees and greatly improve the chance that any issue is prevented or detected and corrected.

10.1 Physical Security of System and Components

Per direction from the Secretary of State, each jurisdiction is required to have a minimum of two elections officials or poll workers to perform or directly observe critical security processes, such as sealing and locking equipment for transport, conducting logic and accuracy testing, verifying the integrity and authenticity of security locks and seals, setting up voting equipment, opening the polls, closing the polls and printing results.

Physical access control must be implemented for all election-related equipment, software, and supplies including, but not limited to, tabulators, PCs, software, media, ballots, logbooks, locks and seals, and keys.

Secure warehouse storage and staff work areas must be maintained, with controlled access limited to authorized personnel, to store all voting related equipment, software, and supplies. The California Secretary of State requires one of the following or equivalent:

- Electronic badge-accessed storage and work areas with physically and electronically protected electronic logs of access. Review the logs before and after each election for suspicious activity, including off-hours and frequent access not deemed appropriate.
- A combination of key access, signed logbooks, and video surveillance, including regular reviews of logbooks and video.
- Monitored building alarms to detect and alert the appropriate authorities about conditions of unauthorized entry, fire, and temperature and humidity conditions that could result in damage or compromise of the system components.

Follow applicable state and county procedures for maintenance and repair of any voting system that requires key access to sensitive components, including memory cards, system settings, vote ballots, etc. These procedures must include logging of all such activities, as previously described, and requires a minimum of two elections officials or poll workers to perform or directly observe such critical activities.

Maintain a secure chain of custody of all election-related equipment, software and supplies that leave the secured warehouse environment in the course of normal election procedures. Following are the minimum requirements established by the California Secretary of State:

- Where application of tamper-evident seals directly to a system component is required to detect unauthorized access to the component, those seals must be serialized.

- Upon request, members of the public must be permitted to observe and inspect, without physical contact, the integrity of all externally visible security seals used to secure voting equipment in a time and manner that does not interfere with the conduct of the election or the privacy of any voter.
- Signed Logbook entries by both the issuing warehouse personnel and the receiving or transporting personnel, indicating receipt of the equipment with security seals in place or documenting compromised or potentially compromised seals.
- Transfer in uniquely serialized, tamper evident containers
- Supervision and documentation by the appropriate elections officials of all cases where a seal must be broken and replaced in the course of approved election procedures.
- Transfer of election voting system components no more than 10 days before the election.
- Storage of all election voting system components at polling locations in locked or access-controlled storage areas, when not in use.
- Immediate reporting and escalation to the appropriate elections official of any compromise in the chain of custody of any component of the election process.

With respect to any piece of voting equipment for which the chain of custody has been compromised, or for which the integrity of the tamper-evident seals has been compromised, the following actions must be taken.

- The chief elections official of the jurisdiction must be notified immediately.
- The equipment must be removed from service immediately and replaced, if possible.
- Any votes cast on the device prior to its removal from service must be subject to a 100% manual tally, by the process described in Elections Code section 15360, as part of the official canvass. Notice to the public of this manual tally may be combined with the notice required by any other manual tally required in this order, or by Elections Code section 15360.
- Any memory card containing data from that device must be secured and retained for the full election retention period.
- If possible, an image of all device software and firmware must be stored on write-once media and retained securely for the full election retention period
- All device software and firmware must be reinstalled from a read-only version of the approved firmware and software supplied directly by the federal testing laboratory or the Secretary of State before the equipment is placed back into service.

Election system components that are not transported back to the secure warehouse environment on election night must be secured in one or more uniquely serialized, tamper-evident container(s) and placed in secured storage.

Review election office work areas to ensure that office space is appropriately isolated and that undetected access by unauthorized individuals is not possible. Review voting equipment storage and work areas to ensure that only authorized personnel have access to them.

10.2 Logical Security of System and Components

Data Security

It is essential that system audit logs and data be backed and stored in manner that allows the logs and data to be:

1. Protected from tampering or destruction,
2. Used in a regular audit regiment to detect and prevent errors or fraudulent activity, and
3. Used in any forensic investigations of suspected errors or fraudulent activities that may occur.

A disciplined, documented data security process is an important tool in the overall effort to maintain the integrity of the election processes. Data backups should be coordinated with the Disaster Recovery or Contingency Planning procedures of the jurisdiction.

ES&S recommends that all system logs and application data be backed up to write-once, non-modifiable media such as a CD or DVD. A full back-up of the necessary data should be done at an interval as to prevent log file data from being dropped or aged off due to retention limits. The frequency of backups depends on the size of the jurisdiction staff and level of activity. Shorter intervals of 1-7 days are recommended initially, until a use level can be established and longer periods allowed without risk of data loss. Where large amounts of work are completed such that the loss of the resulting data would jeopardize the accuracy or timely completion of the election process, more frequent backups will be necessary.

During heavy election use, ES&S recommends a daily backup stored in a safe and secure environment and a weekly duplicate backup stored in an alternate but equally safe and secure location.

Refer to Section 10.1 Physical Security of System and Components for information about storage in a safe and secure environment.

Backups should be performed by qualified system administrators under the supervision of the appropriate elections officials.

All backup functions should be performed in a manner consistent the policies for separation of duties and logged as recommended elsewhere in this security section.

10.2.1 Essential and Non-essential Services and Ports

10.2.2 User-Level Security

To ensure the separation of roles and responsibilities needed, security accounts/ roles should be defined such that each level of user has only sufficient privileges to perform the tasks of that role and no more. ES&S recommends that, at a minimum, the following roles be established.

- **System Administrator** – This role should perform administrator-type functions, such as hardware and operating system installation, setup, configuration, and password management. The administrator role should not have access to application functions.
- **Election Administrator** – This role should have responsibility for defining and administering the election
- **Election Worker** – This role would come under the supervision of the Election Administrator and would perform lower-level and specialized tasks such as results tabulation and reporting.

Roles and accounts should be reviewed and updated before each election to reflect personnel or responsibility changes, or immediately upon termination or demotion of personnel such that specific roles must be taken away from the individual.

The following checklist provides suggestions to help ensure the security of your elections. Always follow the processes and laws for your jurisdiction.

- ☐ No one individual should control all election procedures. The election supervisor should systematically assign responsibilities to many individuals in order to cover all phases of the election process.
- ☐ Access control policies should based on industry best practices and the jurisdiction's unique requirements and should be consistent across all areas that interact or are physically or logically connected to any system or area that is involved with election procedures.
- ☐ Perform background checks on all key election personnel.
- ☐ Immediately log and report any, and all, security incidents.

The ES&S user guides and operator's manuals provide more information about ES&S software and hardware.

Password Security

- The System Administrator, under the supervision of the Election Administrator, should manage Windows® PC password management.

Refer to Appendix F: Windows XP Hardening and Verification in Part 13: Appendix for password settings required by the California Secretary of State.

- In addition to Windows PC password protection, Unity also provides for application-level authentication using Audit Manager. The Election Administrator should control this application password management.

The California Secretary of State requires the following password practices:

- In general, a password should be as long as possible while still being easy to remember.

NOTE: One way to do this is create a password based on an easy-to-remember phrase. For example, the phrase might be: “This May Be One Way To Remember” and the password could be: “TmB1w2R!” or “Tmb1W>r~” or some other variation. **Do not use either of these examples as passwords!**

- Do not use an easily guessed password. Some examples of passwords that would be easy to guess:
  - Names of family, pets, friends, co-workers, etc.
  - Computer terms and names, commands, sites, companies, hardware, software.
  - Birthdays and other personal information such as addresses and phone numbers.
  - Word or number patterns like aaabbb, qwerty, zyxwvuts, 123321, etc.
- Never write down passwords or store them online.
- Change passwords on a regular basis. ES&S recommends either every 90 days, for each election, or any time there is reason to believe that an account has been compromised or tampered with.
- Passwords should contain a combination of alphabetic, numeric, and punctuation characters, as allowed by the specific application
- Do not share user names or passwords.
- Lock all software each time a user leaves the protected area to reduce the chance of unauthorized access. Set screen saver settings to lock workstations after period of inactivity, not to exceed 10 minutes, requiring the XP password to be re-entered.

- Users should log off of any application or account when they expect to be away for any appreciable length of time to reduce the chance of unauthorized access.

10.2.3 Anti-virus Protection

The California Secretary of State requires the following procedures be used by all jurisdictions:

1. Three separate PCs configured as described in “standard configuration” shall be used in stand-alone (non-networked) mode and secured in an appropriate manner to assure controlled access and maintain chain of custody records.
   a. Use the first PC (the Election Definition PC) only to define the election and to load the memory devices that are used in the voting devices.
   b. Use the second PC (the Election Reporting PC) only for collection and reporting of the election results. This PC must be reformatted and the operating system and all applications reinstalled prior to every election.
   c. Use the third PC (the Media Cleaning PC) only to clear/reformat the memory devices following the election and before the next election usage.
2. The specified configuration includes commercially available and standard virus detection software. Virus detection software must be installed and enabled on all three of the referenced PCs at all times and removable media must always be scanned by the configured PC to prevent virus entry and propagation.

NOTE: The virus detection software must be kept current and up-to-date by an appropriately qualified system administrator under the authority of the responsible county elections official.

Anti-virus software for which virus definitions shall be updated at least weekly and full scans scheduled to run daily when election PCs are used for election activities. Scan all media attached to a particular PC in the course of election activity before use, using the Media Cleaning PC.

Stand-alone (non-networked) PCs can be updated by an appropriately qualified system administrator under the authority of the responsible county elections official as follows:

a. From a separate PC with an internet connection, download the appropriate virus definition updater.

Example: For Norton AntiVirus 2005, download the updater from http://www.symantec.com/avcenter/download/pages/US-N95.html.

b. Transfer the appropriate definition updater to each PC, and run the updater.

c. Delete the updater executable from the PC and immediately run a full virus scan.

10.2.4 Procedures for Verifying, Checking, and Installing Essential Updates and Changes

- **Operating System** – Prior to each election, a qualified system administrator under the supervision of the appropriate elections official should contact ES&S for operating system updates that are available from the third party vendor and tested and approved for use with the Unity Suite. Depending on the scope of the updates and any regulatory approval required, ES&S will issue procedures for installation of the updates.

Refer to Appendix F: Windows XP Hardening and Verification in Part 13: Appendix for information about offline updates.

- **Virus Software** – Updates are allowed to Virus software definitions only.

Refer to the 10.2.3 Anti-virus Protection heading in this section for information about offline updates and definitions.

- **Applications and Third Party Software** – All applications and 3rd Party software are not to be updated unless specifically required by ES&S and approved by Federal and State Certification or by an exception granted by the Secretary of State's Office.

10.2.4.1 Audit Records for the Changes Showing What, When, Who, and Why

ES&S recommends that physical log be kept of all activity related to installation, configuration, and modification of any and all system components in addition to the logging of storage, transportation, and overall chain of custody considerations mentioned in earlier sections of this document. Logging should include at a minimum:

- Printed name of the person performing the task
- Full signature or signed initials of the person performing the task
- Task performed
- Reason for performing the task
- Date and Time of the Task Performed

Additionally, as required by the particular task:

- Printed name of the person witnessing, verifying, or authorizing the task
- Full signature or signed initials of the person witnessing, verifying, or authorizing the task

NOTE: The entries in this log must be complete.
Example: "System Maintenance" is not an acceptable entry. The entry should state who accessed the system, exactly what maintenance was performed and why it was necessary, when the maintenance work began, and when it ended.

Completed log pages should be reviewed by the appropriate elections official, initialed and stored physically by secure means for a minimum of 22 months or as directed by State Election law.

10.2.4.2 Installation Procedures for Those Updates Which Would Normally be Installed Using an Internet Connection

- **Operating System** – Prior to each election, a qualified system administrator under the supervision of the appropriate elections official should contact ES&S for operating system updates that have been are available from the 3rd Party vendor and tested and approved for use with the Unity Suite. Depending on the scope of the updates and any regulatory approval required, ES&S will issue procedures for installation of the updates.

Refer to Appendix F: Windows XP Hardening and Verification in Part 13: Appendix for information about offline updates.

- **Virus Software** – Updates are allowed to Virus software definitions only.

Refer to the 10.2.3 Anti-virus Protection heading in this section for information about offline updates and definitions.

10.2.4.3 Acceptance Testing After Installation

Jurisdictions are encouraged to consult with ES&S to determine the extent of post-installation or update testing. Guidelines for the level of testing are as follows:

- **Operating System Updates** – Updates must be approved by ES&S at which time the required testing will be noted.
- **Virus Software** – Definition updates do not require testing. Updates to the virus software application are not allowed unless expressly recommended by ES&S and approved by the appropriate certifying body and the Secretary of State's Office.
- **Unity application components and Third Party Software** – Test procedures for certified updates to applications will accompany the media, along with updates to this manual.

10.3 Security Procedures for Central Processing

In addition to security requirements addressed previously in Section 10, the California Secretary of State requires the following.

- Secure and proper processing of ballots in central tabulation take into account several areas of security.
- When ballots are prepared and stored for processing, each box should be logged with contents (such as precinct/ballot type number, date packed, etc.).
- Store ballots in a climate-controlled environment and under pass code security or lock and key.
- When ballots are retrieved for processing (from a storage or collection area), two elections officials are required to monitor the transfer of ballots from the storage area to the tabulation equipment.
- Transfer custody of the ballots from the elections officials to the individuals responsible for tabulation.
- Upon completion of tabulation process, ballots are required to be:
  - Logged as scanned with the tabulation operators' initials and date\time.
  - Logged and sealed in a storage container.

In general, the central tabulation room should be secured at all times with a minimum of two elections officials having access rights to the room (one of whom must be an employee of the jurisdiction). Access to the room should be monitored or logged at all times. All access rights to the room and its components (by an individual) will be restricted to the individual's rights or duties. Any need for change of access rights outside of an individual's normal realm of duty or job function, shall be maintained and logged by the jurisdiction's chief elections official.

10.4 Security Procedures for Polling Places

Statistical Ballot Data Required for the Model 100

The following items are critical to tracking, auditing and reporting the ballot counting process and must be maintained.

- For the election definition phase, diagnostic proof listings of candidates and active vote positions for each ballot style, ballot type or precinct must be maintained.
- The number of ballots read within each precinct, by type, including totals for each party in primary elections must be maintained.
- The total number of ballots processed must be maintained.
- Separate accumulations and reporting of the quantity of overvotes, undervotes, and write-ins within each precinct for each race or issue must be maintained. This is generally done on reports other than the report distributed Election Night.
- Availability of the above information in summary and by precinct.

Polling Place Security for the AutoMARK

The AutoMARK VAT is powered on and off by use of a key. Removal of this key will prevent unauthorized use when VAT is left unattended.

Physical security measures for the AutoMARK system include a locked compartment to prevent access to the Compact Flash card. The Compact Flash card contains ballot format information. The compartment is locked with a key. The key is held by the precinct staff.

A password is required to access the System Maintenance Menu items on the VAT, such as setting the time and date, or uploading new firmware. The password should be reset by the designated official and kept private.

Headphones can be used to provide audio of the various ballot choices and the display screen can be turned off to prevent unauthorized access to vote information from a voter with visual impairments.

10.5 Audit Trails

Printing the AutoMARK Operation Log (System Log File) – if desired

The Operation Log is used to view all signification operations that have occurred on the machine. The log entries are stored in a circular buffer that holds 277,777 entries. The log may be viewed, or printed if desired.

Take the following steps if your Jurisdiction desires to print the Operation Log.

1. Go to Test MODE by turning the key switch to the test position.
2. Press the **Operations Log** button. A text box with the operations log inside it displays.
3. Press the **UP** button to scroll one page up, press the **DOWN** button to scroll one page down, or you can advance the display to a particular page by touching the text box under **GO TO PAGE:**. A number keypad will display. Press the numbers for the page you wish to display. Press **DONE**. Press **GO**.
4. To print this log on completely blank ballot stock paper, press the **Print** button. The screen displays:
   Insert blank ballot stock paper.
   (Ballot stock is between 80 and 110 pound index stock. Ballot stock is slightly heavier than normal paper and less likely to jam.)
5. Insert a completely blank ballot stock paper.
6. After inserting the paper, the machine automatically begins printing the operation log, 66 lines per page. If there are more than 132 entries in the operation log, you will need several pages.
7. After the page has been ejected from the machine, if the message *insert another blank sheet of paper* appears, followed by *Insert a blank ballot stock paper*, insert another page. Repeat this process until the message *printing done* appears. Press **DONE** to exit the print function.

Printing the AutoMARK Scan Log or Service Log

These log files record scanner error events and service events. To view or print either of these logs,

1. Enter the Test Mode screen by turning the key switch to **Test**.
2. The **AutoMARK Main Menu** Screen will display

3. Select Maintenance Menu.
4. Enter the system password.
5. Select Scan Log, or Service Log.
6. To print the log, follow the steps as for printing the Operation Log (in previous section).

Audit Trail Checkpoints for the Model 100

All ballot counting operations including mandated pre- and postelection testing, must be documented in sequential order. An automated and/or manual record or log must be maintained to record the time and date of “system events” related to ballot counting. “System events” in the ballot counting process include: initiation of the ballot count program; clearing totals; running logic and accuracy tests; any hardware failures; any repaired hardware (including running accuracy tests after repairs) any system crashes and restarts; any communications between multiple systems; any lost communication to remote sites; and times any lost communication is restarted. This log or record shall be continued until final certification of results, shall be retained for the same time period as ballots for that election, and shall be subject to the same physical security and integrity measures. Specific Election Audit Trail CHECKPOINTS shall, where applicable, include the following items.

- All exception handling/error messages during ballot tallying, including any messages generated by the Summary System’s error routines shall be date/time stamped and logged.
- System messages, such as: diagnostic and status messages upon start up of ballot tallying; “zero totals” check; and, initialization or termination of processing by the Model 100s shall also be date/time stamped and logged.
- All operator interaction with the system shall be date/time stamped and logged.
- All ballot-related processing and handling exceptions, i.e., ballots not machine-readable, ballots requiring special handling, aborted or deleted precincts, etc. shall be date/time stamped and logged.
- Copies of required tests shall be securely maintained.

Model 650 Election Security

The “safety first” rule is especially important in an election environment. Federal authorities and independent experts agree that strict security measures must be in place during all phases of the election cycle to protect against unauthorized interference with election procedures and to ensure the accuracy of election results.

The scanner system should be given a dry run simulating as closely as possible specific conditions to be faced on election day and election night. Enough pre-election testing (such as running the test deck) should be done so that any discrepancies between programming and the ballots can be identified.

Strict security procedures should be in place for:

1. Election equipment
2. Transporting of ballots
3. Central tabulating facility
4. Dissemination of election results

To reduce risks, no one individual should control all election procedures. Duties and responsibilities should be assigned systematically to many individuals to ensure that all phases are covered. For example, an election administrator should use members of more than one political party to serve as election judges at precincts. Separation of responsibilities for receiving ballots boxes and for ballot scanning is another example.

Personnel should have the necessary training and guidance to minimize errors and misunderstandings. The employees should maintain a spirit of professional integrity and should carry out their assigned duties in a manner reflecting the importance of the election process.

The elections official shall ensure the protection of the election tally process from intentional manipulation, fraudulent manipulation, fraudulent and intentional manipulation, malicious mischief, accidents, and errors. Each jurisdiction shall implement the following procedures to ensure security protocol is followed.

- Before accepting the ballot tallying system, the vendor shall provide the jurisdiction an optimum configuration list including a list of programs necessary to the operation of the system. The jurisdiction shall establish procedures to identify changes to the ballot tallying system, including dates and times that files are created, modified, or accessed, and by whom. These procedures shall limit changes to those necessary for election purposes and shall include processes to ensure such changes are only made after being previous approved by authorized personnel. Further, these procedures shall include provisions for the installation, continuous use, and update prior to each election of both firewall and anti-virus software on the computer(s) running the ballot tallying system. These procedures should also include a check list and sign-off requirement for the system proofing tasks outlined in Section 2.
- Establish procedures for the physical protection of the facilities, as well as communication and data access controls. These should include intrusion and fire alarms, temperature and humidity sensors, etc. The procedures should also include provisions for locked facilities for computers that are directly dedicated to elections as well as for voted and non-voted ballots and counted and uncounted ballots. Such procedures shall not preclude the accessibility of the Model 650 nor computers for purposes of testing, repair, demonstration, training and for other purposes which are deemed justifiable by the elections official. The procedures shall include provisions for securing the Model 650 after the memory media has been installed both before and after distribution to the voting centers. These procedures shall also include provisions for the use of tamper evident seals on key locks, access doors/panels, memory cards and unused ports on any component of the voting system, including a log of such seals.
- Establish contingency plans for ballot counting, including either backup ballot counting facilities under the elections official's supervision, or the availability of such facilities from another jurisdiction, or from a vendor, or from another source. If modem transmission of unofficial election results is used, such plans shall make contingencies for the creation of a back-up election database prior to such results being sent, for the modem to only be enabled when such transmissions are anticipated, and for official results to be loaded into the back-up created prior to such transmissions. Such plans may take note of the existence of multiple Model 650s, and/or multiple components of the Summary System, if such is the case, citing these situations as adequate backup. In addition to the ballot counting program sent to the Secretary of State pursuant to Elections Code section 17500, each elections official shall store another copy of the ballot counting program in an off site secure-but-readily-accessible location.

- Establish procedures for internal security, i.e., the protection of ballot counting hardware, firmware, and software from fraudulent manipulation by persons inside or outside the elections office. These procedures must provide for: restricted access to ballot counting hardware, firmware, and software; restricting connection of the election management software to any network that has an external Internet connection; individual passwords used only by the person to whom they have been issued which must meet or exceed best practices and frequently changed including before each election; preventing the ballot tabulation system from being left unattended without password protection in place; limiting use of administrative user logins to when needed with at least two persons having administrative access; and physical protection of all non-voted precinct and vote by mail voter ballots, as well as all tallied and non-tallied ballots, by use of logs to chronicle their quantity, use, and access before and after the election.
- A complete copy of each elections official's security procedures shall be submitted to the Secretary of State for review prior to any election in which the system is intended to be used. In lieu of the submission of this plan, the elections official may affirm that no change has been made to previously approved procedures.

10.6 Protective Measures and Prohibited Practices

Protective Measures

Each county elections official should protect the audit logs from possible intentional or unintentional erasure or altercation. This is voting system specific. Each county elections official should work with the county's voting system vendor on the specific steps needed to maintain the integrity of each voting system's audit logs.

- **M100** – The PCMCIA card stores the audit log information for the M100. Therefore, the election official needs to prevent access to the card by securing the PC Card slot with a tamper proof seal. A key is needed to print the audit logs; therefore this should be kept secure by the election official.
- **M650** – The election official needs to prevent unauthorized users from accessing the audit log and secure the machine and audit printer in a locked room or other secure location. The overall physical security procedure is the responsibility of the election official, as long as the machine is kept clear of unauthorized personnel.
- **AutoMARK** - In order to access the audit log on the AutoMARK, the user must enter an access code for the maintenance menu. This prevents users, other than those authorized by the election official, from destroying the audit log.

Prohibited Practices

Each county elections official should include information in the county's standard election practices, procedures and training material about specific prohibited practices that could result in destruction of audit logs.

User actions would need to be deliberate for audit logs to be destroyed. Therefore, no warnings would apply. There would need to be a physical destruction of a disk, card, confiscation of a key, or the election official responsible would need to deliberately destroy a log for this to occur.

Part 11: Biennial Hardware Certification and Notification

Part 11 contains information about the following topics.

- Biennial Hardware Certification and Notification

Biennial Hardware Certification and Notification

EC 19220 requires jurisdictions to examine voting systems every two years and certify the results to the Secretary of State. Requirements for examination and testing are further detailed in Article 15 of the Secretary of State Procedures for Approving, Certifying, Reviewing, Modifying, and Decertifying Voting Systems, Vote Tabulating Systems, Election Observer Panel Plans, and Auxiliary Equipment, Materials, and Procedures.

Biennial Certification of Model 100 Hardware

Elections Code section 19220 requires each elections official to inspect and certify the accuracy of their voting or vote tabulating equipment at least once every two years. The elections official shall certify the results of their inspection to the Secretary of State. A copy of a sample certificate is attached to these procedures as Appendix A: Certification by Logic and Accuracy Board.

Hardware Certification and Notification for the Model 100

Certification

All ballot readers and specialized vote tabulating equipment must be certified prior to use in any election by the Secretary of State. Certification procedures are available upon request from the Secretary of State's Elections Division. All firmware and software used as part of the system is subject to the notification of change requirement also.

Notification

For each statewide election, the responsible county elections official shall cause to be prepared a list, including quantities, of all equipment to be used to tabulate votes during the semiofficial and official canvass.

Seven days before each statewide election, the elections official shall certify to the Secretary of State the results of the logic and accurate tests as well as the functionality of all ballot counting equipment. This certification shall also affirm the use of the same equipment for preelection testing and for semiofficial and official vote canvasses. In the event of a change to the ballot tally program occurring after this certification, an amended certificate shall be submitted no later than the day before the election.

In the event any equipment is repaired, altered or replaced following the certification specified in Section 7.2.3, and prior to completion of the official canvass of the vote, an amended certification of logic and accuracy testing and a revised list of equipment used must be submitted to the Secretary of State. This submission shall occur not later than submission of official canvass results. The jurisdiction will have an inventory of all voting equipment available for review by the Secretary of State at all times.

Election Observer Panel

All procedures prescribed herein shall be carried out in full view of the public insofar as feasible. In addition, the responsible elections official shall devise a plan whereby all critical procedures of the vote tallying process are open to observation by an Election Observer Panel. Representatives of the qualified political parties and representatives of the news media may be among those invited to serve on this panel and shall be given the opportunity to observe that the correct procedures are followed in the receiving, processing, and tallying of all voted ballots.

Logic and Accuracy Certification

A Logic and Accuracy Board shall be appointed by the responsible elections official and insofar as is practicable, shall be comprised of the same persons prior to, during, and after the election. The Board shall have the following duties:

- Receive from the elections official all required test materials and take steps to ensure the security of said materials prior to, during, and after the election, except when the materials are properly in the possession of one of the other boards or elections officials as required by these procedures.
- Verify the correctness of the logic and accuracy of test memory cards and the logic and accuracy of test ballots. This verification shall also be required for any material which must be replaced.
- Observe the performance and verify results of all required tests.
- Note any discrepancies and problems and affirm their resolution or correction.
- Deliver into the custody of the elections official all required test materials and printed output.

- Certify to the performance of each of the above-prescribed duties as well as those otherwise established by the procedures; provided that all members of the Board shall sign the appropriate certificate or certificates. Final pre-election certification shall be made to the Secretary of State no less than seven days before each statewide election. This certification shall be made by the responsible elections official based on the Logic and Accuracy Board's certification of successful testing. In the event an amendment to the ballot counting program is required following this certification, the elections official must immediately recertify to the Secretary of State.

Submit Ballot Tally Programs to the Secretary of State

Ballot tabulation programs for statewide elections are to be delivered to the Secretary of State no later than seven days prior to each statewide election. Ballot tally programs must be accompanied by the elections official's certification of testing, the list of vote counting equipment used and a notification that he has caused memory cards to be programmed in conformity with the ballot diverter options as set forth in Table 2 herein. Refer to Elections Code section 17500. Should changes be required following certification and submission to the Secretary of State, resubmission and re-certification is required.

Election Night and Post Election Reporting

Any delays in election night's semiofficial canvass reporting due to hardware, software, environmental, or human causes which result in failure to report results to the Secretary of State at least every two hours shall be reported to the Secretary of State by the 28th day following the election. The responsible elections official may also report other delays in the processing of ballots as he or she deems appropriate.

Preparation of Specific Written Procedures

Each elections official shall prepare specific written procedures for each phase, step and procedure in the preparation, operation of polling places, vote counting and official canvasses of elections. Written procedures must also include instructions to precinct officials regarding proper handling of Vote-By-Mail voter and provisional voter ballots as well as a description of procedures used to manually recount ballots pursuant to Elections Code section 15645. These procedures must be prepared and submitted to the Elections Division of the Secretary of State's Office within two years following the adoption of these procedures by the Secretary of State. Upon submission, the elections jurisdiction's procedures shall be reviewed for compliance with state procedures, and the elections official shall be advised of any necessary revisions.

Biennial Certification of Model 650 Hardware

Elections Code section 19220 requires each elections official to inspect and certify the accuracy of their voting or vote tabulating equipment at least once every two years. The elections official shall certify the results of their inspection to the Secretary of State.

Model 650 Hardware Certification and Notification

All ES&S election equipment must be certified for use in elections by the Secretary of State prior to use in any election. Certification procedures are available upon request from the Secretary of State's Elections Division.

For each statewide election, the responsible county elections official shall cause to be prepared a list, including quantities, of all equipment to be used to tabulate votes during the semiofficial and official canvass.

Logic and Accuracy Tests

Seven days before each statewide election, the elections official shall certify to the Secretary of State the results of the logic tests as well as the accurate functioning of all ballot counting equipment. This certification shall also affirm the use of the same equipment for preelection testing and for semiofficial and official vote canvasses. In the event of a change to the ballot tally program occurring after this certification, an amended certificate shall be submitted no later than the day before the election.

In the event any equipment is repaired, altered or replaced following the certification and prior to completion of the official canvass of the vote, an amended certification of logic and accuracy testing and a revised list of equipment used must be submitted to the Secretary of State not later than submission of official canvass results.

Certifying Logic and Accuracy

Appoint a logic and accuracy board to perform the following tasks:

- Receive all required test materials from the elections official.
- Verify the correctness of the election definition and test deck.
- Observe scanner performance and verify results.
- Note any discrepancies between test results and the results from ES&S.
- Deliver all the required test material to the elections official.
- Certify the performance of the scanner.

Escrow of Ballot Tally Source Code

Prior to its use in any election, an exact copy of the source code for all ballot tally software programs shall be placed in an approved escrow facility, pursuant to the procedures and requirements of Elections Code section 19103 and Title 2, Division 7, of the California Code of Regulations, beginning with section 20610.

Part 12: EAC Quick Start Management Guides

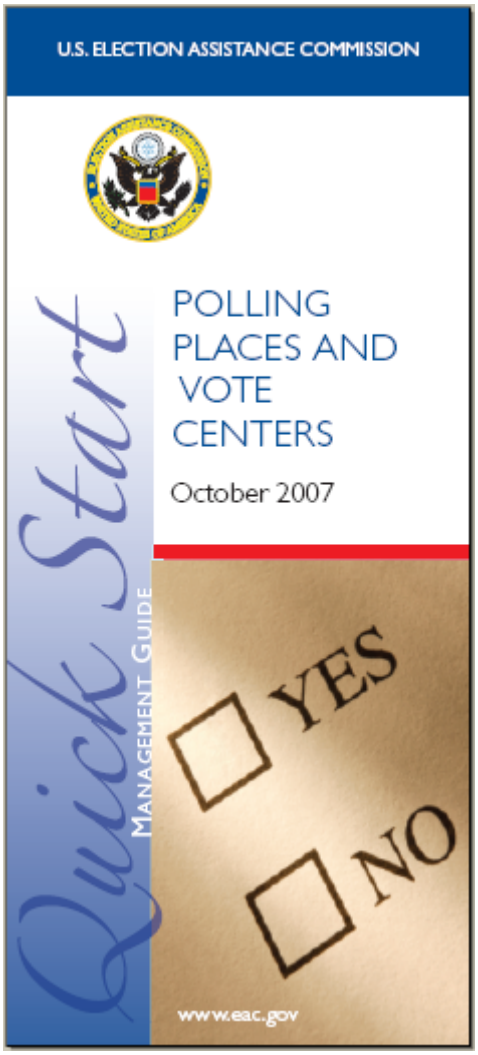
Part 12 contains copies of the following Quick Start Management Guides provided by the Election Assistance Commission.

These publications can be found on the EAC's Website at http://www.eac.gov/election/quick-start-management-guides. These documents can be a useful supplement to the materials included in the *California Election Procedures*.

- Polling Places and Vote Centers
- Managing Change in an Election Office
- Media and Public Relations
- Contingency and Disaster Planning
- Absentee Voting and Vote by Mail
- Acceptance Testing
- Voting System Certification
- Voting System Security
- Ballot Preparation/Printing and Pre-Election Testing
- Poll Workers
- New Voting Systems
- Uniformed and Overseas Voters
- Developing an Audit Trail

Polling Places and Vote Centers

From http://www.eac.gov/election/quick-start-management-guides/docs/qsmg-polling-places-and-vote-centers.pdf/attachment_download/file



Quick Start Management Guide

Polling Places and Vote Centers

The Quick Start Management Guide for Polling Places and Vote Centers is part of a series of brochures designed to highlight and summarize the information contained in the chapters of the U.S. Election Assistance Commission's (EAC) Election Management Guidelines (EMG). The goal of the EMG is to provide a collection of election management guidelines, consolidated into one document, to assist State and local election officials effectively manage and administer elections. These guidelines are solely designed to serve as a source of information for election officials and not as requirements by which they must abide. The EAC expects the EMG to be completed in 2008. However, due to the urgent need for election management resources, EMG chapters and Quick Starts are released as they are completed.

The content of the EMG and the Quick Start Management Guides has been developed in collaboration with State and local election officials and other election professionals who have first-hand experience managing elections. The EAC is grateful for their participation and ensuring the guidelines are practical and applicable for jurisdictions regardless of their size and resources. The EMG and the Quick Starts are available online at www.eac.gov.

2

Introduction

- Historically, a polling place has been a building used for voting purposes on Election Day. For voters, it is the place that they frequent a few times each year. For election officials, polling places require so much more. Locating them, inspecting them, notifying voters of their location, ensuring that the locations are accessible and convenient and that there are enough parking spaces, etc…indeed polling place management is a full time, year-round job in every election office.

- Early voting locations and vote centers have added a new level of management to the processing of voters. The use of technology for checking in voters and issuance of ballots has introduced the ability to manage larger numbers of voters in large centralized locations. Each of these voting options must be authorized by State law and managed by local election officials.

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Locating, Inspecting, and Determining Polling Place and Vote Center Sites

- Collect information about available locations by contacting area city halls and county building/planning departments. Work to obtain access to existing GIS data base information to determine location, building capacity, parking availability and building contact information.

- Contact area city planning departments to review future use and zoning maps to determine where and what type of future growth is expected within the next election cycle. Periodically review new occupancy permits to assist with population density projections. *Example: It is important to know when and where large apartment complexes are scheduled to be constructed as it may require additional polling places to efficiently serve the voters.*

- Develop checklists and tool kits to facilitate the inspection of all possible locations and ensure compliance with the requirements of the American with Disabilities Act (ADA). Partner with your county building/planning department staff to assist your office with inspection responsibilities.
  Tip: *Develop a working data base of all available locations within your jurisdiction in order to easily manage last minute polling place cancellations.*

- Reach out to your disabled community organizations and ask for their assistance in finding and securing accessible polling locations.

- Develop a written contract for the use of each building on Election Day. Be sure to provide the building manager a copy of the county's insurance policy information, and ask for a copy of theirs. Develop and distribute a uniform fee structure for use of the building. Tip: *Some jurisdictions are provided the use of public buildings at no cost.*

- Vote center and early voting locations are polling places where any voter in the jurisdiction can vote, and should be located close to major traffic arteries for easy access. Consider using places that have large parking areas and that people frequent on a regular basis, i.e. libraries, recreational centers, malls, municipal/county buildings. Remember that these locations must also meet all applicable ADA requirements.

- Conduct a public hearing to gain input and approval of the vote center/early voting locations. Be sure to invite members of the major political parties.

- Consider merging the data collected on all possible locations with your county's GIS computer system. By merging voter registration and "expected to vote" numbers by precinct with the GIS data, you are able to visually locate buildings that are within close proximity to precincts/voters and with sufficient capacity to serve the number of voters expected on Election Day. *Example: Two or more precincts could be served by one polling place, depending upon the size of the building, its location, and available parking, etc.*

Polling Place Supplies – Preparation and Distribution

- Partner with other county departments to support the delivery and pickup of voting equipment and supplies.
- When using delivery companies for equipment/supply distribution, be sure to include details about specific delivery requirements within your contract document. Examples include equipment packing needs and delivery deadlines. **Tip:** *Consider awarding your contract to a company that has its own ability to develop a delivery routing plan based on information provided by your office.*
- Develop asset control procedures for all equipment and supplies. Utilize bar code technology to track distribution and return of equipment.
- Place laminated reminder cards throughout the poll worker supply kits to call attention to important tasks and/or responsibilities. **Tip:** *Consider color coding important supplies that must be returned on Election Night.*
- Develop easy to follow checklists for use in opening and closing voting equipment. Train poll workers to operate in teams of two when opening and closing the equipment. One person should read the instructions and the other perform the task.
- Encourage poll workers to balance the number of voters checked in to number of voted ballots cast periodically throughout the day.

Staffing, Training, and Election Day Support

- Develop a working knowledge of your telephone system and its capacity level. Utilize phone banks to distribute calls on Election Day, and make sure to have procedures and policies in place to protect the privacy of confidential information.

- Provide a separate phone number that is dedicated to polling place opening/closing calls from poll workers. A different phone number should handle all regular calls from the general public.

- Partner with area community college instructors to assist with development of a poll worker training course. Provide incentives to poll workers who complete the course. Ideas include: additional compensation and/or issue certificates of completion and lapel pins. Consider developing an on-line training refresher course for poll workers to review procedures prior to Election Day. For more ideas regarding the recruitment and training of poll workers, please, refer to the following EAC publications: 1) Successful Practices for Poll Worker Recruitment, Training, and Retention, 2) A Guidebook for Recruiting College Poll Worker, and 3) Compendium of State Poll Worker Requirements; these publications are all available on the EAC's Web site at www.eac.gov.

- Remember to incorporate training on customer service and problem solving techniques in your poll worker training program.

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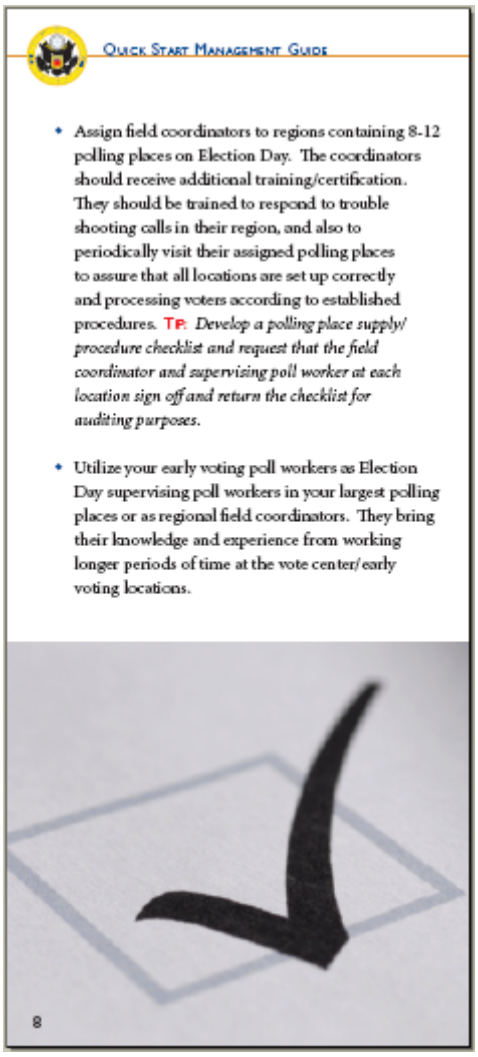

QUICK START MANAGEMENT GUIDE

- Assign field coordinators to regions containing 8-12 polling places on Election Day. The coordinators should receive additional training/certification. They should be trained to respond to trouble shooting calls in their region, and also to periodically visit their assigned polling places to assure that all locations are set up correctly and processing voters according to established procedures. TIP: *Develop a polling place supply/ procedure checklist and request that the field coordinator and supervising poll worker at each location sign off and return the checklist for auditing purposes.*

- Utilize your early voting poll workers as Election Day supervising poll workers in your largest polling places or as regional field coordinators. They bring their knowledge and experience from working longer periods of time at the vote center/early voting locations.

8

Facility Management

- Consider coordinating the polling place setup process on Monday evening, prior to Election morning. By completing some of the setup process the night before, poll workers are relieved of some of the anxiety that they experience on Election morning. Tip: *Request that poll workers call in and confirm the completion of their polling place setup the night before. This assures the Election Office that some of the procedures have been completed prior to Election morning.*

- Develop a polling place layout design for each polling place. Train poll workers to use the approved layout when setting up their location on Election Day.

- Conduct a mock election utilizing the maximum number of check-in computers at all early voting and/or voter center locations. Utilize your poll workers to staff the locations and as "mock voters". Monitor the computer server for capacity issues; determine how many voters can be processed within a certain period of time; and evaluate other line control and crowd management issues. Debrief the results of your mock election to determine the need for additional space, staff, and check-in computers. Determine how you can implement a "Plan B" to divert voters to a different area for processing when the line extends beyond a defined point. Tip: *Provide a 3x5 card to the voter who is 100 feet back in the line. Place the time on the card and ask the voter to provide it to the computer check-in clerk who will also note the time. Collect these cards to evaluate customer wait time.*

9

- Develop tracking procedures to collect statistics on the flow of traffic in and out of each polling place. Use these statistics to develop future staffing needs to manage peak voter periods.

- Send out a reminder card containing voter information prior to the beginning of early voting. Encourage voters to bring the card with them in order to gain access to the "fast check-in line". TIP: *Include the ballot style number and a bar code on the card.*

- Provide a listing of vote center/early voting locations to area law enforcement agencies and request their assistance with traffic control issues on peak voting days.

- Develop a "Plan B" for Election Day in the event that long lines form. Consult with other jurisdictions and your State Election Director to develop uniform state procedures for handling this issue.

Voter Education

- Implement a visible public relations campaign to inform voters of the various voting opportunities available to them. **Tip:** *Incorporate information about early voting/vote center locations and hours of operations on all mailing pieces distributed by your office.*
- Recognize that voters are creatures of habit and do your best to keep the early voting/vote center locations and hours of operation consistent.
- Post informational signs at vote center/early voting locations to inform voters of how long their expected "wait time" will be at certain points in the line. Also provide information on alternative vote center/ early voting locations in the event that voters choose to leave and return at another time or place.
- Inform voters of when the peak voting times are and encourage them to avoid that day and/or time of day.
- Post a "polling place lookup and review your sample ballot" feature on your jurisdiction Web site. Publicize your Web site address on all mailing pieces distributed by your office.

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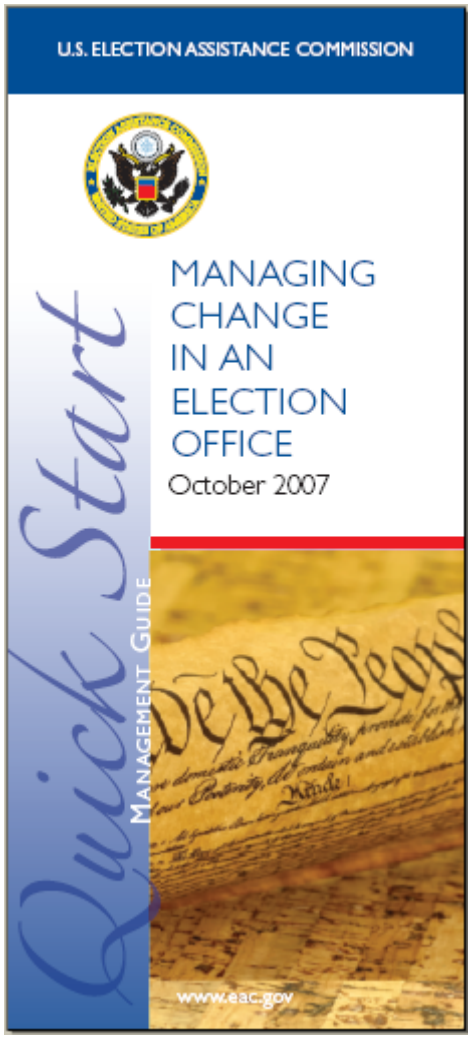
Managing Change in an Election Office

From http://www.eac.gov/election/quick-start-management-guides/docs/qsmg-managing-change-in-an-election-office.pdf/attachment_download/file



Quick Start Management Guide

Managing Change in an Election Office

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2

Introduction

- Election and voter registration administration practices and procedures are subject to change based on a variety of factors, expected and unexpected. Examples of these factors include, but are not limited to, changes in Federal, State, or local election requirements, new technology, increased or decreased budget, staffing changes, relocation or reorganization of election offices, and Election Day emergencies.

- Changes can come from external sources *(i.e. changes in Federal laws)* or from internal sources *(i.e. changes in staff)*, and may not always be expected. Anticipating change and developing a management plan in advance can help alleviate its impact on the election offices' functions and processes.

- As noted above, change can also be unexpected. These kinds of situations may be initially remedied by the office's contingency and disaster plans, but long term solutions may be better addressed by change management plans developed in response to those situations. A separate guide and an EMG chapter have been developed to address Contingency and Disaster Planning; these are available on the EAC Web site at www.eac.gov.

3

Evaluating the Need for Change

- Developing a successful change management plan begins with an assessment of the election office's current functions and capabilities. A thorough evaluation will provide a closer look at the office's existing policies and procedures and how these may be affected by internal and external sources.

- Evaluations of existing policies and procedures should be conducted on a regular basis to identify the agency's strengths, weaknesses, opportunities, and threats (S.W.O.T. analysis).

- Conduct regularly scheduled team meetings to review existing policies and procedures. Develop an office environment that encourages perpetual redesign and improvement. Empower all staff members to review tasks and procedures and recommend change.

- Invite temporary staff and poll workers to regularly scheduled debriefing sessions. Use these meetings to challenge them to critique existing policies and procedures, to recommend change, to communicate that everyone is a member of the same team, and that any suggestion or new idea is welcome.
  Tip: *Use these meetings to reinforce that the business of managing elections involves managing perpetual change – in Federal and State election laws and in internal improvements to provide better service to our customers – the voters.*

4

- Schedule monthly meetings with your county information technology staff and your election office technology staff. Utilize these meetings as a forum to discuss new software/hardware solutions and/or new version releases. Distribute an election calendar to the team members to educate all technology team members that any change in software/hardware must be implemented when the office is not in "election mode". Request that the team develop an implementation/change calendar for final approval. TIP: *The local election administrator should attend these meetings and use every opportunity to build an understanding of election administration.*

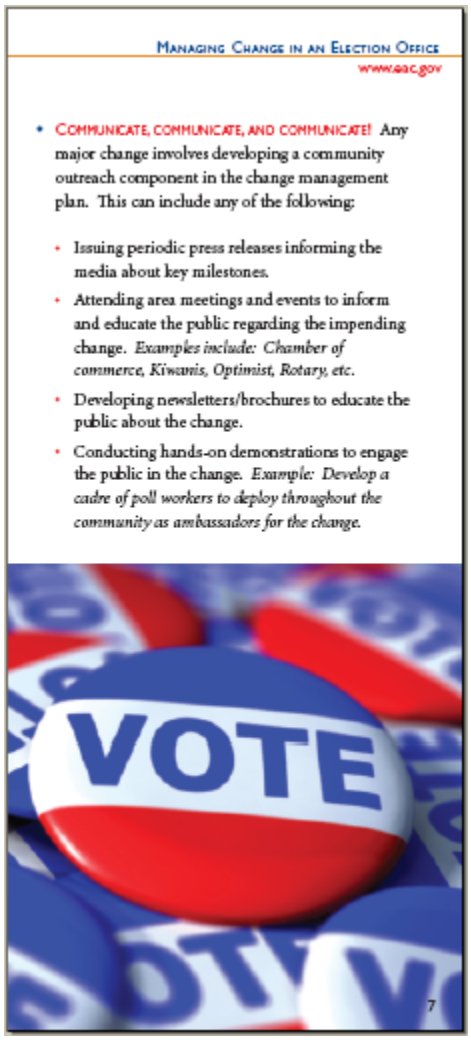
- Review job tasks and work flow to determine how technology can enhance and streamline existing work processes. Spend time developing a clear understanding of the job tasks performed by each staff member. Make note of any duplication of work effort as you analyze how each task is managed and completed. TIP: *Develop work flow diagrams to provide a visual aid for use in determining how a change in processing can eliminate duplication and improve overall efficiency.*

Developing a Change Management Plan

- Create a timeline for implementing major change. "Major" change in an election office is defined as a change in software, voting systems, poll worker training, new election laws, i.e. early voting or vote by mail, etc. Build the "change timeline" around your existing election calendar and timeline.

- Determine how the change will impact your internal operations. Which work area will be most challenged by the change? Which staff members will be tasked with managing the change? Remember that the staff will look to you for motivation and leadership. Your ability to embrace the change will foster the same attitude throughout the organization.

- Depending upon the type of change, you may want to consider establishing focus groups, involving staff, poll workers, temporary staff, etc. Remember that any stakeholder should be included in your change management plan.



MANAGING CHANGE IN AN ELECTION OFFICE

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- COMMUNICATE, COMMUNICATE, AND COMMUNICATE! Any major change involves developing a community outreach component in the change management plan. This can include any of the following:
  - Issuing periodic press releases informing the media about key milestones.
  - Attending area meetings and events to inform and educate the public regarding the impending change. *Examples include: Chamber of commerce, Kiwanis, Optimist, Rotary, etc.*
  - Developing newsletters/brochures to educate the public about the change.
  - Conducting hands-on demonstrations to engage the public in the change. *Example: Develop a cadre of poll workers to deploy throughout the community as ambassadors for the change.*

7

Budgeting for Change

- Recognize that change often has a price tag beyond the initial cost. Develop a detailed long range cost analysis. Schedule a meeting with your internal budget staff person and your county/State budget staff representative. Begin the meeting by requesting their assistance in communicating the overall impact of the change, including initial costs, ongoing costs, and any facility or staffing costs. *Example: A change to all mail ballot voting has an immediate impact relating to space needs and a long range impact on people, paper, and postage. The number of people to manage the paper, the cost of paper – for ballots, envelopes, and the increase in the cost of postage.*

- Remember that elections can be perceived as a "one day a year" work environment. Use your budget proposal and presentation as an opportunity to educate the elected officials and the community about election administration. Tip: *Use visual aids to demonstrate the organizational chart for your regular office staff; and then display the organizational chart for Election Day, which should include all polling places and all poll workers in each polling place. On Election Day, the Election Office often employs more staff than the entire county organization.*

Redesigning Work Flow and Job Skill Sets

- Change often brings with it a need to evaluate internal work flow. This is especially true with new technology. For example, introducing image scanning to your office will enable you to redesign how voter registration cards are processed. Encourage staff to embrace this opportunity to find a better way of doing their work – be sure to emphasize any "dreaded" tasks that will be eliminated by the change.

- Often a redesign in work flow brings with it the need for rearranging the affected work area. Be sure to build into the change management plan an evaluation of space needs. This can be something as simple as moving office cubicles, or purchasing a new work station, or as complicated as moving to a larger facility.

- Take the opportunity that change brings to evaluate existing personnel position descriptions. Often change empowers staff members to broaden their skill sets and accept more job responsibilities. Encourage your staff to develop additional skills, and reward them by re-evaluating position descriptions, and moving them to higher job grades.

9

Implementing and Managing Change

- Involve all full time staff members in the decision to implement change. Recognize that change impacts each employee in a different way. Some people embrace change; others resist even the slightest change. Remember that "people issues" must be managed along with the change. **Tip:** *Take time to meet individually with staff members, on an "as needed" basis. During the change, be sure that you maintain an "open door" policy for any time that any one needs to talk about the change.*

- Communicate any change in state and federal election laws immediately to all staff. Consider establishing an "in the loop" email broadcast system so that all staff receives an update on the change at the same time. Remember, that email does not substitute for talking one on one about the change. Make a habit of holding impromptu meetings to quickly update staff on events – either at the county, state or federal level.

- Take responsibility for the change. Reassure your staff and poll workers that you are committed to their success. Provide sufficient training to support the change. Allow staff ample time to adapt to the change, to learn the new process, and to develop their support tools, i.e. internal help desk, etc.

- Provide an adequate support system to ensure success. Frustration levels peak when answers to problems are not available. This frustration quickly compounds under the intense pressure and stress on Election Day. Be sure that you have provided adequate, trained staff to answer the phones; that you have provided hands-on training for poll workers; and that each polling place has additional support from technology-savvy rovers/technicians.

- Be aware that it is rare that a change management plan goes 100% according to schedule! Prepare for the unexpected by taking time to develop a "What If?" set of scenarios. This can include everything from, "what if the key staff person resigns?" to "what if the hardware server fails?" to a media frenzy resulting from the change.

Evaluating the Impact of Change

- Stay engaged throughout the change process. Take time to involve yourself in the change. Become a part of the team by actually doing the work yourself. *Example: If the staff expresses frustration with the transaction speed when inputting voter registration records, put yourself in their chair and do some of their data entry work. They will appreciate your willingness to involve yourself in acknowledging the problem and finding the solution.*

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Media and Public Relations

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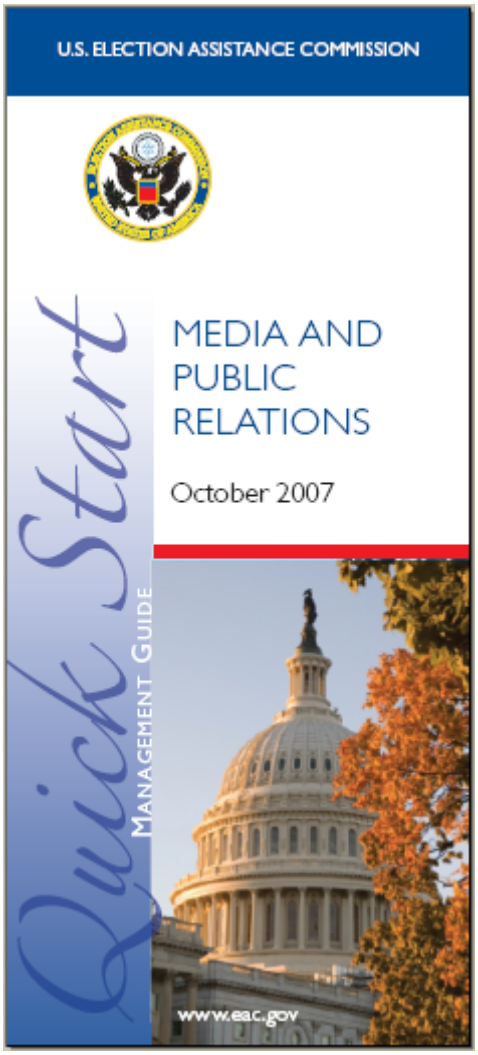

Quick Start Management Guide

Media and Public Relations

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2

Introduction

- Public relations involve managing and distributing accurate and timely information to the public. This function is especially important to election officials to make sure voters have the information they need to successfully participate in elections. Activities include educating and informing all customers, including candidates, elected officials, media, voters, staff and the general public.
- To effectively inform the public, it is necessary for election officials and the media to work together to disseminate accurate information about the voting process. Therefore, working with journalists to get information to the public continues to be a necessary job function in election offices nationwide.
- Election officials must strive to develop cost-effective initiatives to ensure that the public understands the administration of elections, and most importantly, is educated about how to participate in the election process.

3

Educating and Informing Candidates and Elected Officials

- Recognize that first-time candidates for office will need your help to understand all of the filing requirements, deadlines, regulations, and forms. Candidates running for re-election often need to be reminded of existing policies and procedures and state election laws and regulations, including new federal and state requirements. Distribute candidate packets to everyone who files for office in every election, and post this information on the Web site. Also make this information available to the media. Include a variety of information in these packets, such as:
  - An election calendar
  - Campaign finance forms, instructions, and deadlines
  - List of polling places
  - District maps, including precinct information
  - Information on how to access voter data from your office, including the cost and media format
  - Information regarding how the votes are counted, how provisional ballots are processed, and voter identification requirements, if applicable
  - Early voting by mail and in person options, including necessary forms and deadlines

- Overview of state laws regarding electioneering, campaign signs, etc.
- Flyer advertising Web page features, including the ability to locate polling place information and view election results on Election night

- Invite candidates, elected officials, and the media to tour the election office. Consider hosting an open house event prior to every major election cycle. Invite all candidates for office, county department heads, area media representatives, and political party officers. Take this opportunity to demonstrate how your voting system works. Conduct a question and answer period at the end of your demonstration. TIP: *This is also an excellent opportunity to reinforce new state and federal election requirements and deadlines.*

- Make it a regular practice to mail/e-mail invitations to all candidates and to the media to attend the logic and accuracy testing of voting systems. TIP: *Also mail an invitation to all political party officials and voter advocacy groups.*

- Provide an area to view the processing and tabulation of ballots on Election Day. Utilize this area as another opportunity to describe the procedures and policies for managing secrecy of the ballot and security of the votes. Encourage candidates and the media to visit your office on Election Day. TIP: *Make educational brochures available to everyone that utilizes the viewing area.*

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Quick Start Management Guide

- Take advantage of opportunities to provide testimony to your State legislators regarding election laws, policies and procedures. Utilize these hearings to distribute handouts that inform policy makers about the administration of elections. Examples include: Provide details about how the votes are counted; explain the internal/external security policies and procedures; inform them about voter education/outreach programs, etc.

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Public Relations and its Impact on Voters and the General Public

- Recognize that your efforts will impact a voter's ability to understand and participate in the election process. Utilize mailings to inform voters about how to mark their ballot, and post this information at polling locations. *Example: Partner with the postal authorities to utilize available white space on outgoing and return mail ballot envelopes to notify voters of important deadlines and election laws.*
- Provide easy to read directions on how to use the voting equipment and how to mark a ballot. Post this information in large print within each polling place as voters are waiting in line and at each voting station. Tip: *Provide visual examples instead of written descriptions – remember that "a picture is worth a thousand words".*
- Use every opportunity to deliver voting information to the public. Examples include:
  - Conduct voter registration drives by partnering with other organizations, i.e. AARP, Welcome Wagon, PTA's, nursing homes, high schools and colleges, etc.
  - Establish a speakers' bureau by offering your services as a presenter to area community organizations, i.e. Chambers of Commerce, Rotary Clubs, Kiwanis, etc.

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- Partner with schools to conduct mock elections. Use this partnership as an opportunity to reach out to students to encourage them to register and vote when they turn 18. TIP: *Encourage students to serve as their own poll workers for their school election. Take this opportunity to recruit these same students to serve as regular poll workers on Election Day.*
- Serve as a resource for State and local political party organizations and voter advocacy groups.

- Develop a Web site for your election office. If you lack resources to accomplish this, consider partnering with other local elections offices within your state or with your state election office to build a statewide Web site. Recognize that the Web site will be open for business 24 hours a day, 7 days a week, so you must have the technical capacity to host many visitors. Utilize this media to educate and inform everyone, including voters, candidates, elected officials, media, poll workers, students, etc. TIP: *Be sure to frequently update the information posted on the opening page of your Web site. Remember that it is the "window" to your office, and frequent updates offering new information will bring more customers and will also keep existing customers returning to your site.*

Examples of information to post include:

- POLLING PLACE LOCATOR – allows the voter to enter their address and find the correct polling place. TIP: *Consider adding an interactive map, allowing voters to access driving directions to the location. Also consider adding information about the location of the accessible entrance for each polling place.*
- SAMPLE BALLOT – the voter enters their name and address and retrieves a listing of candidates and issues for each election.
- VOTER STATUS LOOKUP – enables the voter to utilize the Web page to determine if they are registered to vote, and further to determine if they need to update their address or party affiliation. TIP: *Provide a link to an on-line voter registration application for their use. Be sure to include voter registration deadline information.*
- Provide information for military and overseas voters, including how to apply for ballots and deadlines. Encourage the media to publicize this information, especially on their Web sites, which are easier for for citizens living overseas to access.
- Provide an on-line voter registration form and early voting application. If early voting in-person is available in your jurisdiction, provide details about locations and hours of operation.

- Post information on how to file for office for every elected position under your administration. Include details about filing deadlines, forms, fees, and campaign finance information. **Tip:** *Provide a 5-year election calendar for use by individuals considering running for office in future years.*
- Post historical statistical data relating to every election conducted by your office. Include information on number of registered voters (by party); number of early voters; number of voters on Election Day; history of voter turnout percentages; number of voting machines and poll workers dispatched; number of polling places, etc. **Tip:** *Notify the media that this information is available on your Web site.*
- Utilize the Web site to educate and inform voters about how to use your voting system and how to mark their paper ballot.
- Provide an on-line elected official directory, including address, phone, and e-mail contact information.
- Post internal job opportunities, including the need for Election Day poll workers. Be sure to include details about job responsibilities and salary.
- Ensure that no private or personal information can be retrieved from the Web site.

Media and Public Relations
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Building a Partnership with the Media

- Prior to every major election cycle, develop and distribute a media handbook. Contents may include:
  - Statistical election data for similar past elections
  - Polling place locations, including any changes for this election period
  - Special information/needs, i.e. poll worker recruitment efforts, new voter identification rules, etc.
  - Details on "how you count the votes" – include information on logic and accuracy testing dates and locations; and how the votes are returned and tabulated on Election night. **Tip:** *Be sure to inform the media if the election results will be posted to your Web site on Election night. If so, notify them of the frequency of updates to the web.*
  - Early voting locations and hours
  - Voter registration deadlines
  - Election Day polling place hours of operation
  - After-hours contact information for election officials

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Quick Start Management Guide

- Assign a staff person to be the central contact for all media relations. To avoid the distribution of incorrect or outdated information, inform all other staff that media calls should be always be forward to the designated spokesperson.

- Issue periodic press releases to inform the public about important election information. Tip: *Provide human interest stories to the media for their use. Examples include long-serving poll workers or first time student poll workers.*

- Develop your own operational plan for managing the media in the event of a close election or an unforeseen event. This plan should include details about managing crowd control, parking/traffic issues, security procedures, and preparing for a press conference.

Building an Internal and External Communication Network Within your Office

- Conduct weekly staff meetings to ensure that everyone is informed on priority deadlines.
- Develop and distribute detailed timelines to all staff. Each task should include the staff person assigned to complete it and the deadline for completion. The timeline enables all of the staff to operate as a team, committed to meeting every approaching election deadline.
- Two weeks prior to Election Day, create and distribute a document detailing staff responsibilities. Include daytime and after hours contact information for everyone. Tip: *Staff should keep this document on their person in the weeks leading up to Election Day to ensure they can communicate effectively.*
- Review the office's contingency plan, and designate a point person to collect and disseminate information to the media and the public in the event of an emergency.
- Utilize your automated phone system to provide announcements to the calling public. Tip: *Consider offering text-messaging services to all registered voters to inform them of election dates and deadlines, and polling place updates.*

- Develop informative brochures regarding "How to File for Office", "Voting Options", "How to Become a Poll Worker", etc. Provide copies of these brochures to area city halls, libraries, county offices, etc.

- Routinely prepare and distribute monthly and annual reports. These reports provide an excellent opportunity to educate and inform within your county organization. TIP: *Send these reports to elected officials and area media representatives.*

- Prepare newsletters to provide specific information on upcoming election dates, deadlines, etc. These newsletters provide another search tool for potential polling places and for the recruitment of poll workers. Distribute them to area home associations, chambers of commerce, city halls, churches, community organizations, school, etc. TIP: *Ask these organizations to post election information on their Web site.*

- Three days before the election, send out a press release about Election Day details, including polling hours and information about how to find polling locations and sample ballots. Include information about where to get election results and how to contact your office after hours. TIP: *Encourage voters and the media to visit your Web site for the latest information.*

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- Reach out to county and city staff to provide assistance and support to the election process. Examples include:
  - Utilize county building inspection staff to assist with ADA inspections of polling places.
  - Public Works and Facilities staff can provide help with the distribution of supplies and voting equipment.
  - Information Technology staff are needed to support early voting and Election Day polling places.
  - Utilize county facilities for in-person early voting at no cost.
  - Partner with your county GIS mapping department to supply polling place/precinct locator maps for Election Day.

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Contingency and Disaster Planning

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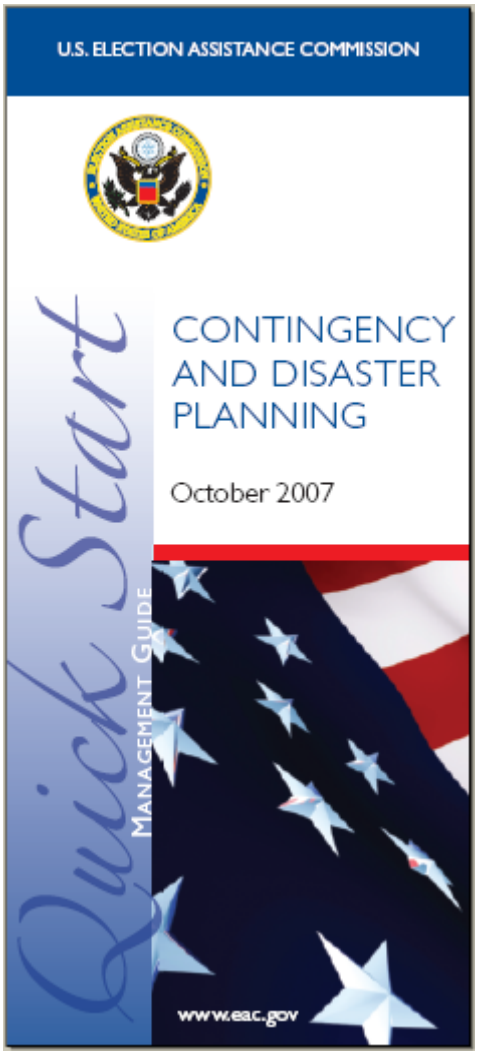

Quick Start Management Guide

Contingency and Disaster Planning

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2

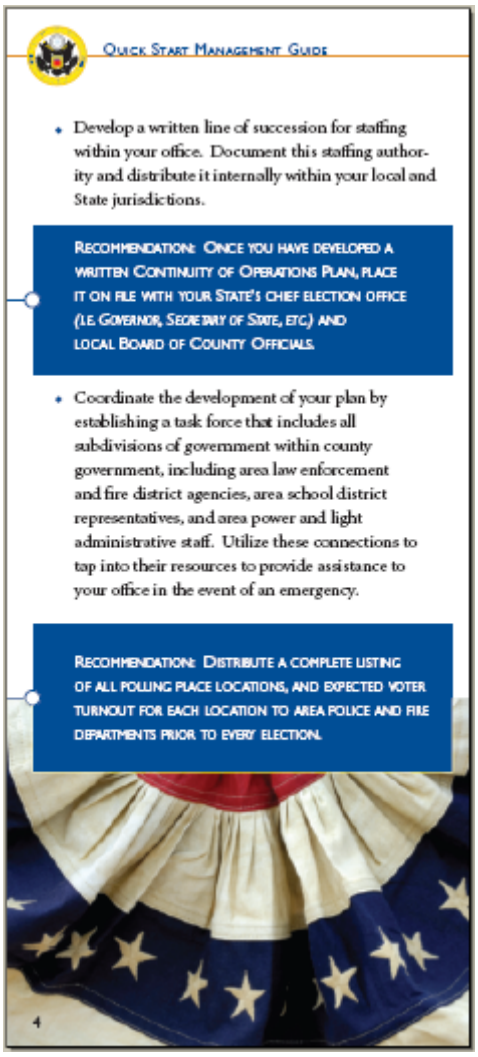
Introduction

- Contingency planning in elections involves planning responses for situations as simple as maintaining a listing of poll workers to respond to a call for replacements on Election Day, or as complicated as relocating polling places on the morning of Election Day due to flooding or other natural disasters. This guide provides a quick overview of things to consider when developing policies/procedures for administering an election… from running out of ballots…to experiencing a major natural or manmade disaster.

Developing a Continuity of Operations Plan for Elections

- Contact your State and local Department of Emergency Preparedness to request copies of existing action plans and information on other available resources. Schedule a joint meeting to discuss how the election office can partner with these agencies to develop a comprehensive Continuity of Operations Plan for Elections.

- Review existing State law to determine if the Governor has the power to cancel an election or designate alternative methods for distribution of ballots in the event that an emergency/disaster occurs which impacts the conduct of an election.



QUICK START MANAGEMENT GUIDE

- Develop a written line of succession for staffing within your office. Document this staffing authority and distribute it internally within your local and State jurisdictions.

RECOMMENDATION: ONCE YOU HAVE DEVELOPED A WRITTEN CONTINUITY OF OPERATIONS PLAN, PLACE IT ON FILE WITH YOUR STATE'S CHIEF ELECTION OFFICE (I.E. GOVERNOR, SECRETARY OF STATE, ETC.) AND LOCAL BOARD OF COUNTY OFFICIALS.

- Coordinate the development of your plan by establishing a task force that includes all subdivisions of government within county government, including area law enforcement and fire district agencies, area school district representatives, and area power and light administrative staff. Utilize these connections to tap into their resources to provide assistance to your office in the event of an emergency.

RECOMMENDATION: DISTRIBUTE A COMPLETE LISTING OF ALL POLLING PLACE LOCATIONS, AND EXPECTED VOTER TURNOUT FOR EACH LOCATION TO AREA POLICE AND FIRE DEPARTMENTS PRIOR TO EVERY ELECTION.

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- Publish and distribute the final approved Continuity of Operations Plan to all agencies responsible for providing assistance in the event of a disaster/emergency. The Plan should be reviewed and updated periodically.

Recommendation: Consider reviewing the Plan with all involved agencies and individuals at least six months prior to every Federal election.

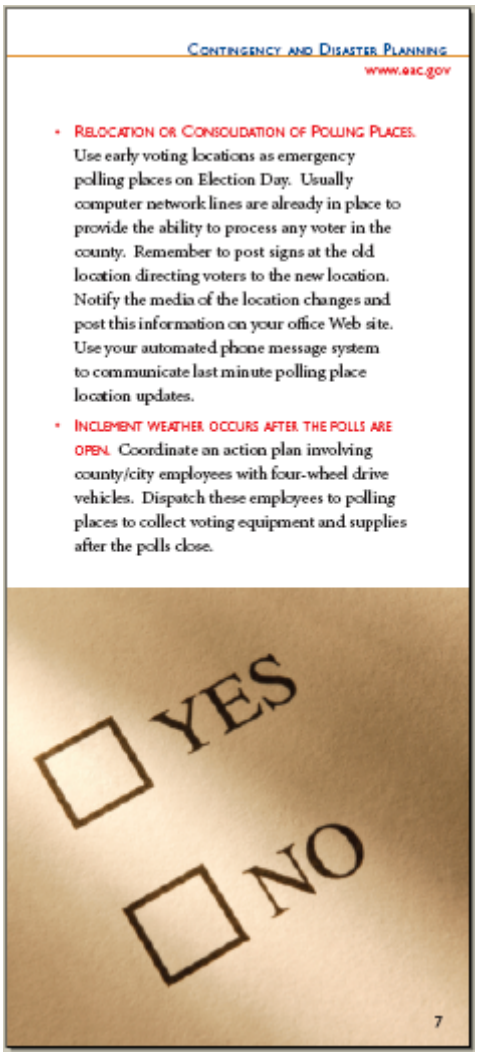
- Involve the media in your planning process. Distribute the final approved document to all area television, radio, and newspaper media.

Contingency Planning for Countywide Events

- Conduct a brainstorming session with staff to develop a listing of various "Election Day" worst case scenarios. Examples include the various types of natural disasters (*snow/ice storm, flooding, hurricane, tornado, etc.*); and other election-related "disasters" (*poll worker shortage, last minute relocation of polling places, shortage of ballots and other mission critical supplies, etc.*). NOTE: *It is important to list any possible issue that can occur that would impact the management of an election – even if it has never, ever happened before.*

- Develop an action plan for each scenario. Include in the action plan: who is responsible for each task, what resources are required, what agency(s) will be called upon to assist, and where the designated area for media will be located and the name of the designated media coordinator, if required. Examples of worst case scenarios and possible action plans, include:

  - SHORTAGE OF POLL WORKERS. Assign a certain percentage of "stand by" poll workers to report to the Election Office on Election morning. This group of "stand-by" poll workers could also be recruited from the county or city employee base. These poll workers should be fully trained and arrive at the designated office location ready to be deployed where needed.
  - PHONE SYSTEM CRASHES. Consider investing in a backup generator to support the phone system and other mission-critical computer systems. Provide instructions to poll workers on how to reach your office if the main phone line is not functioning. NOTE: *Partner with other county departments to identify front line staff who could answer overflow phone calls on Election Day. Provide answers to FAQ's and enable the staff to look up polling place information. Give them the direct line to contact a permanent election staff person, if necessary.*



CONTINGENCY AND DISASTER PLANNING
www.eac.gov

- RELOCATION OR CONSOLIDATION OF POLLING PLACES. Use early voting locations as emergency polling places on Election Day. Usually computer network lines are already in place to provide the ability to process any voter in the county. Remember to post signs at the old location directing voters to the new location. Notify the media of the location changes and post this information on your office Web site. Use your automated phone message system to communicate last minute polling place location updates.
- INCLEMENT WEATHER OCCURS AFTER THE POLLS ARE OPEN. Coordinate an action plan involving county/city employees with four-wheel drive vehicles. Dispatch these employees to polling places to collect voting equipment and supplies after the polls close.

- **Shortage of supplies and/or ballots.** In the event of a countywide shortage of mission-critical supplies, this plan should be developed to utilize enough manpower to reach all polling places within an approved time frame. Divide the jurisdiction into regions, prepare driving maps, and deploy county/city runners to distribute the necessary supplies. Poll workers should always be trained to know when to contact the election office when they anticipate running short of ballots or others supplies. Regional trouble shooters should be assigned and dedicated to support a certain number of polling places on Election Day. Each trouble shooter should have a kit of extra supplies to support individual requests within their region on Election Day. *Example: Develop a listing of 10-15 mission-critical polling place supply items. These items should be checked and double checked using the "two-person" rule prior to Election Day.*
- **Bomb Threat** – Place a "Bomb Threat Protocol" laminated card in all polling place supply kits. Instruct the poll workers to follow the guidelines on the card and to call 911 immediately.
- **Power Failure at Polling Places.** Provide instructions in all polling place supply kits on how to manage a power failure and continue the voting process. Poll workers should be trained to notify the Election Office as soon as possible. **NOTE:** *Be prepared to transport food, water, space heaters and fans to polling places, if needed.*

Contingency Planning for Internal Operations

- Include within your Continuity of Operations Plan, procedures to follow when internal operations are affected due to unforeseen circumstances. Involve members of your county's information technology staff to assist with developing procedures for creating a computer and server action plan.

- Determine alternative office space in the event that your facility is unusable for any reason. This could also include the need to relocate certain staff due to computer access and/or phone failure.
  NOTE: *Don't forget to incorporate security measures into any of your alternative facility action plans.*

- Send a written request to the area power and light company notifying them of Election Day activities and request that they limit any work in the area that could cause power outages at your office. Install tracking devices *(i.e. UPS)* on all mission-critical systems within your office. These devices usually provide up to 3 hours of back-up power. Consider coordinating the use of a back-up generator for use during an extended power outage.

- Develop an alternative communication plan to include use of individually owned cell phones, along with a reserve bank of spare cell phones to be available for use by poll workers.
  Example: Consider the use of pagers for text messaging poll workers in areas where there is no cell phone access.

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- Ensure that your vote tabulation computer system is backed up and stored onsite in a fire proof safe and in an off-site location. All other computer systems should be periodically backed up and stored in the same fashion. Procedures should be in place to coordinate the relocation of the computer system to an alternative location, if required, on Election Day.

- In the event that it becomes necessary to evacuate your office, establish written procedures for all staff to follow. These procedures should include a designated meeting place outside of the building. Designated staff team leaders should be responsible for accounting for all members of their team. Staff members should be requested to take their personal cell phone with them to the off-site location.

- Develop scripted messages for use by the designated office telephone staff. Separate messages should be developed for fire/bomb threats which require evacuation of the building; and for various weather-related emergencies. Telephone staff should be trained to broadcast these messages to notify staff to take action.

- Maintain a listing of all on-call personnel and telephone contact information for use while in election mode. This list would include emergency management and information technology support staff. Also include area police department, telephone support staff, and power and light phone numbers.

- Be proactive in determining how to prevent damage to voting equipment in the event that the fire alarm is activated. *Example: Routinely place tarps or plastic covers over voting equipment to prevent dust and water damage. Understand the difference between a fire-activated sprinkler system and a Halon system (which does not destroy the computer system).*

Evaluating "Lessons Learned"

- Conduct regular debriefing sessions following every election. Use this time to review your Continuity of Operations Plan for Elections and update/revise, if necessary. Coordinate the debriefing sessions with regular staff, regional trouble shooters, poll worker judges and others support staff involved in the countywide election operations.

- Share your Operations Plan with surrounding jurisdictions and your State Election Director. You are encouraged to also place a copy of your plan on file with the U.S. Election Assistance Commission office in Washington, D.C.

For information regarding this publication or to request additional copies, please contact:

U.S. Election Assistance Commission
1225 New York Avenue, NW, Suite 1100
Washington, DC 20005
Attn: Election Management Guidelines

Telephone (202) 566-3100 (866) 747-1471 (toll free)

Fax (202) 566-3127

E-mail Address HAVAinfo@eac.gov

Web site www.eac.gov

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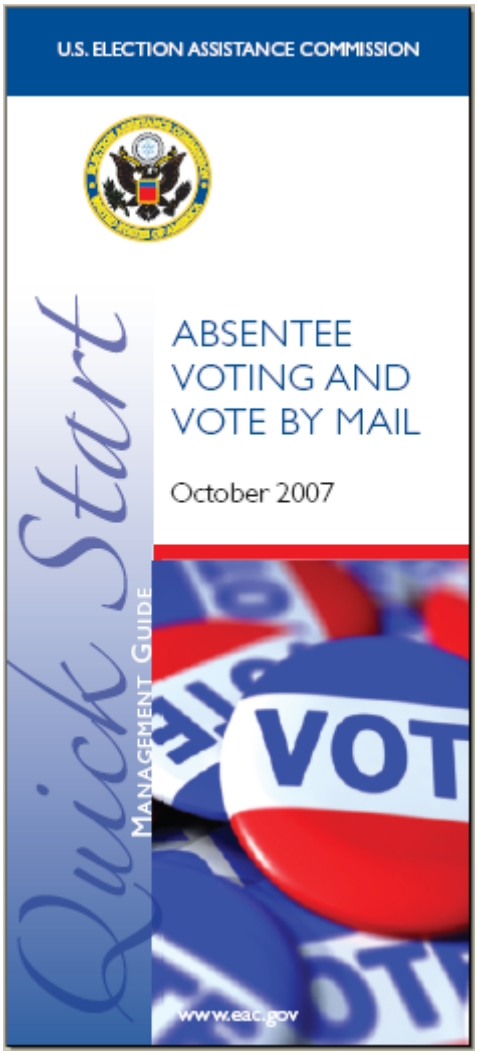
Absentee Voting and Vote by Mail

From http://www.eac.gov/election/quick-start-management-guides/docs/qsmg-absentee-voting-and-vote-by-mail.pdf/attachment_download/file



Quick Start Management Guide

Absentee Voting and Vote by Mail

The Quick Start Management Guide for Absentee Voting and Vote by Mail is part of a series of brochures designed to highlight and summarize the information contained in the chapters of the U.S. Election Assistance Commission's (EAC) Election Management Guidelines (EMG). The goal of the EMG is to provide a collection of election management guidelines, consolidated into one document, to assist State and local election officials effectively manage and administer elections. These guidelines are solely designed to serve as a source of information for election officials and not as requirements by which they must abide. The EAC expects the EMG to be completed in 2008. However, due to the urgent need for election management resources, EMG chapters and Quick Starts are released as they are completed.

The content of the EMG and the Quick Start Management Guides has been developed in collaboration with State and local election officials and other election professionals who have first-hand experience managing elections. The EAC is grateful for their participation and ensuring the guidelines are practical and applicable for jurisdictions regardless of their size and resources. The EMG and the Quick Starts are available online at www.eac.gov.

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Introduction

- Please note that this guide is designed to cover general processes and procedures regarding absentee voting/vote by mail. Laws and procedures regarding absentee voting/vote by mail vary by state *(i.e. eligibility requirements, deadlines, processing, etc.)*

- In most states, absentee voting requires a voter to make a formal request for an absentee ballot; the election office then processes the application and mails the ballot to the voter; the voter receives and casts his or her ballot per the established procedures; and the election office then processes the returned ballot to determine its validity and, if valid, tabulates the vote into the official vote tally.

- A separate Quick Start Management Guide has been designed to discuss matters regarding absentee voting by uniformed and overseas military voters more in depth.

Ballot Preparation and Mailing

- Review all of the deadlines relating to preparation and distribution of ballots. Prepare a timeline detailing each activity in chronological order, including staff assignments and completion date.

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TIP: *Highlight in* BOLD *any dates mandated by Federal or State law.* Examples include, but are not limited to:

- Last day to register to voter and/or update voter registration information.
- Date that the ballot file should be sent to the printer.
- Date that printed ballots should be delivered by the printer.
- Date that military/overseas ballots must be mailed.
- Date to mail out-of-state ballots.
- Date to mail in-state ballots.

- Determine how many ballots to print by reviewing State law and the history of voter turnout for a similar election. Develop "Plan B" for how to respond to a ballot shortage. For example:
  - Will you utilize ballot on demand printers?
  - Do you have an action plan in place with your ballot printer?

- Review outgoing and return ballot envelopes to determine ways to incorporate the use of technology to improve staff efficiencies and implement voter user-friendly techniques, while ensuring that all statutory requirements are met.
  - Consider using envelope printers to print voter data directly onto each envelope instead of using labels.

- Print envelopes in ballot order instead of alphabetical by voter name for ease of use and accuracy for pulling ballots and stuffing the envelopes.
- Incorporate the use of bar codes on the ballot envelopes for ease in receiving return envelopes and updating voter history.
- If State law requires the voter to sign the return ballot envelope, consider incorporating a tear-off flap to cover the voter's signature.
- Refer to State law to determine the need of a third secrecy envelope. Consider using a "blue lining" on the return ballot envelope. Tip: *Develop internal policies and procedures requiring that the ballots be opened in steps by different teams to ensure privacy of the voted ballot instead of using a secrecy envelope.*
- Consider paying for "business reply" postage. When undeliverable envelopes are returned, they can be opened and the unused ballot recycled.
- Review State law and local budgetary rules when evaluating whether to pay return postage for all absentee by mail ballots. Tip: *If not paying return postage, be sure to note the amount of postage required on the return ballot envelope.*
- Partner with your area post office to utilize the official election postal logo on all outgoing and incoming ballot envelopes. Coordinate the design of the envelopes, placement of the wording, etc. with the postal authorities and request their written approval.
- Consider establishing a specific P.O. Box number for returned ballot envelopes. Tip: *Establish separate P.O. Box numbers for voter*

registration applications, absentee applications, etc. to speed the sorting of incoming mail.

- Evaluate the area designated for pulling and stuffing ballots to determine space needs in order to develop an efficient work flow. Implement the policy of working in teams of two to ensure accuracy. Staff assignments should include individuals designated as ballot pullers and ballot stuffers. Be sure to implement "two person" integrity and separation of duties throughout the process.

- If using an external mailing/distribution center for ballot mailing, it is recommended that election staff be on-site at all times.

- Maintain a daily listing of all individuals who have been mailed a ballot. Follow State law regarding public/candidate access to this information.

- Track numbers of ballots issued by quantity and ballot style on a daily basis. Use this information to monitor ballot stock usage and availability.

Ballot Reception

- Consider investing in postal tracking software to track the envelopes through the postal facilities and to confirm the delivery of individual ballot envelopes to the postal carriers. This same tracking software can track the route of the return ballot envelope.

- Coordinate with the post office on how you wish to receive the returned ballots. Will you schedule a special delivery from the post office? Will you have

staff members pick up the ballots from the post office? TIP: *Always work in teams of two when receiving returned ballot envelopes. At no time should any one person be alone with the voted ballot envelopes.*

- Determine if you will provide off-site collection/ drop off receptacles for returned ballot envelopes. Establish procedures for securing and monitoring these locations.

- Develop and post general rules for individuals wishing to observe the ballot reception process. For example:

  - Ask everyone observing the process to turn off or silence their cell phones.
  - Observers must visibly wear identifying name tags/badges at all times.

- Develop training manuals and conduct training sessions for all temporary staff assigned to the ballot reception operation. Maintain record of all staff involved in ballot reception by keeping a daily sign in/out sheet. TIP: *Require that all ballot reception staff take lunch breaks at the same time, ensuring that the ballot reception area is locked down and secured during that time period.*

- Date and time stamp each return ballot envelope. Implement daily logs (computerized or by hand) to account for all returned ballot envelopes. These logs must be balanced on a daily basis to actual ballot envelopes on hand.

- Update the voter record to indicate that the ballot envelope has been returned. Confirm the voter's

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name and address. If required, verify the voter's signature on the envelope. TIP: *Provide specialized staff training on signature verification. Consider implementing the "check it three times" policy for questionable signatures: first check is conducted by regular staff; second check is conducted by more experienced staff; and third check is conducted by the county canvass board. When a signature is first questioned, consider sending a letter to the voter notifying them that their signature is being questioned.*

- Separate and log any ballot envelopes that are challenged. Continue to balance all receiving logs to total ballot envelopes received on a daily basis.

Ballot Tabulation

- Develop procedures for managing exceptions during the ballot opening process. Examples include: "No ballot in the envelope"; "Too many ballots in the envelope"; or "Ballot from a wrong election in the envelope". TIP: *Before storing ballot envelopes, recheck that all envelopes are empty.*

- Follow State law and uniform administrative guidelines when determining voter intent. Establish procedures for managing physically damaged ballots, ballots that are marked in such a fashion that they will not be read by the scanner, and write-in votes.

- Establish written procedures for manual duplication of voted ballots. Assign a number to the original ballot and that same number to the duplicate ballot. Work in teams of two to duplicate each

ballot. Maintain a log indicating the assigned number, ballot style, and reason for duplication. Require that the two person duplication team initial the ballot log for auditing purposes.

- Count the number of ballots sent to the scanner and balance with the scanner on a regular basis. Consider batching the ballots in bundles and assign batch numbers to each bundle to ensure that all ballots have been read by the scanner.

- When tabulation is completed, balance the total number of envelopes received, minus exceptions to the total number of voted ballots scanned.

Storage and Security Considerations

- Install appropriate security in areas where ballots are stored *(i.e. alarms, locks, cameras, etc.)*.

- Enforce the two-person rule anytime ballots are handled. Maintain a listing of employees who are authorized to access the ballot area. Establish an access log to include access date, employee name(s), and reason for access.

- Store the empty return envelopes and voted ballots in separate tamper-evident sealed containers.

Voter Education

- Publish advertisements in newspapers, area neighborhood association newsletters, city/chamber/school district newsletters, church

publications, multilingual media publications, etc. reminding voters to update any change to their voter registration information *(i.e. name change, address change, party affiliation change, and signature update).* TIP: *Partner with your State Office to develop a statewide media blitz.*

- Create an informational brochure with instructions on how to vote absentee by mail. Include a copy of the vote by mail ballot application form as a "tear off return mail page" on the brochure. Make these brochures readily available in your community by distributing them at community events and diverse locations *(i.e. city hall, libraries, schools, registration drives, etc.)* TIP: *Be sure to include information about all aspects of voting by mail, including, but not limited to, how to request a replacement ballot and how to qualify to become a "permanent" vote by mail voter, if permitted by State law.*

- Post information about absentee vote by mail procedures on your jurisdiction's Web site. Information on all deadlines should be posted along with dates that voters can expect the ballots to be mailed. If voted ballots must be received in your office by a certain date, be sure to include that date in BOLD. If possible, include a downloadable copy of the vote by mail ballot application form, if required. TIP: *Consider including a link that allows the voter to confirm their voter registration status on your Web site. If their information needs to be updated, provide another link to a voter registration form, allowing the voter to manage their own updates at their convenience.*

- Provide information to high schools, community colleges, and universities. Partner with these learning institutions to distribute voter registration and absentee voting instructions with enrollment packets. Encourage them to communicate Election Day deadlines for voter registration and absentee voting through the use of e-mail, podcasting, and text messaging.

- Encourage candidates to provide information to voters about how to vote absentee by mail.
  TIP: *Provide a scripted handout to all candidates and encourage them to use it for all campaign literature to ensure consistency in all printed material.*

- Distribute absentee voting procedures to special interest groups: nursing homes, assisted living centers, hospitals, military installations, etc.

- Provide copies of the Vote by Mail Ballot Application forms to post offices, supermarkets, churches, etc.

- Utilize brochures, flyers, and your jurisdiction's Web site to inform voters how to ensure their ballot is counted. Provide answers to "frequently asked questions" such as:

  - May I drop my voted absentee ballot at the polls on Election Day?
  - Will my ballot be counted if I mail it ON Election Day?
  - I made a mistake while voting my ballot – How do I get a new ballot?

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Acceptance Testing

From http://www.eac.gov/election/quick-start-management-guides/docs/qsmg-acceptance-testing.pdf/attachment_download/file

Quick Start Management Guide

Acceptance Testing

The Quick Start Management Guide for Acceptance Testing is part of a series of brochures designed to highlight and summarize the information contained in the chapters of the U.S. Election Assistance Commission's (EAC) Election Management Guidelines (EMG). The goal of the EMG is to provide a collection of election management guidelines, consolidated into one document, to assist State and local election officials effectively manage and administer elections. These guidelines are solely designed to serve as a source of information for election officials and not as requirements by which they must abide. The EAC expects the EMG to be completed in 2008. However, due to the urgent need for election management resources, EMG chapters and Quick Starts are being released as they are completed.

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2

Introduction

- Acceptance testing is one of the most important functions that local election jurisdictions perform. Acceptance tests provide assurance that newly acquired devices, as well as devices that had left your control and were returned, are functioning properly and are correctly configured for use in an election.

- An acceptance test is a test that is performed on an individual device *(i.e. a server, ballot scanner, or voting station)* in a voting system to assure that the device is physically, mechanically, electronically, and functionally correct. Correct, in this sense, means that the device and its associated software/ firmware are identical in every respect to the device that was originally certified and purchased.

- Acceptance testing is usually associated with the process of verifying that newly purchased devices conform to the purchase agreements and are identical to the NASED or EAC certified device. However, an acceptance test should also be performed any time a device leaves your control and is returned. *Example: If a device is sent out for repair and returned or if a device is loaned to a group or organization for demonstration purposes and returned, you should complete an acceptance test upon its return to your possession.*

- Acceptance tests are conducted on individual devices such as touch screen voting stations, ballot scanners, etc. These devices must be a component of an overall certified voting system. A description of the devices that are part of your certified voting

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system can be found on either the NASED Web site *(http://www.nased.org)* or the EAC Web site *(http://www.eac.gov)*. These descriptions list not only the devices that make up the certified voting system, but also the specific software/firmware versions that support the certified system. You must have this information before beginning to conduct acceptance tests.

Acceptance Tests

- Acceptance tests must be conducted either by or under the strict control of the jurisdiction's election official. Under no circumstance should acceptance tests be conducted by a vendor.

- It is recommended that your office maintain a complete record of every acceptance test that is conducted. *Example: Prepare a checklist that has a location for recording the date of the test, the type of device being tested (i.e. ballot scanner, touch-screen voting station, etc.), the serial number of the device, the outcome of the test (i.e. passed, failed), the name of the person conducting the test, and a space for comments. When the test is completed, staple all printed test outputs to this sheet.*

- The procedures for conducting acceptance tests may seem complicated and burdensome at first. However, you will find it easier and become more efficient at it the more you conduct these tests and familiarize yourself with the process. On average, an experienced tester takes approximately fifteen minutes (or less) to conduct an acceptance test on a typical device such as a touch-screen voting station.

ACCEPTANCE TESTING
www.eac.gov

- There are three distinct parts to an acceptance test: *a test for physical damage, a diagnostic test, and a test for functional correctness.*
  - PHYSICAL ANALYSIS: This test is to assure that the device is not physically damaged. This test includes:
    - Inspection of the outer shell or case that contains the device.
    - Inspection of the latches and hinges on the outer shell or case.
    - Inspection of all doors and locks.
  - DIAGNOSTIC ANALYSIS: This test is to assure that all of the mechanical and electronic components of the device are operating correctly. This test includes:
    - Tests of all input/output devices, such as card readers and printers.
    - Tests of ballot feed paths.
    - Tests of touch-screen calibration and intensity.
    - Tests of time, date selection.
    - Tests of connections for external devices, such as earphones and handicap navigation devices.
  - FUNCTIONAL ANALYSIS: This test is to assure that the correct versions of the software/firmware are installed in the device and that the device will perform correctly during an election. This test consists of loading a mock election onto the device, casting a known pattern of votes, and then counting the votes and comparing the results with the known pattern.

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General Outline for Conducting an Acceptance Test

- The following three sections provide a generic outline for conducting acceptance tests of the most common devices found in an electronic voting system: ballot scanners, touch screen voting stations, and election management systems. The EAC has compiled specific Acceptance Test Scripts for many of the currently used electronic voting system devices. To find out if scripts are available for your voting system, contact the EAC's Director of Voting System Testing & Certification at 1-866-747-1471 (toll free) or via e-mail at HAVAinfo@eac.gov.

Optical Scan Ballot Scanner Acceptance Test

- Materials Required. In addition to the following, you must know the correct version of the operating system and/or firmware that was certified for your ballot scanner:

  1. A memory card or other device with the election setup for your acceptance test.
  2. Password, manager card, or other device for gaining manager/administrator privilege on the voting station.
  3. A test set of pre-marked optical scan ballots.

ACCEPTANCE TESTING
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- PHYSICAL ANALYSIS. Conduct the following with the ballot scanner turned OFF:

  1. Examine the case and/or cover for cracks or dents.
  2. Inspect latches, hinges, and wheels, if present.
  3. Examine the legs and/or stand, if present.
  4. Inspect the power cord and plug.
  5. Verify that there is paper in the printer.

- DIAGNOSTIC ANALYSIS. Conduct the following with the ballot scanner turned ON. Some of these tests may require manager/administrator privilege.

  1. Turn the ballot scanner on, and as it boots up verify that the correct versions of the operating system and firmware are installed.
  2. Verify that the date and time are correct.
  3. Print a test output to verify that the printer is operating correctly.
  4. Unplug the ballot scanner and verify that it will operate on battery power alone.
  5. Verify that the battery charger will charge the battery.
  6. Test all I/O ports and card slots (*i.e. serial ports, voter card slots, etc.*).

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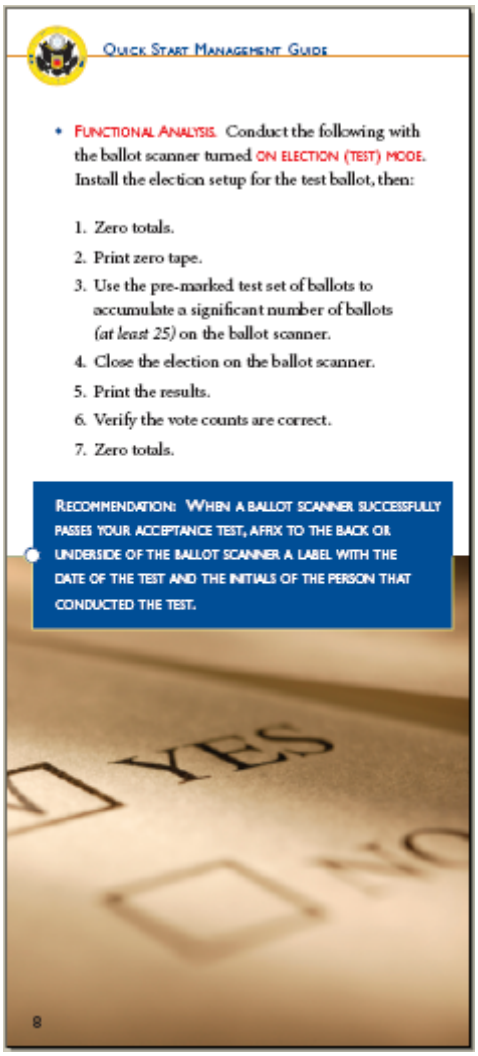

QUICK START MANAGEMENT GUIDE

- FUNCTIONAL ANALYSIS. Conduct the following with the ballot scanner turned ON ELECTION (TEST) MODE. Install the election setup for the test ballot, then:

  1. Zero totals.
  2. Print zero tape.
  3. Use the pre-marked test set of ballots to accumulate a significant number of ballots *(at least 25)* on the ballot scanner.
  4. Close the election on the ballot scanner.
  5. Print the results.
  6. Verify the vote counts are correct.
  7. Zero totals.

RECOMMENDATION: WHEN A BALLOT SCANNER SUCCESSFULLY PASSES YOUR ACCEPTANCE TEST, AFFIX TO THE BACK OR UNDERSIDE OF THE BALLOT SCANNER A LABEL WITH THE DATE OF THE TEST AND THE INITIALS OF THE PERSON THAT CONDUCTED THE TEST.

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Touch Screen (TS) Voting Station Acceptance Test

- Materials Required. In addition to the following, you must know the correct version of operating system and/or firmware in your TS:

  1. A memory card or other device with the ballot for your acceptance test.
  2. A serial loop back connector, if the voting station is equipped with a serial port.
  3. Voter cards or other device for activating the voting station for a voter.
  4. Manager card or other device for gaining manager/administrator privilege on the voting station.

- Physical Analysis. Conduct the following with the unit turned OFF:

  1. Examine the case and/or cover for cracks or dents.
  2. Inspect latches, hinges and wheels, if present.
  3. Examine the legs and/or stand.
  4. Inspect the power cord and plug.
  5. Verify that there is paper in the printer.

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QUICK START MANAGEMENT GUIDE

- DIAGNOSTIC ANALYSIS. Conduct the following with the unit turned ON. Some of these tests may require manager/administrator privilege.

  1. Turn the voting station on, and as it boots up verify that the correct operating system and firmware are installed.
  2. Verify that the date and time are accurate and correct if necessary.
  3. Verify the screen calibration and calibrate if necessary.
  4. Print a test output to verify that the printer is operating correctly.
  5. Examine the screen for condition and clarity.
  6. Unplug the unit and verify that it will operate on battery power alone.
  7. Verify that the battery charger will charge the battery.
  8. Test all I/O ports and card slots (*i.e. serial ports, voter card slots, etc.*).

- FUNCTIONAL ANALYSIS. Conduct the following with the unit turned ON ELECTION (TEST) MODE. Insert precinct election media for the test ballot, then:

  1. Verify that the ballot loaded correctly and contains all contests and candidates.
  2. Zero totals.
  3. Print zero tape.
  4. Manually enter one vote for each candidate or issue.
  5. Verify that each candidate and issue has received exactly one vote.

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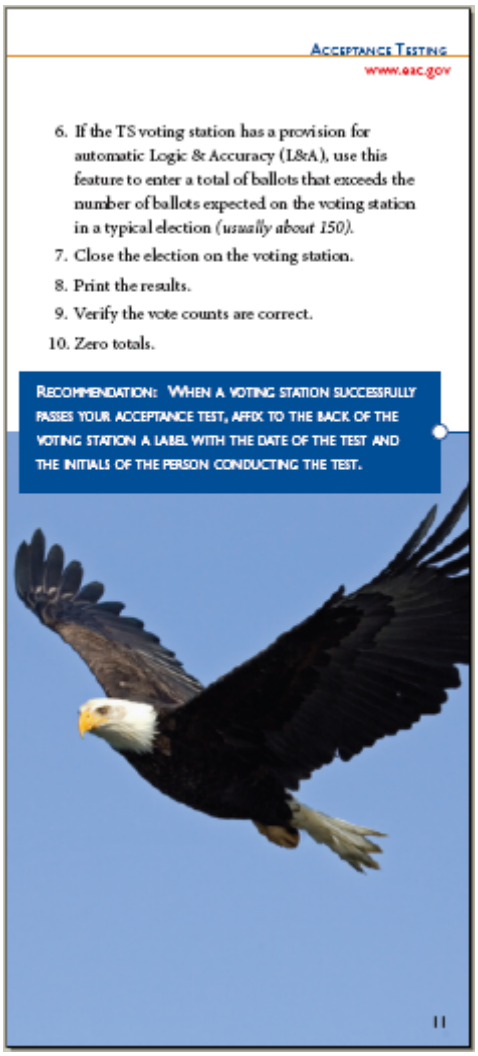

6. If the TS voting station has a provision for automatic Logic & Accuracy (L&A), use this feature to enter a total of ballots that exceeds the number of ballots expected on the voting station in a typical election *(usually about 150)*.
7. Close the election on the voting station.
8. Print the results.
9. Verify the vote counts are correct.
10. Zero totals.

Recommendation: When a voting station successfully passes your acceptance test, affix to the back of the voting station a label with the date of the test and the initials of the person conducting the test.

Election Management System Acceptance Test

- This Acceptance Test is designed to verify that the Election Management System (EMS) is correctly configured and operating properly. Acceptance tests should always be conducted on a new EMS prior to its use in an election. Also, acceptance tests should be conducted on an EMS that was returned after having left your control. *Example: If the EMS computer is sent out for repair or if a new version of the operating system or the EMS is installed, an acceptance test should be conducted on the EMS as soon as it is returned.*

- Materials Required. In addition to the following, you must know the correct version of your operating system and your EMS. The following components of a voting system are required to complete the acceptance testing procedures:

  1. One Computer with EMS installed.
  2. If Touch Screen (TS) Voting Stations are used:
     - One TS Voting Station,
     - One Blank TS Memory card/device,
     - One TS Manager/Supervisor card/device, and
     - One TS Voter card/device.
  3. If Optical Scan (OS) Ballot Scanners are used:
     - One OS Ballot Scanner,
     - One Blank OS Memory card/device, and
     - One set of pre-marked OS test ballots with known vote totals.

4. All communications cables and devices necessary to connect the TS voting station and the OS ballot scanner to the EMS computer.
5. One blank storage device of the type used by your system to store the election setup.
6. One storage device containing your acceptance test election setup.

IMPORTANT PREREQUISITES. The EMS computer system, consisting of items 1 through 4 above should have been setup and tested before beginning this test. (NOTE: *It is OK to let your IT staff do this part of the setup because in the course of conducting the following acceptance test you are going to verify that everything has been setup correctly.*)

The TS voting stations and the OS Ballot Scanner should have previously completed acceptance testing. If not, run the TS Voting Station and the OS Ballot Scanner Acceptance Test on these units before beginning this test.

- VERIFY CORRECT OPERATING SYSTEM AND EMS SOFTWARE. Turn on the EMS computer. As the computer boots up, verify that the correct versions of the operating system and the EMS software are installed. Compute the hash codes for the EMS voting system software and compare them with the values contained on the National Secure Reference Library's (NSRL) Web site at (*http://www.nsrl.nist.gov/votedata.html*). The NSRL is a secure repository for software offered by the National Institute of Standards and Technology (NIST).

- **Verify EMS Hardware.** Verify that all hardware components of the EMS computer are turned on and functioning properly. *This includes checks of the printer(s), communication devices, disk drives, etc.*

- **Verify EMS Functionality.**

  1. Load the EMS acceptance test database on the EMS computer.
  2. Verify that the EMS will support the TS voting station *(if your system does not support TS voting stations go to step 3)*:
     - Use the EMS to prepare the memory card or other device used to load the election definition into the TS voting station.
     - Load the election definition into the TS voting station.
     - Open the election on the TS voting station.
     - Cast votes on the TS voting station. Cast one vote for each candidate or issue on the ballot. If the TS voting station has automatic L & A capability, use this feature to cast additional votes on the TS voting station.
     - Close the election on the TS voting station.
     - Print the vote totals on the TS voting station.
     - Use the standard method of transferring votes from the TS voting station to the EMS system to load the votes from the TS voting station to the EMS system.

3. Verify that the EMS will support the OS Ballot Scanner:
   - Use the EMS to prepare the memory card or other device that is used to load the election definition into the OS ballot scanner.
   - Load the election definition into the OS ballot scanner.
   - Open the election on the OS ballot scanner.
   - Use the pre-marked set of optical scan ballots to cast votes on the OS ballot scanner.
   - Close the election on the OS ballot scanner.
   - Print the vote totals on the OS ballot scanner.
   - Use the standard method of transferring votes from the OS ballot scanner to the EMS system to load the votes from the TS OS ballot scanner to the EMS system.
4. Verify Printed Outputs:
   - Close the election on the EMS.
   - Print all election reports from the EMS.
   - Compare results from the EMS with results from the OS ballot scanner and/or the TS voting station.

Recommendation: When your election management system successfully passes the acceptance test, affix to the top of the computer case a label with the date of the test and the initials of the person conducting the test.

For information regarding this publication or to request additional copies, please contact:

U.S. Election Assistance Commission
1225 New York Avenue, NW, Suite 1100
Washington, DC 20005
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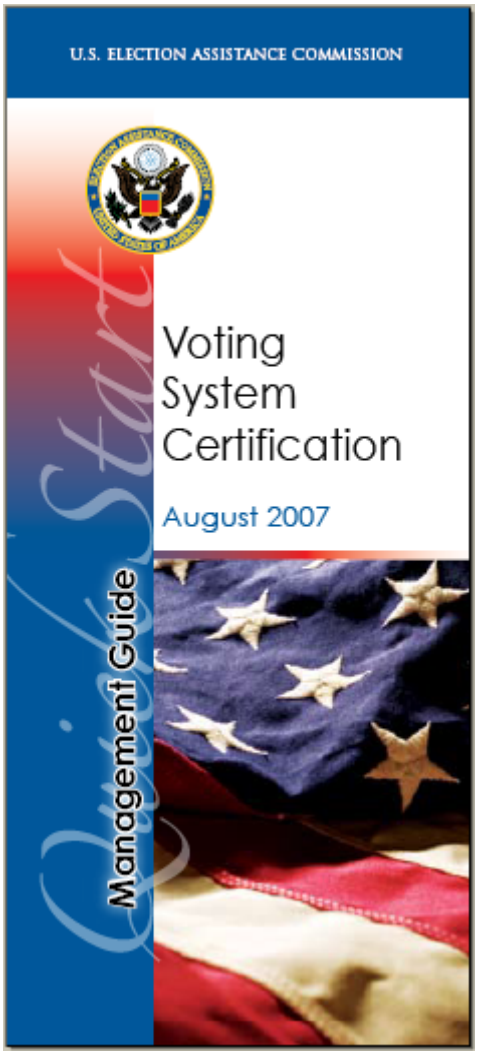
The EAC is an independent bipartisan commission created by the Help America Vote Act of 2002 (HAVA). It is charged with administering payments to states and developing guidance to meet HAVA requirements, implementing election administration improvements, adopting voluntary voting system guidelines, accrediting voting system test laboratories and certifying voting equipment and serving as a national clearinghouse and resource of information regarding election administration.

Voting System Certification

From http://www.eac.gov/election/quick-start-management-guides/docs/certificationqs.pdf/attachment_download/file



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QUICK START MANAGEMENT GUIDE FOR VOTING SYSTEM CERTIFICATION

The *Quick Start Management Guide for Voting System Certification* is part of a series of brochures designed to highlight and summarize the information contained in the chapters of the U.S. Election Assistance Commission's (EAC's) *Election Management Guidelines* (EMG). This Quick Start is a snapshot of procedures developed to help election officials understand the certification process at the Federal, State, and local levels as it applies to existing voting systems or voting systems under consideration for future acquisition. The goal of the EMG is to provide a collection of election management guidelines, consolidated into one document, to assist State and local election officials in effectively managing and administering elections. These guidelines are designed solely to serve as a source of information for election officials, not as requirements by which officials must abide. The EAC expects the EMG to be completed in 2008. Due to the urgent need for election management resources, however, EMG chapters and Quick Starts are released as they are completed.

The content of the EMG and the Quick Start *Management Guide* has been developed in collaboration with State and local election officials and other election professionals who have first-hand experience managing elections. The EAC is grateful for their participation and for ensuring the guidelines are practical and applicable for jurisdictions regardless of their size and resources. The EMG and Quick Starts are available on line at *www.eac.gov*.

The Help America Vote Act (HAVA) of 2002 tasked the EAC with accrediting voting system test labs and certifying voting equipment, marking the first time the Federal government would provide these services to States. In the past, these functions were performed by the

National Association of State Election Directors (NASED), a volunteer organization which received no Federal funding. EAC's voting system testing and certification program was implemented in January 2007.

General Information

- A voting system is defined as a specific combination of mechanical, electromechanical, and electronic equipment used to define ballots, cast and count votes, report or display election results, connect the voting system to the voter registration system, and maintain and produce any audit trail information.
- Currently, a complete voting system can be certified. A component or a portion of a voting system cannot be certified.
- Any change or modification to a certified voting system may void the system's certification and require that the voting system be resubmitted for testing and certification. Please see the EAC's voting system Testing and Certification Program Manual 2005 and your State rules and regulations for further information.

Testing Voting Systems at the Federal Level

- The EAC has primary responsibility for assuring that voting system designs meet the applicable EAC Guidelines for voting equipment in the United States.
- Before the 2002 HAVA, NASED qualified voting systems to Federal standards. NASED systems were qualified to standards first developed by the Federal

Election Commission (FEC) in 1990 and revised in 2002 (FEC 1990 and FEC 2002 Voting System Standards, respectively). Voting systems that were qualified to one of these standards are listed on the NASED Web site: http://www.nased.org/certification.htm.

- In December 2005, the EAC adopted the 2005 Voluntary Voting System Guidelines (VVSG). These guidelines will be fully implemented in December 2007. Voting systems that are certified by the EAC will be listed on the EAC Web site: http://www.eac.gov.
- EAC certification does not repeal NASED-issued qualifications. All voting systems previously qualified under the NASED program will retain their NASED qualification consistent with State law.
- Until December 2007, a full voting system can be certified to either the FEC 2002 standards or the EAC 2005 VVSG. After that date, voting systems can be certified only to the EAC 2005 VVSG.
- No provision in the EAC VVSG grandfathers systems that were qualified by NASED. Thus, a voting system that is FEC 1990 or FEC 2002 qualified and wishes to become "EAC Certified" must be submitted to the EAC for certification before December 2007 if it wishes to be tested against the 2002 standards.
- A voting system that was "NASED Qualified" under the FEC 2002 standards will remain certified as long as it is not modified in any way. If it is modified, then it loses its NASED qualification and must be submitted to the EAC for certification.

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Testing Voting Systems at the State Level

- State officials have responsibility for testing voting systems to ensure that they will support the specific requirements of each State.
- Many States have unique election requirements. Therefore, the Federal-level certification process, of necessity, addresses only those attributes and functions of a voting system that are common to most States. Also, the Federal-level certification does not currently address usability issues, such as the ease of defining an election or formatting a ballot.
- For these reasons, most States require that a federally certified voting system must be certified by the State before it can be marketed in the State or used in an election in the State. State-level certification usually involves testing the system for any unique State requirements and conducting a simulated election to determine the usability of the system.
- As part of the decision to issue State certification, a State may take into consideration such nontechnical issues as the ownership of the manufacturer, the qualifications of the manufacturer's management team, or the financial stability of the voting system manufacturer.
- A list of State-certified systems for your State can be obtained from your State election director.

QUICK START MANAGEMENT GUIDE FOR VOTING SYSTEM CERTIFICATION

Testing Voting Systems at the Local Level

- Local officials are responsible for conducting acceptance testing to ensure that the equipment delivered is identical to the equipment certified on the Federal and State levels and that it meets the contractual requirements of the purchase.
- An acceptance test should contain all the following steps:
  - For new voting systems, ensure that all contract requirements have been met.
  - Verify that the system is the correct certified version. This verification involves checking the version numbers of all software components to ensure they are correct (i.e., the component version numbers correspond to the Federal- and State-certified version numbers).
  - Verify that the hardware is functioning correctly. This action includes checking elements such as the date, printer, calibration (on a Direct Recording Electronic [DRE] voting station), ports that support any devices for the handicapped, and card-encoding/reading devices.
  - Conduct a simulated Logic and Accuracy Test to validate the performance of the system. (See BAC *Quick Start Management Guide for Ballot Preparation/Printing and Pre-Election Testing*, September 2006.)
- An important security procedure is to maintain a "chain of custody" of all the various components of a voting system. There are times, however, when it is

necessary to break the chain of custody for a voting system. Example: When a voting system (or a component of a voting system) breaks and must be returned to the manufacturer for repair, it is necessary to reestablish the chain of custody by conducting another acceptance test after the system or component has been returned to the election office.

Determining the Certification Status of a Voting System

- From time to time you will want to determine the certification status of a specific voting system. This status check may be for either a system that you are currently using or one that you are considering acquiring. Use the following steps as guidelines.
  - Make a list of all the components of the voting system, including the version number of each component.
  - Check the NASED Web site (http://www.nased.org/certification.htm) and the EAC Web site (http://www.eac.gov) to see if the voting system is listed on either list of certified voting systems.
  - If the voting system is not listed on either Web site, you may contact the EAC Certification Program Director for more information about the status of the certification process.
  - Maintain a complete listing of the components of your voting system and the Federal certification numbers and dates for your records.
  - Contact the person responsible for your State's certification program to confirm that the voting system has

been State certified. Note: It is good practice to request confirmation of this certification in writing for your records.

- If you determine that your voting system is not certified, you should immediately contact your State election director for advice.
- Some States permit the evaluation of a voting system that is not yet certified but has been submitted during the procurement process with the understanding that the system cannot be purchased until it is certified.
- When considering a voting system that has not yet received Federal certification, keep in mind that it frequently takes 6 months to a year for a voting system to complete the Federal testing and certification process. Remember that submission of a voting system for certification is no guarantee that the system will actually receive a certification, at either the Federal or State level.

How To Read Certification Numbers

NASED: The NASED qualification number has the following form:

N – A – BB – CC – DD – XXX

Where:

N indicates that the number is a NASED certification number,

A indicates the Independent Testing Authority (ITA): 1 = Cyber, 2 = SysTest,

BB is a two-digit number between 01 and 16 that indicates the name of the manufacturer,

CC is a two-digit number that indicates the level to which the software was qualified: 11 = 1990 Standard, 22 = 2002 Standard, 12 = a mixed system,

DD is a two-digit number that indicates the level to which the hardware/firmware was qualified: 00 = COTS (not qualified), 01 = 1990 Standard, 02 = 2002 Standard, 03 = Firmware not qualified.

XXX is a three-digit number that is the sequential version number for the system ID.

EAC: The EAC certification number has the following format:

NNN - XXX.X - Y.Y.Y.Y

Where:

NNN is a three-letter manufacturer code (for example, DBD = Diebold),

XXX.X indicates the Standard/Guideline version; 021.0 = 2002 Standard, 051.0 = 2005 Guidelines, version 1.0,

Y.Y.Y.Y is a number that indicates the specific system version.

Contacts

For a ready reference, fill in the contact information below.

EAC Director of Voting System Testing and Certification
U.S. Election Assistance Commission
1225 New York Avenue, NW, Suite 1100
Washington, DC 20005
Telephone: 202-566-3100
Toll free: 1-866-747-1471
E-mail: HAVAinfo@eac.gov
Web site: www.eac.gov

Your State election director

Name: _____

Telephone: _____

E-mail: _____

Address: _____

_____

Your State voting system certification director

Name: _____

Telephone: _____

E-mail: _____

Address: _____

_____

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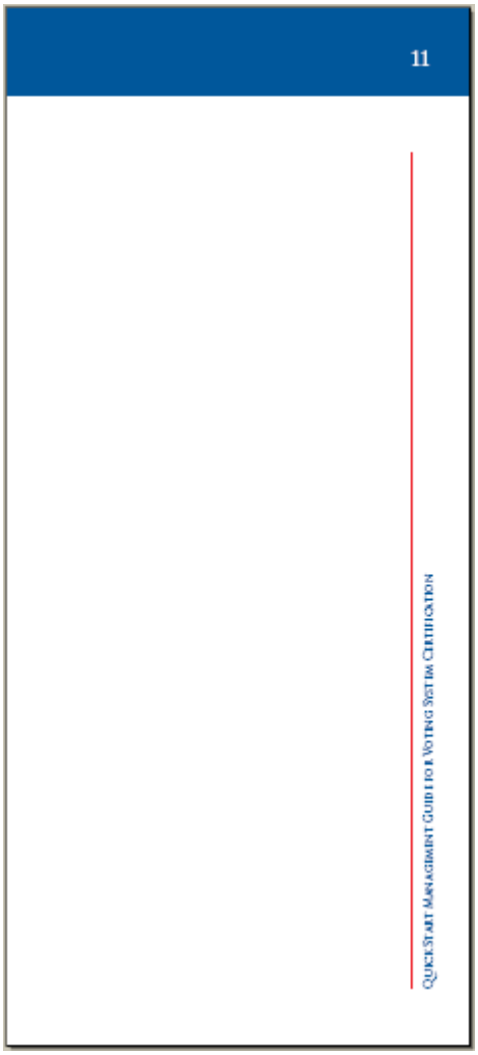
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Quick Start Management Guide for Voting System Certification

U.S. ELECTION ASSISTANCE COMMISSION

The United States Election Assistance Commission is an independent bipartisan commission created by the Help America Vote Act (HAVA) of 2002. It is charged with administering payments to States and developing guidance to meet HAVA requirements, implementing election administration improvements, adopting voluntary voting system guidelines, accrediting voting system test laboratories and certifying voting equipment, and serving as a national clearinghouse and resource of information regarding election administration.

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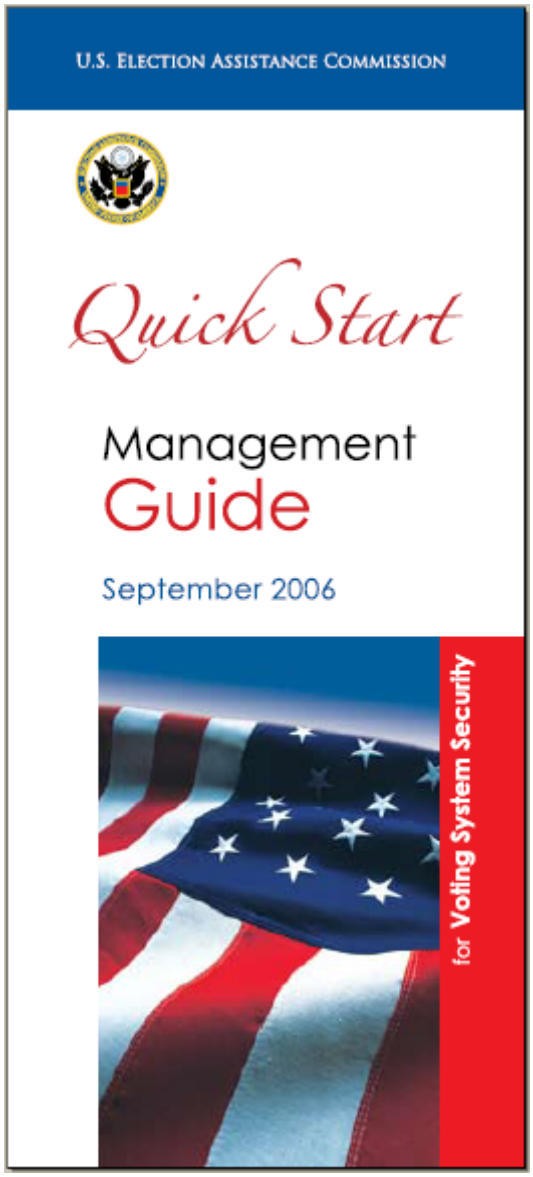
Voting System Security

From http://www.eac.gov/election/quick-start-management-guides/docs/securityqs.pdf/attachment_download/file



The Quick Start Management Guide for Voting System Security is a snapshot of processes and procedures for local election administrators to use when implementing security measures for their voting systems. It is a guide that highlights priority items essential to securing a voting system. A comprehensive set of Management Guidelines is under development and will be released in modules in 2007 and 2008.

1

Software Security

- Ensure that the software installed on the voting system is the exact version that has been certified by your State, the National Association of State Election Directors (NASED), and/or the Election Assistance Commission's Voting System Testing and Certification Program. If you have any reason to suspect that your voting system software has been compromised, reinstall the voting system software by using the certified copy of the software obtained directly from your State election office or the laboratory that tested the voting system.
- Do not allow any software on your vote-tabulating computer except the voting system software itself. Specifically, do not allow office automation software, such as Microsoft® Word, PowerPoint, and Excel, or networking software, such as e-mail and network browsers.
- Verify that your voting system is not connected to any network outside the direct control of the election office. All unused connections on the voting systems should be sealed, including universal serial bus (USB), parallel, and other ports.
- Familiarize yourself with the content of the audit logs on your voting system and learn to print them.
- Consider any results transmitted electronically from the precinct to the central office to be unofficial and verify them against the results contained on the media that are physically transported.

Quick Start Management Guide for Voting System Security

to the central office. Example: *Reload all voting machine memory cards into the central tabulation computer to validate any unofficial results that are transmitted via modem to your office on election night.*

Policies and Procedures

- Develop a specific procedure for monitoring each person who has access to your voting system, including your election office staff, vendor personnel, and visitors to your office.
- Require positive identification of each person who requests access to the voting system. Keep a log of everyone who accesses the voting system. This log should include the person's name, the purpose of the access, the date and time the access begins, and the time the access ends. The entries in this log must be complete. Example: *"System Maintenance" is not an acceptable entry. The entry should state who accessed the system, exactly what maintenance was performed and why it was necessary, when the maintenance work began, and when it ended.*
- Issue passwords to staff that will allow them to perform only authorized functions on the voting system. It is highly recommended that members of the election staff work in pairs whenever possible. This procedure will greatly reduce the potential for accidental errors and virtually eliminate any opportunity for deliberate mischief or fraud by a rogue employee.

- Control the access of vendor personnel to your system until you are absolutely certain that any change, upgrade, or maintenance that they intend to perform has already been approved by the Federal and/or your State certification process. It is essential that the vendor never be allowed access to the voting system without a member of the election office staff present. In this context, a nonvendor consultant working under contract with the election office is considered to be a member of the election office staff; however, consultants should be monitored as closely as vendor personnel.

Password Maintenance

- Designate someone in the election office as the password administrator. This person should be either the chief election officer or a senior member of the election office staff. The password administrator performs the following duties:

  1. Issues passwords.
  2. Maintains a master list of all passwords issued.
  3. Reissues all passwords periodically.
  4. Monitors password usage.

  A printed copy of the master list of passwords should be kept by the password administrator in a safe and secure place at all times and should only be used in the event of an office emergency.
- Never issue a system password to anyone (including vendor personnel) other than an employee of the election office.

4

Physical Security

- Engage county and municipal information technology staff and/or local community college or technical school staff to help conduct a security review and establish and implement applicable election management system security measures.
- Create or update appropriate procedures to ensure that absentee and emergency ballot blank paper stocks are controlled at all times.
- Develop physical security procedures and safeguards to document the controlled physical access to voting systems and the facility where the systems are stored. Document all security-related repairs and modifications to the physical components of the facility where voting systems are stored. Example: *walls, doors, locks, cameras, alarm systems.*
- Review election office work areas to ensure that office space is appropriately isolated and that undetected access by unauthorized individuals is not possible. Review voting equipment storage and work areas to ensure that only authorized personnel have access to them.
- Maintain a list of personnel who have keys to election office work areas and voting equipment storage to ensure that all keys are accounted for and only authorized personnel have keys. Develop procedures and policies requiring that keys or combination locks be changed for each election cycle.

Quick Start Management Guide for Voting System Security

- Develop chain-of-custody procedures, use tamper-evident seals, and implement inventory control/asset management processes to ensure that voting units and associated equipment are properly and securely controlled and accounted for at all times throughout the election administration process.
- Review all election audit trail checklists to ensure that they incorporate two-person integrity security measures, such as dual signoff.

Personnel Security

- Establish qualification guidelines for choosing the person(s) who will operate and administer the voting system and perform background checks on election officials who are authorized to define and configure elections and maintain voting devices.
- Allow only authorized personnel to physically access the voting system. For tracking purposes, issue each staff member a unique entry code.
- Require staff members to wear identification badges at all times. When visitors, vendors, maintenance personnel, and other nonstaff individuals enter election office work areas, log their entry and exit dates and times, record the purpose of their visit, and issue them numbered temporary identification badges.
- At each polling place establish the number of personnel needed and identify their duties, maintain separation of duties for poll managers, incorporate two-person integrity

security measures, and provide adequate security for election equipment at all times. Establish policies and/or procedures for visitors and observers in the polling place.

Securing the Voting Devices During Preparation and Transport to the Precinct

- Secure the voting devices with tamper-proof, numbered seals and record the serial numbers for each device. These numbers should be verified during setup at the precinct.
- Develop an operational plan that defines the voting devices that will be delivered. The plan should also describe where and when the devices will be delivered and who will deliver them.

Securing the Voting Devices During In-Person Absentee and/or Early Voting

- Use the same procedures to prepare, test, deliver, and set up in-person absentee and/or early voting devices as those used to prepare, test, deliver, and set up voting devices that are used in the polling places on Election Day.
- Place voting storage media in the same voting devices each morning and remove the media each night.
- Close, seal, and secure the voting devices at the end of each day. Secure the voting storage media each night in a tamper-proof location, preferably within the election office.

- Verify the numbers on all protective seals and public counters before the voting devices are used for voting the next morning.

Securing the Voting Devices on Election Day

- Require the poll manager to verify and sign off on the serial numbers of all voting devices and necessary election supplies. Example: *ballot activation devices, administrator devices, communication equipment, closing seals.*
- Require the poll manager to verify the numbers of all seals and/or tamper-resistant tape on all voting devices and inspect the voting devices for any evidence of tampering. Require the poll manager and all poll workers to use a checklist to verify that all opening procedures were followed and then sign off on that checklist.
- Control access to the voting device's power control, counter controls, and election results storage media. The polling place should be arranged so that the exterior of the voting device is in plain view of the poll manager(s) at all times.
- Allow only poll managers and registered voters in the voting device area. A voter should not be allowed to enter this area until a voting device is available for his or her use. The poll manager should maintain control of administrator and ballot activation devices.

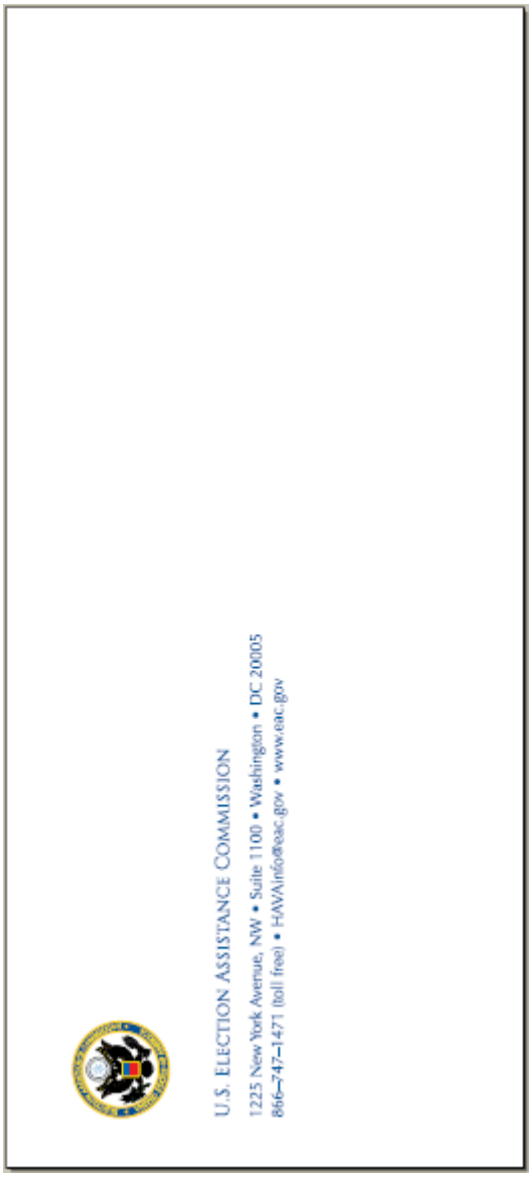
- Encourage poll managers to periodically verify the number of voters processed against the number of votes recorded (via public counter) on the voting devices and to compare that number with the total number of signatures recorded in the poll book.

Securing the Voting Devices During Tabulation

- Use a numbered, sealed pouch to transport storage media from the polling place to the local election office or designated collection point.
- Establish procedures to securely transport election results from optical scanners to vote-tabulation computers if the optical scanners are not located in the same location as where vote tabulation takes place.
- Verify the unofficial results transmitted by modem from the precincts to the central election office by performing a separate count of the election result storage media containing the original votes cast.
- Allow only authorized election officials in the tabulation equipment room.
- Consider using uniformed security or police officers to secure the ballot room and/or voting equipment during tabulation.

Securing the Voting Devices During Storage and Post Election

- Verify that all voting devices are returned to storage, confirm that the devices have not been tampered with during transport, and sign off on the receipt of the voting devices.
- Maintain an inventory of election materials, including voting devices, administrator and ballot activation devices, seal envelopes, voter registration (poll) lists, election result tapes and printouts, field supervisors' reports, poll workers' daily logs, reconciliation reports, audit data, and other items.


U.S. ELECTION ASSISTANCE COMMISSION
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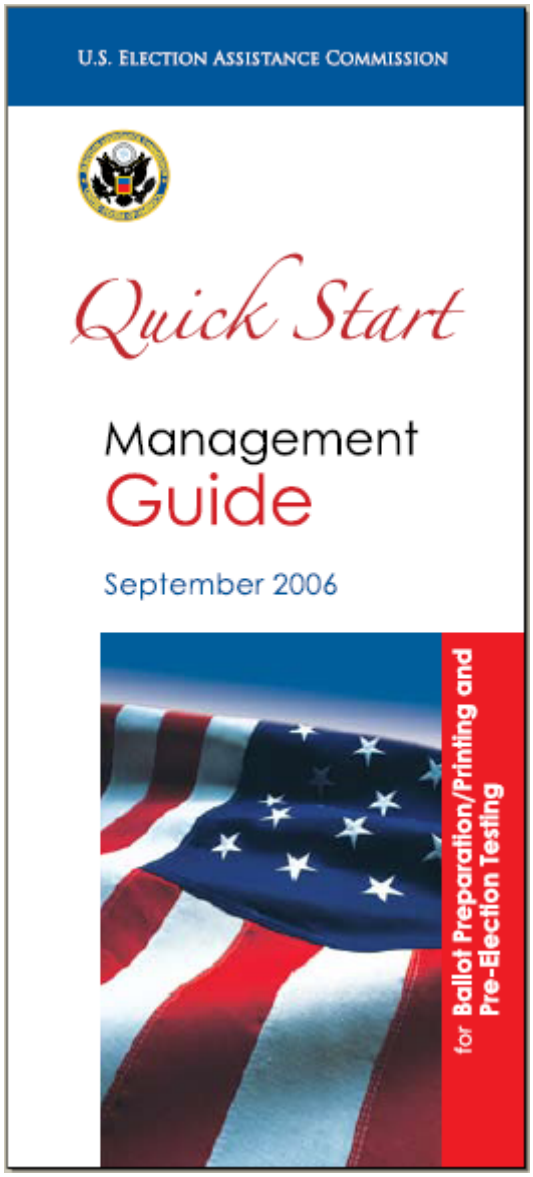
Ballot Preparation/Printing and Pre-Election Testing

From http://www.eac.gov/election/quick-start-management-guides/docs/ballotqs.pdf/attachment_download/file



The Quick Start Management Guide for Ballot Preparation/Printing and Pre-Election Testing is a snapshot of processes and procedures for local election administrators to use for ballot preparation and logic and accuracy testing. It is a guide that assists election officials with some of their most critical tasks—formatting and printing ballots and programming and testing voting systems. A comprehensive set of Management Guidelines is under development and will be released in modules in 2007 and 2008.

1

Ballot Preparation/Printing

- Review the voting system documentation before beginning ballot design and layout. Take time to understand the significance of the placement of ovals, folds, timing marks, and precinct/ballot style identifiers. Example: *If the ballot is folded on the ovals, it may impact the scanner's ability to read the ballot.*

- Develop procedures for recording the audio ballot. Listen to all candidates' names and contests to ensure that the pronunciation is correct. In addition, jurisdictions offering ballots in languages other than English should develop procedures for reviewing the pronunciation of candidates' names and contests in the alternate language(s). Tip: *Ask candidates to record the pronunciation of their names when they file for office.*

- Confirm that ballots conform to all applicable State laws relating to the order/rotation of candidates' names, placement and wording of contest headers, font size of contest headers, and other issues. Example: *Some States require that ballots be printed with a State seal. Be aware that any printing that appears in the scanner "read area" could be read as a vote or an unrecognized candidate name. Printing the seal in a gray tone can reduce this possibility.*

- Require that several people proof all ballots at each stage of the design and production processes—during initial layout, when the printer delivers proofs of the ballot, and when the printer delivers the printed

Quick Start Management Guide for Ballot Preparation/Printing and Pre-Election Testing

ballots. In addition, proof each ballot style on the voting machine and on the audio ballot. Tip: *Ask staff members from another department to help proof the ballots.*

- Reproof ballots after changes or corrections are made. Be aware that any change made to the paper ballot also requires changing and reproofing the voting machine and audio ballots.
- Review State laws and administrative procedures to ensure the uniformity of voters' instructions for marking the ballot. Remember to include specific instructions, if required, for ballot marking devices. Example: *black, blue, or red ink; pencils; felt-tip markers.*
- Use vendor-certified or prequalified printing companies. Your contract should include details about paper stock quality and weight, ink density, and other printing specifications. Ask your print vendor to provide you with a copy of its internal quality control procedures. Example: *If the ink density on the ballot is too light, the scanner may have difficulty reading the timing marks. The weight of the ballot paper stock may cause the scanner to jam frequently.*
- To ensure that the ink density is consistent on all ballots, pull ballots from the top, middle, and bottom of the test deck stack.
- Immediately conduct a logic and accuracy test when the ballots arrive from the printer. This test must be successfully completed and validated before mailing

and/or distributing in-person absentee and/or early ballots to voters.

- Store the ballots in an air-conditioned and humidity-controlled environment to prevent the ballot stock from absorbing water.
- Test ballots printed "on demand" before distributing them to voters to confirm that the scanners are able to read the timing marks.
- Develop a "Plan B" in the event that the printed ballots are not delivered on time. Example: *Make copies of your ballot proofs in your office, initial or stamp these copies, and maintain a log to record the ballot style and quantity duplicated. Votes cast on these ballots may need to be hand counted or duplicated onto the appropriate paper stock for your ballot-scanning device.*

Pre-Election Testing—Hardware

- Test all components of your voting system before every election. Test scanners, voting machines, encoders, electronic poll books, printers, dials, buttons, card readers, scanner heads, modems, and exterior of voting booths. Example: *If your ballot cards/supervisor cards are encoded with a specific election ID, they must be retested before each election.*
- Develop an internal checklist as part of your pre-election audit trail. Require each staff member to date and initial the checklist after completing each specific test.

4

- Be aware that many voting system components, such as voting equipment, memory cards, and encoders, contain batteries. Develop an understanding of the expected life of the batteries and have a plan in place to manage battery replacement on Election Day.
- Make a backup server available for election night tabulation purposes. Include system tests of your servers in your pre-election testing procedures. If modems are used, conduct stress tests on the servers in an environment in which all modems receive data at the same time.
- Use a diagnostic card for testing each precinct/central count optical scanner to ensure that the scanner heads are reading properly. Tip: *A can of air spray is a simple, preventive maintenance tool that keeps paper dust from collecting during scanning.*
- The calibration of optical scanners may need to be periodically checked, serviced, and/or cleaned by the vendor to check the sensitivity of the visual light readers to marks on the paper, the type of marker used, and other factors.
- Establish testing procedures to determine the length of time that the voting machines will operate on battery power. Be aware that the batteries may last for a shorter period of time when using the paper trail attachment. Tip: *Train your poll-workers to plug a nightlight into the power outlet where the last machine in the daisy chain is connected to verify that the machines are receiving electricity on Election Day.*

5

Pre-Election Testing—Software Logic and Accuracy

- Prepare test decks to conduct logic and accuracy testing of the printed paper ballots. If you are using a vendor-generated test deck, supplement the test deck with blank ballots and ballots that have been overvoted, undervoted, and hand marked with dots, checkmarks, and X's to check the sensitivity of the scanner heads.
- Review State laws and administrative procedures regarding the types of logic and accuracy tests required. Examples: (1) single-vote test deck, in which a vote is cast for every position on every ballot style; (2) random-vote test deck ("real world" voting), which checks the readability of hand marked dots, X's, and checkmarks and different marking devices (e.g., blue, black, or red ink; pencils; felt-tip markers); (3) pattern-vote test deck, in which the expected vote for each contest is a "3, 2, 1" vote pattern; and (4) special test deck, which includes scenarios for multivote, straight-party, and split-party voting.
- Test each precinct count optical scanner using the memory card specific to that location on Election Day. Internal procedures should follow State guidelines and include collecting a test deck of ballots for that polling place, printing a zero report, scanning the test deck, printing the results tape, validating the results, zeroing out the memory card, and setting the scanner for the election. A checklist should

Quick Start Management Guide for Ballot Preparation/Printing and Pre-Election Testing

be completed and signed for each scanner as part of your pre-election audit trail.

- Test your central count optical scanning equipment using all ballot styles and following the same procedures as those used for your precinct count optical scanners. If you are using more than one central count optical scanner, be sure to run the same test deck on all scanners. Note: This logic and accuracy test must be completed and validated before mailing or distributing ballots.
- Understand how the voting system will tabulate a multipage paper ballot: Will it count each page as a vote cast, or will one of the pages be designated as the "counter" page? If one of the pages will be designated as the counter page, which page will it be? What are your internal procedures if the voter does not return all ballot pages?
- Follow State guidelines for conducting logic and accuracy testing on your voting machines before each election. The testing pattern may include manual logic and accuracy testing and/or automatic logic and testing. Testing patterns should be similar to the tests performed on the paper ballot deck (e.g., single-vote, pattern-vote). Test the audio ballot and the "cancel ballot" function. Collect all checklists and paper tapes from each machine as part of your pre-election audit trail.

- Check the date and time on each voting machine. Tip: *Roll the date and time forward to Election Day on several machines before performing the logic and accuracy test to ensure that the equipment will work correctly on a specific date and time.*
- Finalize the logic and accuracy testing by entering all test votes from the optical scanner and voting machine systems into the central tabulation computer to validate expected outcomes. Review summary reports to verify accuracy. Back up the database and store and seal the test decks, checklists, and other related pre-election audit trail documentation.
- Manage the pre-election testing by implementing chain-of-custody procedures and two-person checks and balances throughout the process. Example: *One staff person records each machine's protective counter number, serial number, and tamper-resistant seal and tape number, and another staff person proofs the numbers and signs off on the transfer report.*

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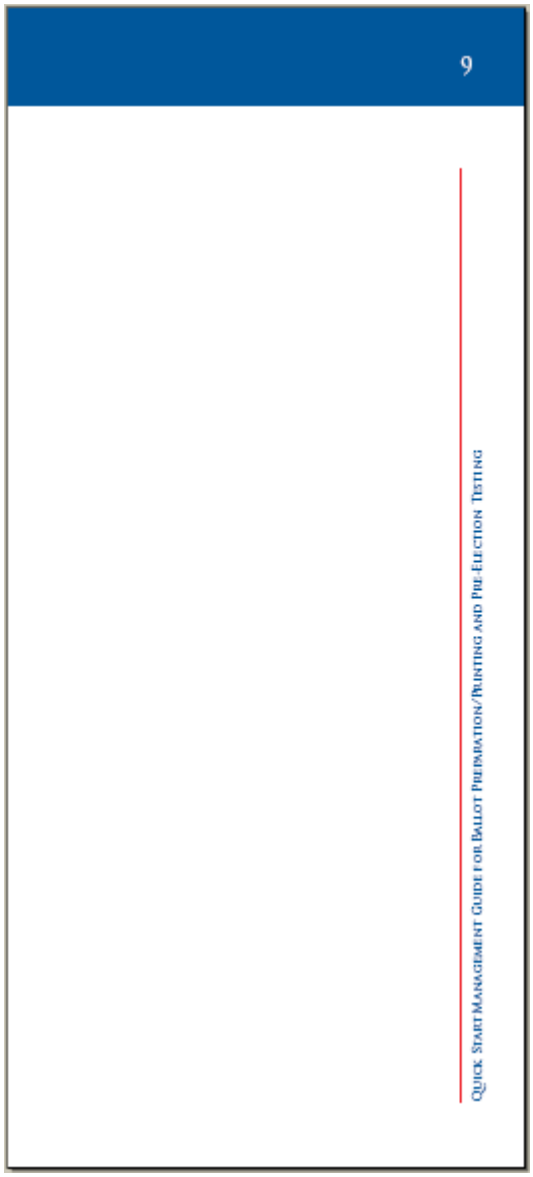
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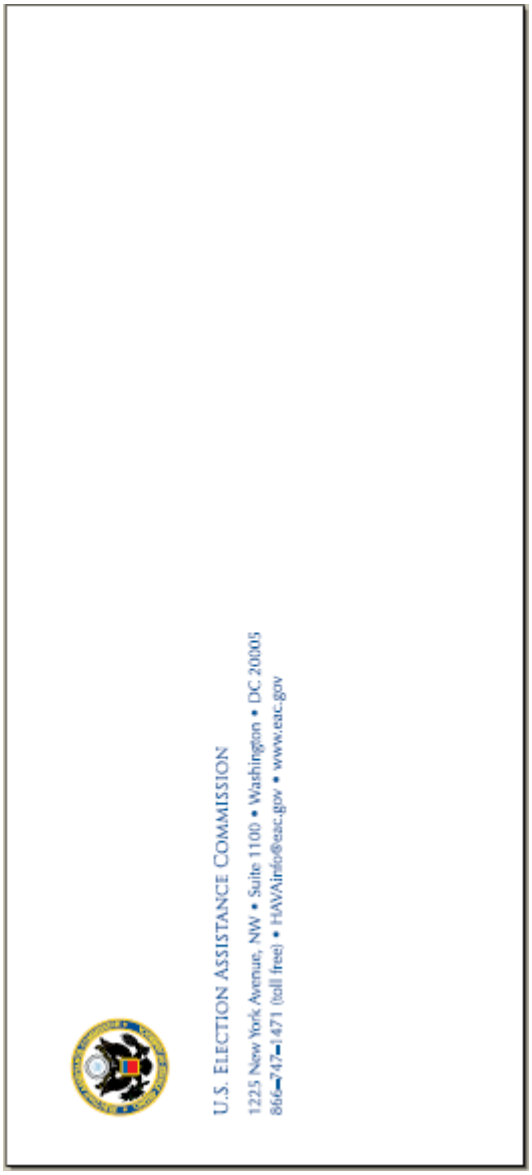
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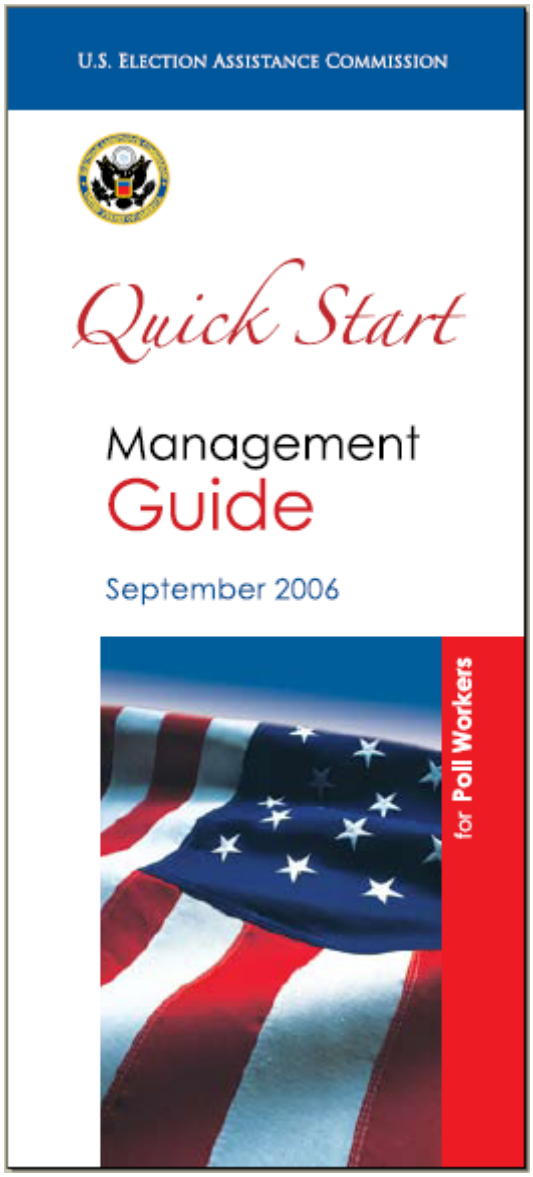
Poll Workers

From http://www.eac.gov/election/quick-start-management-guides/docs/pollworkersqs.pdf/attachment_download/file



The Quick Start Management Guide for Poll Workers is a snapshot of processes and procedures for local election administrators to use for recruiting, training, and retaining poll workers. It is a guide that assists election officials with one of their most challenging tasks—managing the people resources required to conduct an election. A comprehensive Guidebook for Poll Workers is under development and will be released in 2007.

1

Reaching Out to Potential Poll Workers

- Advertise the need for poll workers by posting a sign-up sheet at polling places and early voting locations.
- Use your office Web site by posting an online, interactive poll worker job application and job description. Partner with area businesses/corporations, city/county governments, chambers of commerce, etc., to post a link to your online recruitment application on their Web site.
- Use technology by developing an e-mail blast to reach employees at city/county government and area businesses/corporations.
- Use existing staff and poll workers as an army of recruiters. Ask them to talk to friends and relatives to encourage them to become poll workers.
- Create an informational brochure to distribute at speaking engagements, make available at front counters, insert in mailings, etc.
- Advertise your need in area neighborhood association newsletters, city/chamber/school district newsletters, church publications, multilingual media publications, etc. Incorporate your need for poll workers with other election advertising needs. Example: *Partner with your area cable public access channel to run public service announcements focusing on opportunities for poll workers.*

Quick Start Management Guide for Poll Workers

- Design and print recruitment posters. Display them at area grocery stores, in libraries, at movie theaters, at mass transportation systems, etc.
- Reach out to the media with the specifics for the neighborhoods where you need poll workers—how many, etc.
- Develop community recruiting partnerships:
  - City/County Government Employees—Work with local government management and elected officials to develop a program that encourages department heads to reassign some of their employees to the Election Office on Election Day.
  - High School Students—Establish a recruitment effort by contacting your local high school principals. If State law permits, assign at least one student to each polling place.
  - College Students—Contact college faculty at area universities and community colleges to develop a college poll worker program. College students could also be assigned to assist with pre-election operational needs and may also be available to assist as troubleshooters/rovers on Election Day.
  - Civic Organizations—Reach out to local civic groups and other membership organizations to recruit their membership to work at the polls. Promote this program by suggesting that members use working

at the polls as a "fundraiser" with participating members voluntarily donating their stipends/earnings back to their organization or to the civic organization of their choice.

- Corporations and Businesses—Reach out to companies and businesses to incorporate poll worker service as part of their ongoing community service program that encourages employees to serve as poll workers on Election Day. Promote this program by suggesting they use working at the polls as a "fundraiser" with participating employees voluntarily donating their stipends/earnings back to the civic organization of their choice.

Reviewing Your Training Program

- Review performance and feedback from past elections to determine if poll workers need better training in certain areas of the operation. Use this information to establish priorities for reviewing/updating training techniques.
- Evaluate your Election Day polling place supplies. Are they all necessary, or have changes in procedures or voting systems made some of them obsolete? Are they easy to find on Election Day, or is there a better way to pack them? Example: *Consider asking a group of poll workers to meet and critique supplies and forms.*
- Review the training manual. Does it need to be revised to reflect changes in

procedures or new equipment? Is the information clearly presented? Ask a team of new poll workers to read the manual and provide feedback.

- Consider conducting separate training for experienced and new poll workers and/or specific poll worker positions.
- Determine what materials poll workers will take home from training. Example: *manual, training video/CD, quizzes, scenarios.*
- Determine what equipment and supplies you need for training. If you are implementing new voting equipment, you will need a large number of voting machines that can be used for practice (in "demonstration mode") in training. If you are changing forms or the format of materials, such as the provisional ballot application, the voter list, or the precinct map, make sure to have the revised version available for training.

Updating Your Training Techniques

- Don't re-invent the wheel. Visit other jurisdictions and attend their training sessions. Invite other jurisdictions, the League of Women Voters, or adult education experts to come to your training event to provide feedback. Share ideas with other jurisdictions that use the same election technology.
- Use trainers who know the subject and are experienced in training techniques, or develop a program to "train the trainer." Training and teaching are different

educational approaches. Example: *A schoolteacher may not know training techniques.*

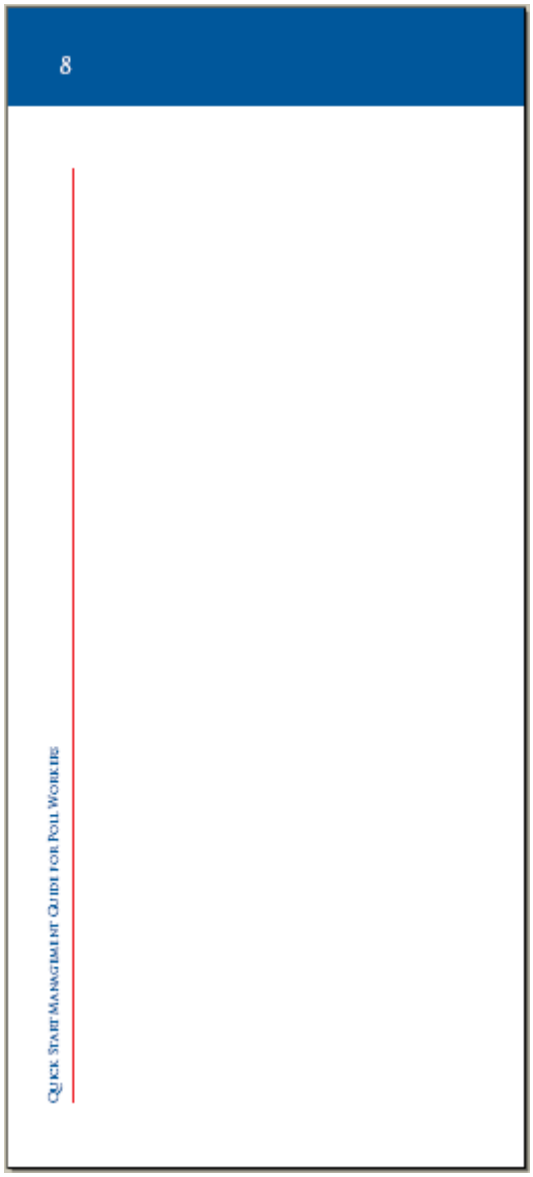
- Use visual aids throughout your training program. Create poster-sized signs to reinforce the most critical information made in training. Post copies of these signs around the training room. Example: *One poster might remind poll workers to take out the memory cartridges from each voting machine at the end of election night. Another poster could remind them to make sure provisional voters sign the provisional ballot application. A third poster might remind them where to find troubleshooting information.*
- Remember to mirror Election Day throughout your training. That is, what the poll worker sees in training—the opening checklist, the list of voters, the paperwork, the job guides—should be exactly what the poll worker will see on Election Day.
- Develop job guides for all poll worker positions. These tools will remind poll workers how to perform a specific role or task at the polling place. Keep the guides short and simple—no more than one page—and easy to read. Use the job guides in training so poll workers know to look for them on Election Day and understand all the information. Example: *Create separate job guides for the poll worker who checks the list of voters, for the poll worker who assists voters whose names are not on the list or whose names are lost, for the poll worker who gives the voter a ballot, and for the poll worker who assists voters with filling out their ballot or voting on the machine.*

- Invite poll workers to provide feedback on the poll worker training program. Develop specific questions. Example: *"Did you feel confident in your ability to open the polls after training?"* or *"Did you encounter anything on Election Day that was not covered in training?"* and, of course, *"What can we do better?"*
- Incorporate real-life Election Day scenarios with your training program. Ask the participants to visualize and/or roleplay by responding with a solution for each scenario. Roleplaying provides an opportunity for the participants to "see" themselves in action on Election Day. Example: *Ask the poll workers to determine how to process a registered voter who has moved to an address in a different precinct.*
- Develop a refresher list of "20 Questions." End the training session program by using the 20 Questions in an interactive Q&A session.

Ensuring Success on Election Day

- Provide a dedicated phone line for poll worker support on Election Day. Election staff should receive specialized training on how to respond to poll workers' questions; for example, how to process a voter or how to open/close a voting machine. Train election staff to document each call and, if necessary, route a support technician to provide quick response to resolve a request for assistance.

- Make sure poll workers have immediate access to a dedicated telephone to place and receive support and emergency calls in their polling place on Election Day.
- Keep it simple. Provide easy-to-follow checklists for opening/closing the polls and flowcharts depicting how to process the various categories of voters (for example, provisional voters). To make it easy for the poll workers to remember important procedures, provide laminated instructional reminders in strategic locations within the supplies.
- Make sure poll workers have an easily accessible troubleshooting guide on Election Day.
- Establish an Election Day support program. Assign troubleshooters/rovers to visit polling places throughout the day to ensure the polling places are set up and open for business and that poll workers are processing the voters correctly. Troubleshooters/rovers can be trained election staff or members of service/voter education organizations. Alternatively, they can be government employees with technical expertise as field technicians who can be recruited from county and city information technology departments. Example: *Develop a checklist to ensure consistency at polling places throughout the county. As part of your Election Day audit, have the troubleshooter/rover and judge sign the checklist and poll worker performance evaluation records.*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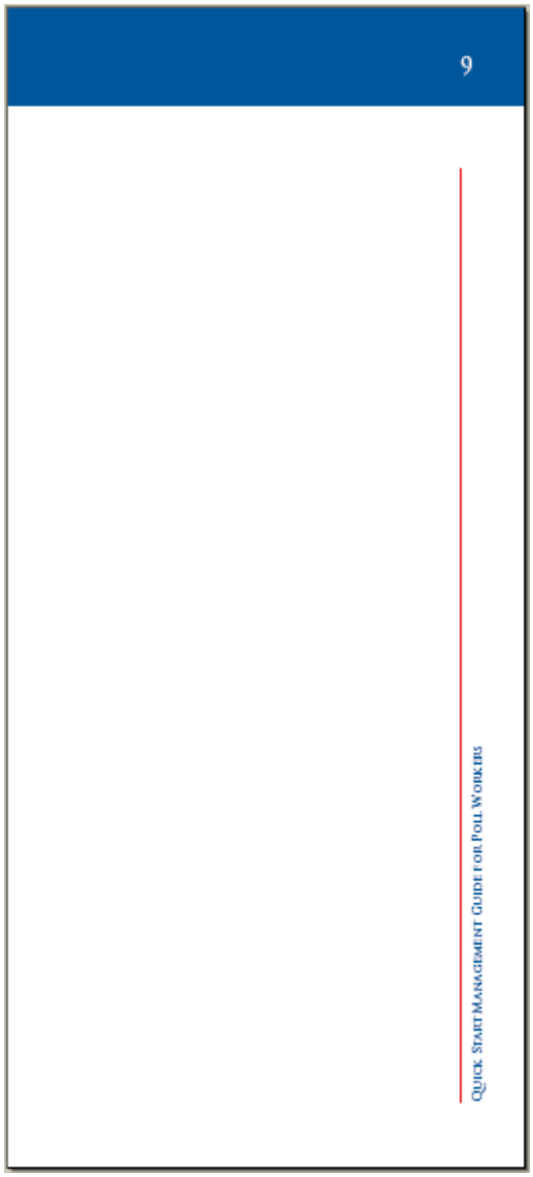
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Quick Start Management Guide for Poll Workers

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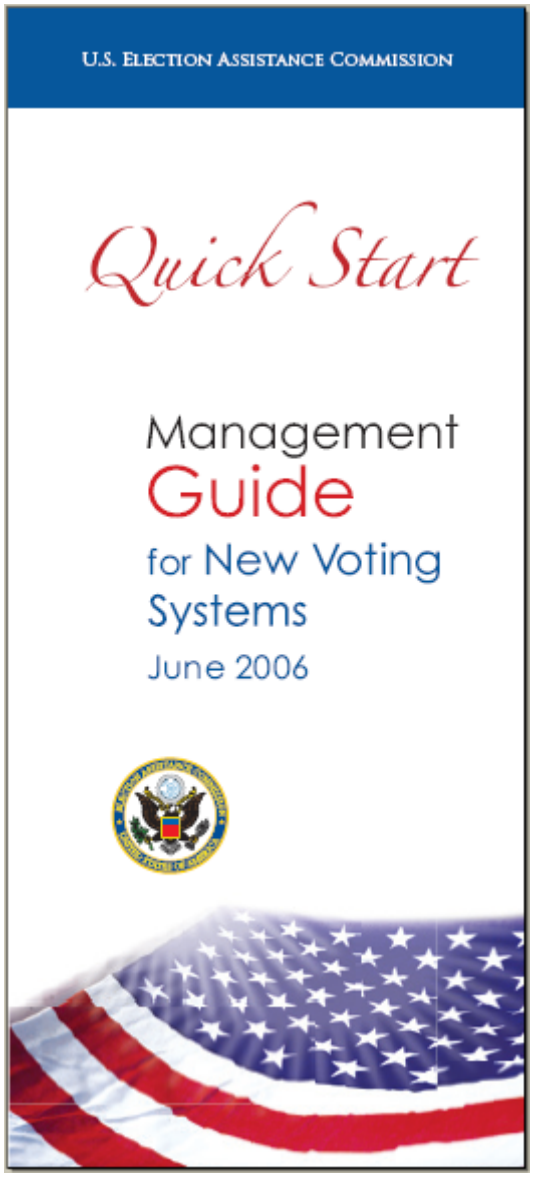
New Voting Systems

From http://www.eac.gov/election/quick-start-management-guides/docs/newsystemsqs.pdf/attachment_download/file



The Quick Start Management Guide is a snapshot of processes and procedures for local election administrators to use when implementing new voting systems. It is not intended to be a comprehensive management tool but a guide that highlights priority items essential to managing a successful election with a new voting system. A comprehensive set of Management Guidelines is under development and will be released in modules over the next several years.

Receiving and Testing

- Request written confirmation from your State election office that the voting system you have selected is certified for use in your State.
- Confirm delivery of all equipment and supplies; develop inventory control procedures that include recording of all serial numbers.
- Test all equipment and supplies (memory devices, voter access cards, ballots, etc.) upon delivery.

Implementation Tips

- Conduct a mock election in your office using the new voting system. Set up two to three mock polling places with your pollworkers staffing the locations. Observe and time the setup and closing tasks; monitor the voter flow; evaluate your supplies and instructions; debrief to evaluate the need for change, etc. The mock election should include opening the polling place, processing voters, closing the polling place, returning supplies, tabulating and reporting the results, preparing for and conducting a recount, including procedures for recounting a voter verifiable paper audit trail (VVPAT), if applicable.
- Have an established point of contact with your vendor.
- Review and evaluate polling places to determine room capacity for equipment needs, including electrical and modem requirements.

- Develop procedures and work flow for return of supplies on Election night. Practice the procedures with staff members, evaluate and debrief this activity, and implement necessary changes and improvements. *Example: If you plan to transmit results by modem from polling places or collection depots, test all equipment and phone lines in a mock election before Election Day.*
- Brainstorm solutions to various scenarios and develop a "Plan B." Ask "What If"—
  - Ballots arrive after delivery deadline?
  - Pollworkers don't arrive with supplies?
  - Phone lines won't work?
  - Voters are standing in long lines?
  - A polling place loses electricity?
  - Voting machines are not operational when polls open or malfunction during the day?
  - Polling places indicate they are low on ballots?
- Coordinate establishment of users groups of common voting systems within your State; register those users groups with the Election Assistance Commission (lotero@eac.gov) to connect with users groups in other States.
- Debrief all aspects of the election with full-time staff, roving technicians, pollworkers, and voters.
- Share your solutions and innovations with your State office, the Election Assistance Commission, and professional organizations.

Public Relations

- Partner with organizations in your community to conduct voter outreach activities to educate voters on the use of your new equipment.
- Communicate with and educate the media, candidates, elected officials, voters, and the general public through public service announcements, online Web tutorials, and printed materials.
- Conduct office tours and open houses to educate the public on the election process and the use of your new voting system.

Pollworker Training

- Develop an easy-to-use, one-page machine-opening/closing checklist for pollworkers.
- Review all polling place supplies and instructions to ensure ease of use.
- Provide hands-on machine training to all staff and pollworkers. Teach pollworkers to open voting machines in teams of two, with one person reading the instructions and the other performing the tasks. Identify a minimum of two pollworkers in each polling place who are well trained in opening and closing the voting equipment. If applicable, include hands-on training on the removal and replacement of VVPAT devices.
- Incorporate roleplaying exercises as part of your pollworker training program. Set up a demonstration polling place and practice Election Day procedures by having

Quick Start Management Guide for New Voting Systems

pollworkers take turns being voters and precinct officials.

- Package simple reminders with polling place supplies to ensure that pollworkers remember the most important details on Election Day.
- Provide an opportunity for pollworkers to practice opening and closing the voting machines during the week before Election Day; keep track of who attends the practice sessions and where they are assigned on Election Day. Identify polling places where pollworkers did not attend practice sessions; prioritize AM/PM support to those locations to assist with opening and closing the machines.
- Provide a means for pollworkers to provide feedback following training sessions, practice sessions, and Election Day.

Programming the Election

- Proofread all ballot styles using a two-person sign-off policy.
- Determine who will print the ballots and consider locating a backup printer for emergency purposes. Use only printers that have been certified to print ballots for your specific voting system.
- Require election office signoff on all ballot proofs before printing; proofread all ballot styles after the ballots are returned from the printer.
- Conduct logic and accuracy (L&A) testing of the ballots before mailing and distributing them to voters.

- Perform L&A testing on every voting machine memory device and every voting machine before every election. For VVPAT users, print several voted ballot audit tapes to determine the length of the VVPAT ballot and use this information to estimate the number of VVPAT canisters or paper rolls that will be required for each polling place.
- Conclude your L&A testing by performing an integrated test, combining results from all sources (optical scan precinct count, central count, and voting machines).
- Review all tabulation reports for accuracy.
- Collect and safeguard the audit trail documentation relating to the testing of the paper ballots and voting equipment for each election.
- Ensure that each voting device has been zeroed out before delivery to each polling place.

Security

- Periodically back up your election database and store off site.
- Develop chain-of-custody logs and proofing logs to ensure two-person integrity at all times. *Example: Two staff members create the test deck of ballots; two different staff members hand count the test deck; different staff members conduct the L&A on the optical scanners and on each voting machine; different staff members proof the results of the L&A tests, including the final integrated test.*

Quick Start Management Guide for New Voting Systems

- Record voting equipment serial numbers, protective counter numbers, and tamper-resistant seal numbers for transport to and from polling places. (One person records the numbers and another person proofs the numbers.)
- Prepare, communicate, and distribute your voting system security procedures, such as the following:
  - Never connect your voting system computer to the Internet or to any internal network.
  - Never allow any software on the voting system computer except the voting system software.
  - Control and monitor access to the voting system computer at all times. Consider securing this computer in a controlled access room and keep a log of everyone who accesses the system, along with the date and reason. Always require two-person integrity when accessing the voting system computer.
- Store all voting equipment supplies, paper ballot stock, and printed ballots in locked rooms. Control and monitor access to these rooms.

Election Day—Opening the Polls

- Consider sending pollworkers to the polling places an additional 1/2 hour before opening the polls until the pollworkers are comfortable with the new procedures and equipment.
- Provide polling place support teams. Assign roving technicians to 10 to 15 polling places and opening and closing helpers to 3 to 4 polling places.
- Develop a polling place checklist for roving technicians to use to assure that all polling places are set up and operating according to established procedures.
- If possible, assign a high school or college pollworker to each polling place.
- Assign AM and PM support technicians to the polling places with the most critical needs; e.g., new polling place supervisor or inexperienced pollworkers. *Example: Partner with city, county, school district, and/or college full-time information technology staff to support three to four polling places close to their home or place of employment. Send them to provide assistance, as needed, before opening the polls and when closing the polls until the pollworkers are comfortable with the new equipment and procedures.*
- Establish a Help Desk phone bank with a unique phone number; assign trained staff members to the phone bank and document all incoming requests for assistance.

Election Day—Processing Voters

- Provide desktop, easy-to-use guides for processing provisional voters vs. regular voters.
- Review polling place setup diagrams to ensure voter privacy when using the voting equipment.
- Post easy-to-read voter instructions on the use of the new equipment, including information on how voters can review their ballots for accuracy when using your specific voting system.
- Develop chain-of-custody and two-person integrity throughout the polling place operation. *Examples: (1) All pollworkers must verify in writing the seal numbers and protective counter numbers when opening and closing the voting equipment. (2) When a voter checks in at the registration table, the voter must be issued a "voter receipt" indicating the voter's party and ballot style. The voter must present this receipt to the machine judge, who activates the voting machine and confirms the ballot style and party with the voter. The machine judge must place the voter receipt in an envelope attached to the voting machine before the voter votes the ballot.*
- Require that pollworkers periodically balance the number of voters processed to the number of ballots in all voting machines.
- Train pollworkers to know how to continue the voting process with minimum interruption in case of an equipment malfunction or other natural or manmade disruption.

Election Day—Closing the Polls

- Provide the same polling place support teams as provided for opening the polls.
- Determine how results will be returned to the central tabulation computer; develop procedures and implement security controls. Options include the following:
  - A pollworker from each polling place drives back to the central election office.
  - A pollworker from each polling place drives to a regional collection location, which periodically drives supplies to the central election office.
  - A pollworker from each polling place drives to a regional collection site, where staff members upload and transfer results to the central election tabulation computer.
  - A pollworker from each polling place uploads and transfers results to the central election tabulation computer.

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Uniformed and Overseas Voters

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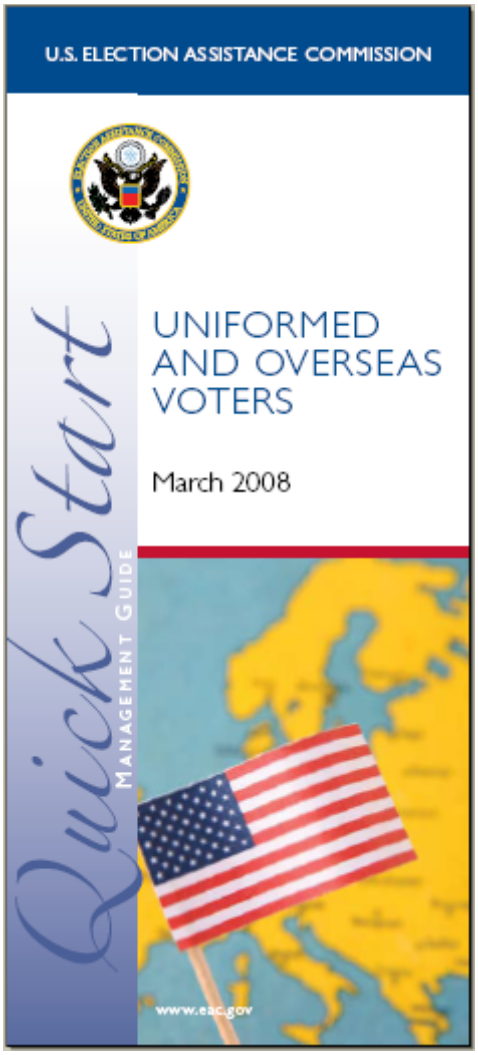


Quick Start Management Guide

Uniformed and Overseas Voters

The Quick Start Management Guide on Uniformed and Overseas Voters is part of a series of brochures designed to highlight and summarize the information contained in the chapters of the U.S. Election Assistance Commission's (EAC) Election Management Guidelines (EMG). The goal of the EMG is to provide a collection of election management guidelines, consolidated into one document, to assist State and local election officials effectively manage and administer elections. These guidelines are solely designed to serve as a source of information for election officials and not as requirements by which they must abide. The EAC expects the EMG to be completed in 2008. However, due to the urgent need for election management resources, EMG chapters and Quick Starts are released as they are completed.

The content of the EMG and the Quick Start Management Guides has been developed in collaboration with State and local election officials and other election professionals who have first-hand experience managing elections. The EAC is grateful for their participation and ensuring the guidelines are practical and applicable for jurisdictions regardless of their size and resources. The EMG and the Quick Starts are available online at www.eac.gov.

2

Introduction

- The Uniformed and Overseas Citizens Absentee Voting Act (UOCAVA) protects the voting rights for Uniformed Services members and members of the U.S. merchant marine, their families and all U.S. citizens residing outside of the United States. The Act is administered by the Federal Voting Assistance Program (FVAP), operating within the Department of Defense. There are currently more than 6,000,000 UOVAVA voters - including over 3,000,000 overseas civilians; 1,400,000 military voters; 1,300,000 military dependents of voting age; and 100,000 federal civilian overseas employees.
- UOCAVA voters face unique challenges in registering to vote, requesting and receiving their ballot, and returning their voted ballot. The most important component in ensuring their right to vote can be summed up in one word: COMMUNICATION. Communication between the local election officials and their state election office; between each state election office and the FVAP; and the ongoing communication between the UOCAVA voter and you – the state/local election official.
- In addition, the Help America Vote Act (HAVA) of 2002, amended Section 102 of UOCAVA to mandate that no later than 90 days after the date of each regularly scheduled general election for Federal office, each State and unit of local government which administered the election must submit to the EAC the combined number of absentee ballots transmitted to uniformed and overseas voters, and the combined number of such ballots returned by such voters and cast in the election.

3

Communicating with UOCAVA Voters

- Wherever possible, utilize technology to communicate directly with UOCAVA voters. Collect email addresses for UOCAVA voters to provide quick contact with the voter to confirm registration status, receipt of absentee ballot, and to provide the UOCAVA voter with a contact person in your office who can quickly answer and respond to their questions. TIP: *Develop your own "news updates" for all of your UOCAVA voters and routinely send the "updates" using your email list.*
- Provide an on-line voter status search tool to enable UOCAVA voters to verify their voter eligibility status. TIP: *If allowed by State law, consider providing an on-line sample ballot by address for UOCAVA voters to print, vote, and return by mail or fax.*
- Develop a special link for UOCAVA voters on your election office website. Include the following information:
  - A link to the Federal Voting Assistance Program website (www.fvap.gov).
  - Information on how to register to vote, including any State-specific laws and regulations. TIP: *Post a link to the electronic version of the Federal postcard application (www.fvap.gov/pubs/onlinefpca.html)*
  - Publish future year election calendars, including registration deadlines.

- Provide details on how to vote and return the ballot to your office. TIP: *Be sure to inform UOCAVA voters about State laws governing when a ballot must be received in order to be eligible to be counted. For example, some states require that a ballot be returned no later than 7:00 p.m. on Election Day, while others allow the UOCAVA ballot to be counted if postmarked on Election Day.*
- Post a direct email link and toll-free phone number to provide UOCAVA voters with a staff representative knowledgeable in this area to answer all questions.

- Take steps to confirm a UOCAVA voter's current address is accurate to ensure the ballot is delivered. A variety of communication methods are recommended by FVAP, including:
  - Utilize telephone, fax, or email contact information provided on the Federal Post Card Application (FPCA) to reach the voter. (NOTE: *Faxes to voters are toll-free to any location in the world by using the FVAP's Electronic Transmission Service, 1-800-368-8683).*
  - If the ballot is returned as undeliverable, be sure to compare the address on the mailing envelope with the address provided by the voter on the absentee ballot request. (NOTE: *Be aware of how your voter registration software manages secondary address information, especially as it relates to printing ballot envelopes and/or labels).*

- Contact the FVAP for assistance in verifying address data through the Department of Defense's personnel database. Submit requests via email to vote@fvap.ncr.gov with the subject "Address Update". Requests must include the name of the voter, date of birth, and if possible, the social security number. FVAP has no access to information on military family members or other overseas citizens.
  (NOTE: *This information can only be provided to election officials if ballots have been returned as non-deliverable).*

- Determine ways to ensure the timely receipt and return of voting information for UOCAVA voters. Many states allow faxing and emailing of materials to avoid delay. Check to find out if any of the following are permitted by your state:
  - Sending the FPCA or registration and ballot request by fax or email,
  - Receiving the blank ballot by fax or email,
  - Returning the voted ballot by fax or email

Developing Office Guidelines for Serving UOCAVA Voters

- Prior to every election cycle, review and update procedures pertaining to UOCAVA voters. Be sure that a minimum of two staff members are cross-trained on this topic. **Tip:** *This is also an excellent opportunity to reinforce new State and Federal requirements and deadlines regarding UOCAVA voters.*
- Review the EAC's Best Practices on Military and Overseas Voters available on the EAC's website, www.eac.gov.
- Provide staff with copies of the Voting Assistance Guide (available from the FVAP). This reference book provides information about residency requirements in other states.
- Add questions to your state voter registration form (i.e. "Are you a military, overseas civilian, or dependent?"). This provides an additional opportunity for you to identify voters that fall into the UOCAVA category.
- Understand the definition of "legal voting residence." This is the address within the State or territory where the UOCAVA voter last resided before entering the military or the last State or territory that was claimed as their legal residence. Military and family members may change their legal residence every time they change permanent duty stations or they may retain their legal residence without change. (**Note:** *Family members may have a different legal voting residence from the military member).*

- For overseas citizens, the "legal voting residence" is the address within the State or territory where they lived before leaving the United States. This is the same legal residence for family members of U.S. citizens residing overseas. (NOTE: *For family members who have never lived in the United States, they may claim one of their parents' legal State or territory of residence as their own, if allowed by the State).*
- Build a partnership with your local Post Office branch to ensure special handling for UOCAVA outgoing and incoming ballots. Review the domestic mail manual for information on how to use the postage-free indicia. For information on preparing and sending election mail, visit the United States Postal Service Election Officials' Mailing Resources site at: www.usps.com/electionmail.
- Evaluate your voter registration software to ensure that the system will track the number of voters in this category, as well as the number of ballots issued and number of ballots returned.

Understanding Forms and Procedures for UOCAVA Voters

- The Federal Post Card Application (FPCA) is a postage-free card, printed and distributed by the FVAP for use by all voters covered by UOCAVA. All States and territories accept the FPCA as the voter registration and absentee ballot application for UOCAVA citizens only. The extent of its use is governed by State and territorial law.
  Reminder: *You are required to mail ballots to the UOCAVA voter for each election for Federal office through the next two general Federal elections, unless the voter specifically requests otherwise.*
- The Federal Write-In Absentee Ballot (FWAB) is often referred to as a "back-up" ballot. It is available to UOCAVA voters who do not receive their regular absentee ballot. The FWAB is used to vote for Federal offices in general elections. Some States allow the use of the FWAB in elections other than general elections. (NOTE: The FWAB is only valid when a regular ballot from a State or territory has already been requested, in a timely manner, and has not been received).

Most Important Things to Remember

- UOCOVA voters move frequently, and often with little or no advance warning. Develop procedures and methods to keep accurate and current records for these voters.
- Be on the alert for any changes in Federal and State law. Review the FVAP's Web site as well as your own State's link. Review your internal procedures and make changes as needed.

QUICK START MANAGEMENT GUIDE

- Prepare voting materials for UOCAVA voters in advance. Consider mailing a "notice of election" letter to all UOCAVA voters prior to every election in order to confirm their current mailing address.
- Process all applications received after the initial 45 day mail period as quickly as possible.
- Devote a section of your Web site to UOCAVA voters and provide a link to the FVAP's automated Federal Post Card Form.
- Consult your State Election Director for questions. Consider partnering with large military establishment jurisdictions in your State to develop a State procedure checklist.
- Develop a network within your State of staff members that manage UOCAVA voters. Encourage communication and collaboration to develop new and uniform techniques and methods for improving the registration and voting processes for UOCAVA voters in your State.
- Communicate your practices and procedures to the State Election Director and the FVAP to ensure accuracy and correctness.
- Collect statistics regarding UOCAVA voters and the issuance and return of ballots that fall into this category for State and Federal reporting purposes.

10

Federal Voting Assistance Program Contact Information

Mail

Federal Voting Assistance Program
Department of Defense
1155 Defense Pentagon
Washington, DC 20301-1155

Telephone

Toll-free: 1-800-438-VOTE (8683)
Commercial: (703) 588-1584, DSN 425-1584
International Toll-free numbers are available at
www.fvap.gov/services/tollfree.html

Staff can be reached from 7:30a.m. to 6:00p.m.
Eastern United States Time, Monday through Friday.
Messages can be left 24 hours a day, 7 days a week.

E-mail

vote@fvap.ncr.gov
World Wide Web
www.fvap.gov

Electronic Transmission Service (ETS)

Toll free within the U.S. 1-800-368-8683
Commercial (703) 693-5527
International Toll-free numbers are available at
www.fvap.gov/services/faxing.html

For information regarding this publication or to request additional copies, please, contact:

Address
U.S. Election Assistance Commission
1225 New York Avenue, NW, Suite 1100
Washington, DC 20005
Attn: Election Management Guidelines

Telephone
(202) 566-3100
(866) 747-1471 (toll free)

Fax
(202) 566-3127

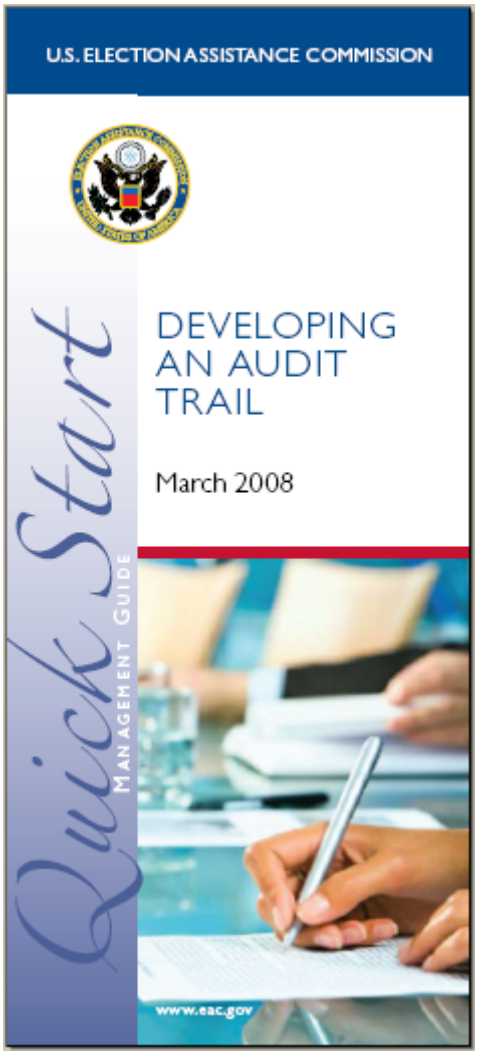
E-mail Address
HAVA info@eac.gov

Website
www.eac.gov

The EAC is an independent bipartisan commission created by the Help America Vote Act of 2002 (HAVA). It is charged with administering payments to states and developing guidance to meet HAVA requirements, implementing election administration improvements, adopting voluntary voting system guidelines, accrediting voting system test laboratories and certifying voting equipment and serving as a national clearinghouse and resource of information regarding election administration.

Developing an Audit Trail

From http://www.eac.gov/News/docs/qsmg-developing-an-audit-trail-march-2008.pdf/attachment_download/file



Quick Start Management Guide

Developing an Audit Trail

The Quick Start Management Guide for Developing an Audit Trail is part of a series of brochures designed to highlight and summarize the information contained in the chapters of the U.S. Election Assistance Commission's (EAC) Election Management Guidelines (EMG). The goal of the EMG is to provide a collection of election management guidelines, consolidated into one document, to assist State and local election officials effectively manage and administer elections. These guidelines are solely designed to serve as a source of information for election officials and not as requirements by which they must abide. The EAC expects the EMG to be completed in 2008. However, due to the urgent need for election management resources, EMG chapters and Quick Starts are released as they are completed.

The content of the EMG and the Quick Start Management Guides has been developed in collaboration with State and local election officials and other election professionals who have first-hand experience managing elections. The EAC is grateful for their participation and ensuring the guidelines are practical and applicable for jurisdictions regardless of their size and resources. The EMG and the Quick Starts are available online at www.eac.gov.

2

Introduction

- Ensuring elections are administered fairly, accurately, transparently, and efficiently requires creating documentation of each component involved in the development and conduct of an election. These components include all pre-election, Election Day, and post-election activities; examples include, but are not limited to, candidate filing forms, voter registration lists, verification of voting systems, poll workers, etc. Documentation of these processes may also serve to prove the accuracy and validity of an election in a court of law and resolve questions regarding the integrity of the election.
- Furthermore, developing a formal record (audit trail) of an election's components is an essential tool for election administrators to accurately evaluate the strengths and weaknesses of the processes established to conduct an election. It is therefore important to establish accurate methods and procedures for documenting and reviewing an election's audit trail.

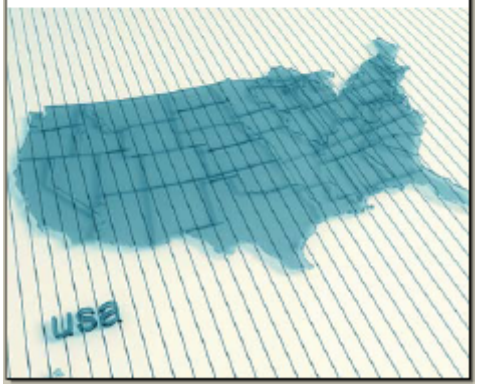
Documenting voting precincts, districts, and voter registration data

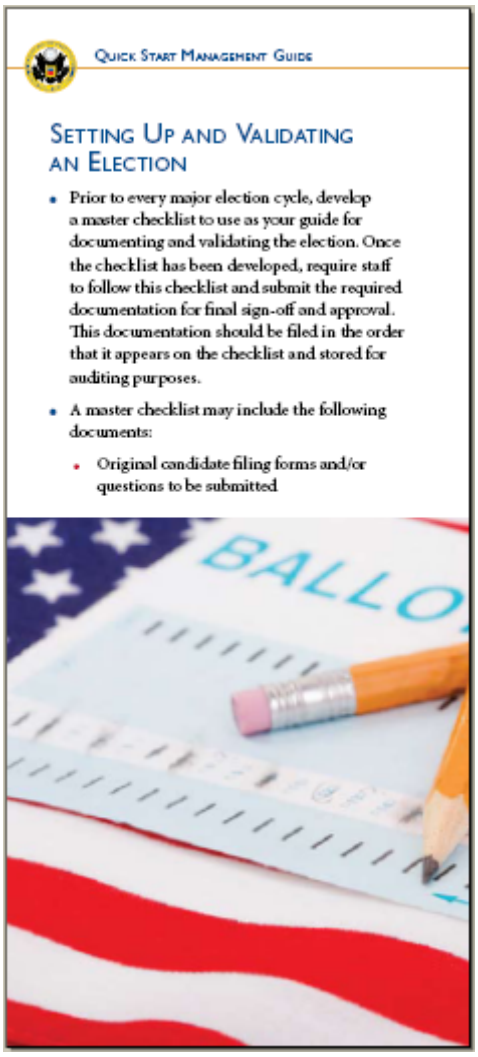
- Each election is unique and involves specific races and/or questions. The first step in setting up an election is determining which districts and precincts will be included in the election. In many jurisdictions, precincts can be divided by district lines, resulting in what is referred to as "split precincts." It is important to understand the correlation between census tracts, voting precincts, and voting districts. Begin your documentation process for each election by printing and validating the following reports from your voter registration software:
  - Listing of all precincts and districts assigned to each precinct.
  - Listing of any split precincts, if applicable, and districts assigned to each.

These reports will verify that all precincts for an election are associated with the correct district.

Tip: *Merging the data in the voter registration software with GIS will allow you to visually verify and confirm that the data is accurate.*

- Understand the design and features of your State's and/or jurisdiction's voter registration software. Confirm that the software has the ability to validate that all residential addresses are assigned to a specific precinct. If possible, consider printing a validation report as a component of your election audit trail.
  TIP: *Flag any addresses that serve as post office box repositories.*
- Confirm that your software has features that will not allow a voter record to be processed unless the user completes the entire transaction.
  EXAMPLE: *A data entry staff member inadvertently skips part of the process required to enter a new voter record. Should that happen, the voter record may appear to be processed, but would not be associated with a precinct which means the voter's name would not appear on the precinct voter list on Election Day.*





QUICK START MANAGEMENT GUIDE

SETTING UP AND VALIDATING AN ELECTION

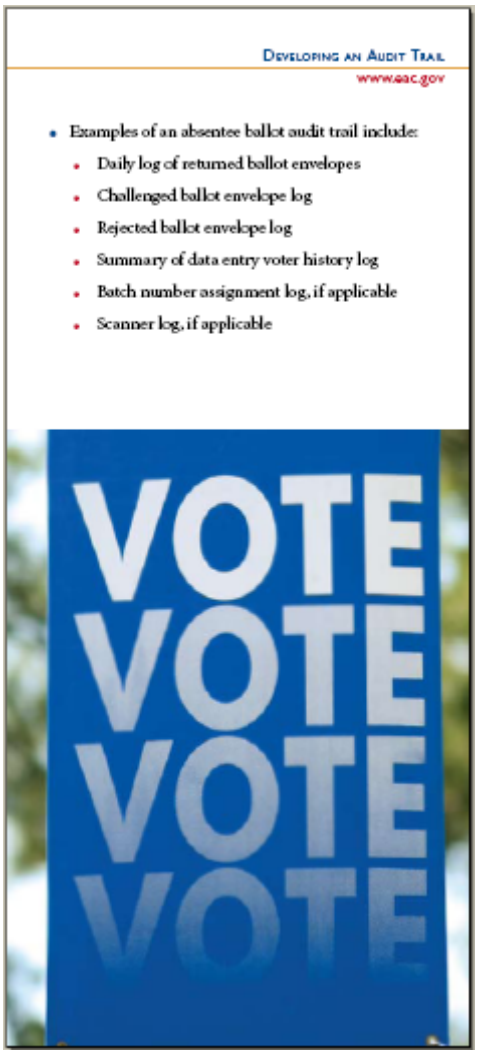
- Prior to every major election cycle, develop a master checklist to use as your guide for documenting and validating the election. Once the checklist has been developed, require staff to follow this checklist and submit the required documentation for final sign-off and approval. This documentation should be filed in the order that it appears on the checklist and stored for auditing purposes.
- A master checklist may include the following documents:
  - Original candidate filing forms and/or questions to be submitted

- Computer printout after data is entered, with dual sign-off indicating that it has been validated to the original documents
- System validation report that verifies the precincts associated with an election are assigned to the correct polling places
- Any other reports that are developed for distribution to the public. These include legal publications, candidate listings, polling place listings, etc. –if these reports are developed by staff working outside of the election setup software (i.e. word processing).
- Ballot styles for proofing purposes
- Any unique State requirements (i.e. candidate rotation report)
- Document confirming that each unique ballot style has been validated against the candidate and district/precinct lists
- Final, approved copy of the ballot deck sent to the printer
- Ballot proofs returned by the printer, proofed to the approved ballot deck sent to the printer

NOTE: *If the office uses separate, nonintegrated systems to maintain information (i.e. Web site information and separate poll worker and polling place databases) make sure to evaluate and address the potential risks posed by this (i.e. dual data entry of critical data).*

Maintaining the Outgoing and Incoming Audit Trail for Absentee and Early Voting Paper Ballots

- Develop internal reporting procedures to verify that all requests for absentee/early ballots are balanced on a daily basis to the envelopes printed for ballot stuffing. Tip: *Create a daily log sheet for staff to enter the number of applications processed. The same log sheet should keep record of the number of envelopes printed, stuffed, sealed, and delivered to the post office on a daily basis. There should be dual-staff sign off at each step of the process.*
- Establish the same controls for ballots returned by mail. Develop internal procedures to record and verify the number of ballot envelopes returned, number of ballot envelopes challenged, and number of ballot envelopes authorized to be opened. These log sheets become a part of the internal audit trail for absentee/early ballots.
- Confirm that the number of voter records receiving voter history for each day's returned ballot envelopes matches the number of ballot envelopes flagged as receiving voter history. Verify this number by printing reports from your voter software on a daily basis. These reports also become a component of the absentee/early ballots audit trail. Tip: *It may help to use the analogy that an absentee ballot return operation can be similar to working in a bank. For example, each ballot envelope can represent a dollar bill; they must be counted, bundled, and balanced at the end of each day.*



DEVELOPING AN AUDIT TRAIL
www.eac.gov

- Examples of an absentee ballot audit trail include:
  - Daily log of returned ballot envelopes
  - Challenged ballot envelope log
  - Rejected ballot envelope log
  - Summary of data entry voter history log
  - Batch number assignment log, if applicable
  - Scanner log, if applicable

Documenting Outgoing Polling Place Supplies and Equipment

- Validate that the supply case for each polling place contains all of the materials required for Election Day. Maintain a checklist for each supply case to ensure all contents have been properly packaged. Require that two staff members confirm the contents and sign off on the checklist. Each of the supply case checklists become a part of the audit trail for the election.
- Identify the Election Day supplies considered to be critical to the conduct of the election and develop a separate checklist and documentation method for these items. Examples include: provisional ballots and envelopes, voter machine activation cards, voter registration list, and voting machine keys. TIP: *Create a policy that requires the staff designated as "Supply Supervisor" to conduct the final audit of these documents and sign off on the checklist; these will become part of the election's audit trail.*
- Identify the polling place supply documents that will be archived as a part of the election audit trail. Examples include:
  - Voting machine opening zero tapes and closing results tapes
  - Opening and closing validation reports (confirming voting machine serial numbers and security seals/tapes)
  - Voter lists with voter signatures
  - Voter receipts or acknowledgement cards
  - Provisional ballot signature list
  - End of day tally sheets

Documenting the Preparation and Delivery of Voting Equipment

- Develop internal checklists for acceptance testing, diagnostics, and logic/accuracy testing of the voting equipment. Maintain a complete set of checklists for each machine used in each election. Create a centralized filing system to store and archive these documents. Examples to be included in each machine's file folder are:
  - Acceptance testing checklist
  - Logic and accuracy checklist
  - Pre-election checklist (includes information such as protective counter number, protective seal numbers, etc.)
  - Machine tapes and other printed supporting documentation validating logic and accuracy testing
- Use individual polling place delivery sheets to verify the delivery of polling place supplies and equipment prior to Election Day. Require dual person sign off on each delivery sheet – the signature of the delivery person and the signature of the person accepting delivery at each polling place location. These delivery sheets become a part of the audit trail for each election. Tip: *Maintain documentation that all seals are intact and the seal numbers match the numbers recorded prior to delivery.*

DEVELOPING A POLLING PLACE AUDIT TRAIL

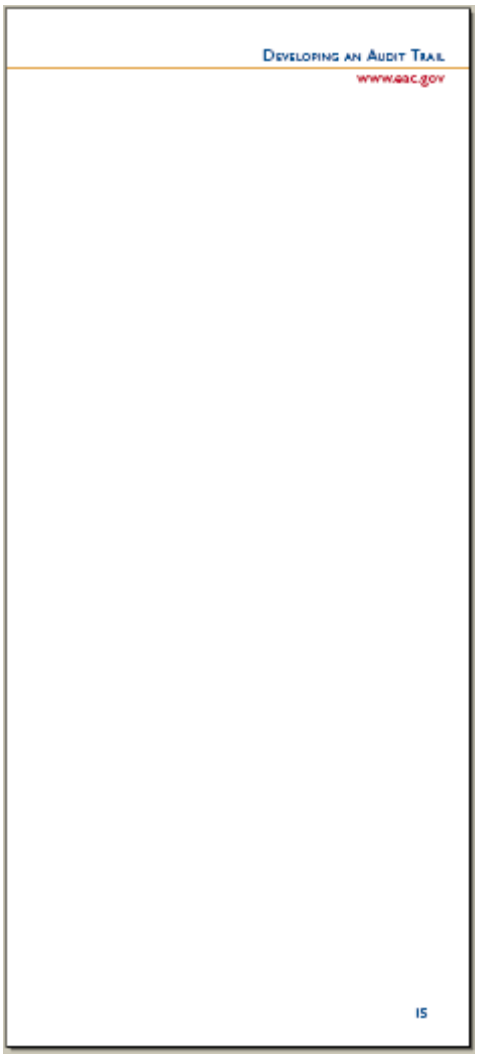
- Educate poll workers, in particular those with supervisory roles, about the importance of separation of duties and the significance of the audit trail created at each polling place on Election Day. Their participation in this process is critical to the success of the audit trail.
- Develop a checklist for performing an audit of each polling place.
- Package supplies so that the first item removed from the supply case is the first step involved in creating the audit trail for the day. Examples of the polling place audit trail include:
  - Opening verification form confirming voting machine serial numbers and protective counter numbers and acknowledging that security seal numbers are intact.
  - Opening zero tapes printed from each voting machine
  - Confirmation of the correct paper ballot styles and quantity
  - Signed poll worker oath of office forms
  - Mid-tally sheets (if applicable, used to balance voters checked in to votes collected throughout the day) TIP: *Train poll workers to think of each voting machine as an individual cash register containing dollar bills (votes). Money (votes) collected throughout the day must balance to the cash register tape (VVPAT).*
  - Closing verification form confirming voting machine serial numbers, end of day protective counter numbers, and closing security seal numbers.

- End of day closing tapes printed from each voting machine
- Confirmation of remaining quantity of paper ballot by style and precinct
- Closing balance form, used to record total number of voters processed – balanced to votes collected in all voting machines and/or paper ballots

- Provide poll workers with an easily identifiable closing package, along with the checklist, for their use in returning the Election Day audit trail documents to the election office. TIP: *Consider establishing an incentive program to reward poll workers who successfully complete the audit paperwork and return all required documents in the polling place closing package.*
- Train Election Day "rovers" to use a checklist for each polling place to ensure that all setup procedures have been followed both outside and inside the polling place. Require that the rover and the supervising poll worker sign off on the checklist for each polling place. This checklist becomes a component of the Election Day audit trail.

Performing a Post-Election Audit

- Recruit and train staff for the purpose of managing and completing the post election audit. TIP: *Partner with other county agencies (i.e. Budget, Audit, or Finance Offices) to borrow staff members to assist your office with this task.*
- Review the checklist developed for performing an audit of each polling place. Begin by gathering all of the closing packages for each polling place; then inventory the contents and review all documentation.
- Assign teams to separate tasks: one team to reconcile voters processed to votes collected; another team to reconcile voting machine opening and closing forms and tapes; and another to balance paper ballots delivered, minus ballots issued, equals unused ballots returned; etc.
- Conduct the audit in an assembly line fashion, with a final validation of all components by the final staff team. NOTE: *State law may also require additional random audits.*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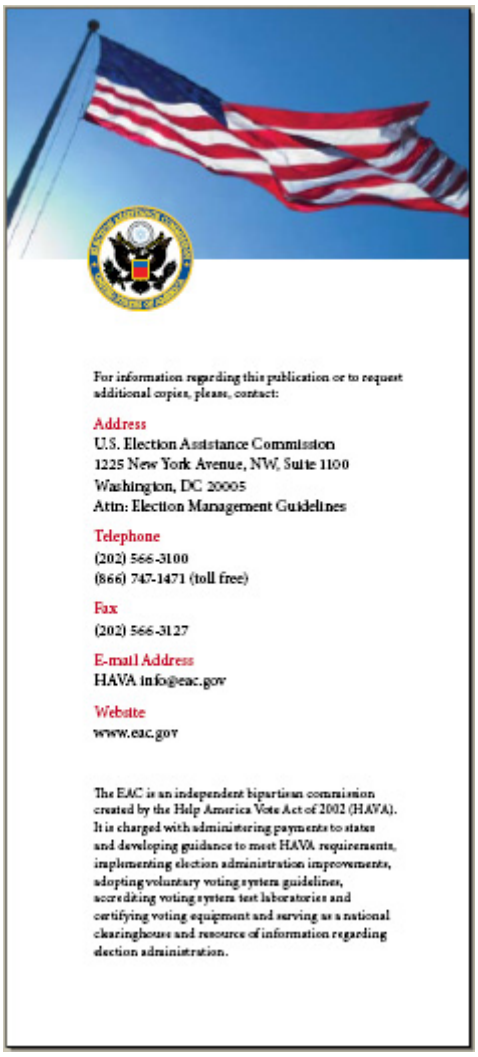

For information regarding this publication or to request additional copies, please, contact:

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Fax
(202) 566-3127

E-mail Address
HAVA info@eac.gov

Website
www.eac.gov

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Part 13: Appendix

Part 13 contains information about the following topics.

- Appendix A: Certification by Logic and Accuracy Board
- Appendix B: Certificate of Biennial Inspection
- Appendix C: Manuals
- Appendix D: Hard Codes and Variable Names
- Appendix E: Security Seals, Locks, and Tape
- Appendix F: Windows XP Hardening and Verification
- Appendix G: ES&S Software Validation Phase II and ES&S Software Validation Phase III
- Appendix H: ES&S California County Operating System Install and Upgrade to Unity 3.0.1.1
- Revision History

Appendix A: Certification by Logic and Accuracy Board

Certification by Logic and Accuracy Board

We, the undersigned, having been appointed by the elections official in the county named below to verify the logic of the computer vote count program for the election indicated below, as required by the Procedures adopted pursuant to Elections Code section 19205, do hereby certify through the elections official to the Secretary of State:

THAT the pre-vote counting tests, as defined in the above mentioned procedures, have been performed;

THAT the pre-vote counting test results have been compared with the pre-determined correct totals for each office and ballot measure;

THAT the cause of any discrepancy was found and corrected; and,

THAT the logic test programs, test ballot cards, and test printed output which were certified as correct by the Logic Verification Board were delivered into the custody of elections official.

ELECTIONS OFFICIAL'S NAME AND TITLE	
COUNTY	ELECTION DATE
VOTE COUNTING SYSTEM	
PRINTED NAME OF FIRST BOARD MEMBER	
SIGNATURE OF FIRST BOARD MEMBER AND DATE	
PRINTED NAME OF SECOND BOARD MEMBER	
SIGNATURE OF SECOND BOARD MEMBER AND DATE	

Appendix B: Certificate of Biennial Inspection

Certificate of Biennial Inspection

I, the elections official named below, hereby certify that in the normal course of pre-election hardware maintenance and testing of our voting and vote tabulating equipment, for the election indicated below, that I have found the voting and vote tabulating equipment for the city/county named below to be operating correctly and accurately. This certificate is issued pursuant to Elections Code section 19220.

ELECTIONS OFFICIAL'S NAME AND TITLE	
ELECTION DATE	COUNTY
SIGNATURE AND DATE	
SEAL	

Appendix C: Manuals

Refer to the following manuals for more information about ES&S Unity® software and equipment.

Model 100 Operator's Manual v. 5.2 (2/9/06

Model 650 Operator's Manual v. 2.1 (2/16/05)

Election Data Manager User's Guide v. 7.4 for Unity 3.0 (4/14/06)

ES&S Image Manager User's Guide v. 7.4 for Unity 3.0 (3/22/06)

Hardware Programming Manager User's Guide v. 5.2 for Unity 3.0.1 (11/18/05)

Data Acquisition Manager User's Guide v. 6.0 (1/9/06)

Election Reporting Manager User's Guide v. 7.1 for Unity 3.0 (11/18/05)

Model 100 System Maintenance Manual v. 9.1 (6/10/05)

Model 650 System Maintenance Manual v. 2.1 (12/16/05)

ES&S Technical and Election Terms Glossary (8/31/04)

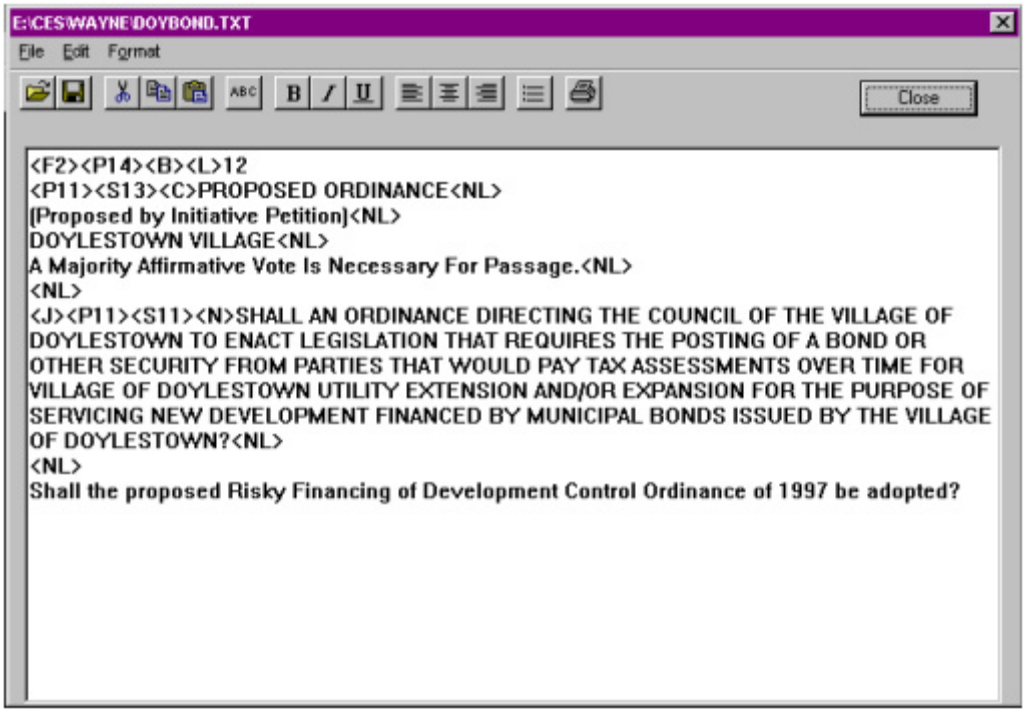
Tips for a Secure Election (5/12/06)

Appendix D: Hard Codes and Variable Names

Use hard codes to force format text in ballot text files and use variable names to place changeable precinct information (such as precinct names and ID numbers) on your ballots. Assign hard code tags to your text to format ballot information. Each hard code tag begins and ends a format change. Text that appears after a tag holds the format attribute for the tag until another tag changes the format. For example, if <I> (italics) is selected, text that appears after the <I> tag appears in italics until another hard code such as <N> (normal) or <B> (bold) is placed in the ballot text.

NOTE: When you type in hard codes and variable names, make sure you close the brackets or bracket code appears on screen with your text.

A sample question using hard codes appears below. The first line of the question, “<F2><P14><B><L>12” sets the number 12 in the question to <F2>=Times Roman Font, <P14>=Point Size 14, <B>=Bold, and <L>= Left Justified.



Hard Codes

Use the following hard codes to format ballot text.

Hard Codes

Use this code...	To create this format...
<F0>	Arial
<F1>	Helvetica
<F2>	Times Roman
<F3>	Courier
<F4>	MS Sans Serif
<F5>	Pica
<F6>	Elite
<F7>	Arial Super
<F8>	Wingdings
<F9>	Symbol
<F10>	Zapf Dingbats
<F11>	Zapf Chancery
<F12>	Arial Narrow
<F13>	BallotRightFont
<TC0>	Reverse Type
<Pn>	Point size n = Number for example, P10 = point size 10
<Sn>	Line size
<J>	Justified
<L>	Left justified
<R>	Right justified
<B>	Bold
<N>	Normal (needed only after hold)
<I>	Italics
<U>	Underline
<Tn>	Tab
<NL>	New Line

Hard Codes *(continued)*

Use this code...	To create this format...
T5	Tab in 5 spaces
^P12	Inserts a page break for the 12-inch iVotronic
^P15	Inserts a page break for the 15-inch iVotronic

Variable Names

Use the following variable names to include changeable ballot information, such as precinct names and ID numbers from the ballot data file in your ballot text.

Use this variable name...	To include this changeable ballot information...
<GEO>	Precinct Name part 1
<GEO2>	Split Name
<GEONAME>	Places the precinct name for each ballot style. Often used in the Title Instructions for vote by mail ballots.
<GEOABBR>	Precinct Abbreviation
<GEONUM>	Precinct number (precinct number 1, 2, 3, etc.)
<GEOPROD>	USE Production code
<GSTYLENUM>	Ballot Style number (This is the middle number of the USE Production code)
<GEOTXT1>	Precinct Additional Text1
<GEOTXT2>	Precinct Additional Text2
<GEOTXT3>	Precinct Additional Text3
<GEOTXT4>	Precinct Additional Text4
<GNAME>	District Name
<GLEFTCODE>	Decimal value of left header code (ES&S Optech ballots)
<GRIGHTCODE>	Decimal value of right header code (ES&S Optech ballots)
<MERGE>	The date the election file was merged
<DATETIME>	Current Date & Time
<VERSION>	Layout Version

Use this variable name...	To include this changeable ballot information...
<GPAPPCODE>	Pages Applicable
<G_ _ _ _>	District type - place the first four letters of the District type name after the “G”
<GballotNumber>	Ballot Serial Number (AIS BOD only)
<Gjurisdiction>	County Name
<GTYPECODE>	Two-digit ballot type code (AIS only)
<GSEQCODE>	Four-digit ballot sequence code (AIS only)
<GSPLITCODE>	Two-digit ballot split code (AIS only)
<GTSSCODE>	Type Sequence Split Code
<GPAGENUM>	Page number (CES only)
<GPAGESIDE>	Sets whether the page is the left or right side (CES only)
<GELECTIONNAME>	Name of election
<GELECTIONDATE>	Date of election
<GCLERKNAME>	Name of County Clerk
<GEOID>	Precinct ID
<GCOLOR>	Color assigned to ballot pages (CES only)

Appendix E: Security Seals, Locks, and Tape

There are a variety of security methods you can use to secure ES&S equipment. The following paragraphs describe the ways you can use integrated locks and keys and/or security seals/tape to secure ES&S equipment.

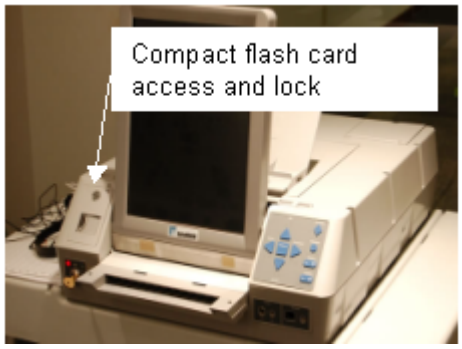
ES&S recommended security devices may be obtained from http://www.essvote.com/supplyshop3/. Following is a list of some of the security devices available at the ES&S Supply Shop site. Whichever security devices are used, the California Secretary of State requires they be used in the locations shown in the following photographs.

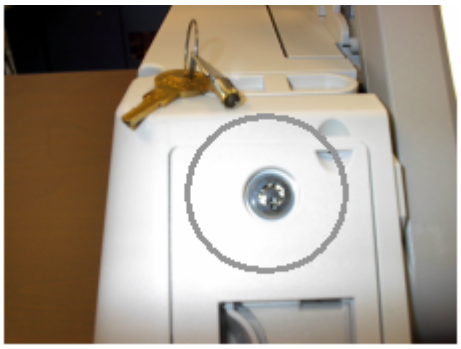
- Plastic padlock seal - numbered (package of 100)
- Pull-tite seal - numbered (package of 100)
- Blue memory pack seal - numbered (package of 100
- Lead wire seal 12” - not numbered
- Lead wire seal 6” - numbered
- Ballot box seal
- Chamber bag seal - numbered
- Tamper-evident label (sticker)
- Chamber bag seal, bar code
- Michigan metal seal - 5/16” wide
- Pull seal, numbered - 5.5” (package of 250)
- Pull seal, numbered - 8.375” (package of 250)

- Easy twist wire seal - 8”
- Fast seal - 8”
- Fast seal - 10”
- Roto wire seal - 8”

AutoMARK

Following is the AutoMARK® compact flash card access with key lock. This prevents unauthorized access to the compact flash card.



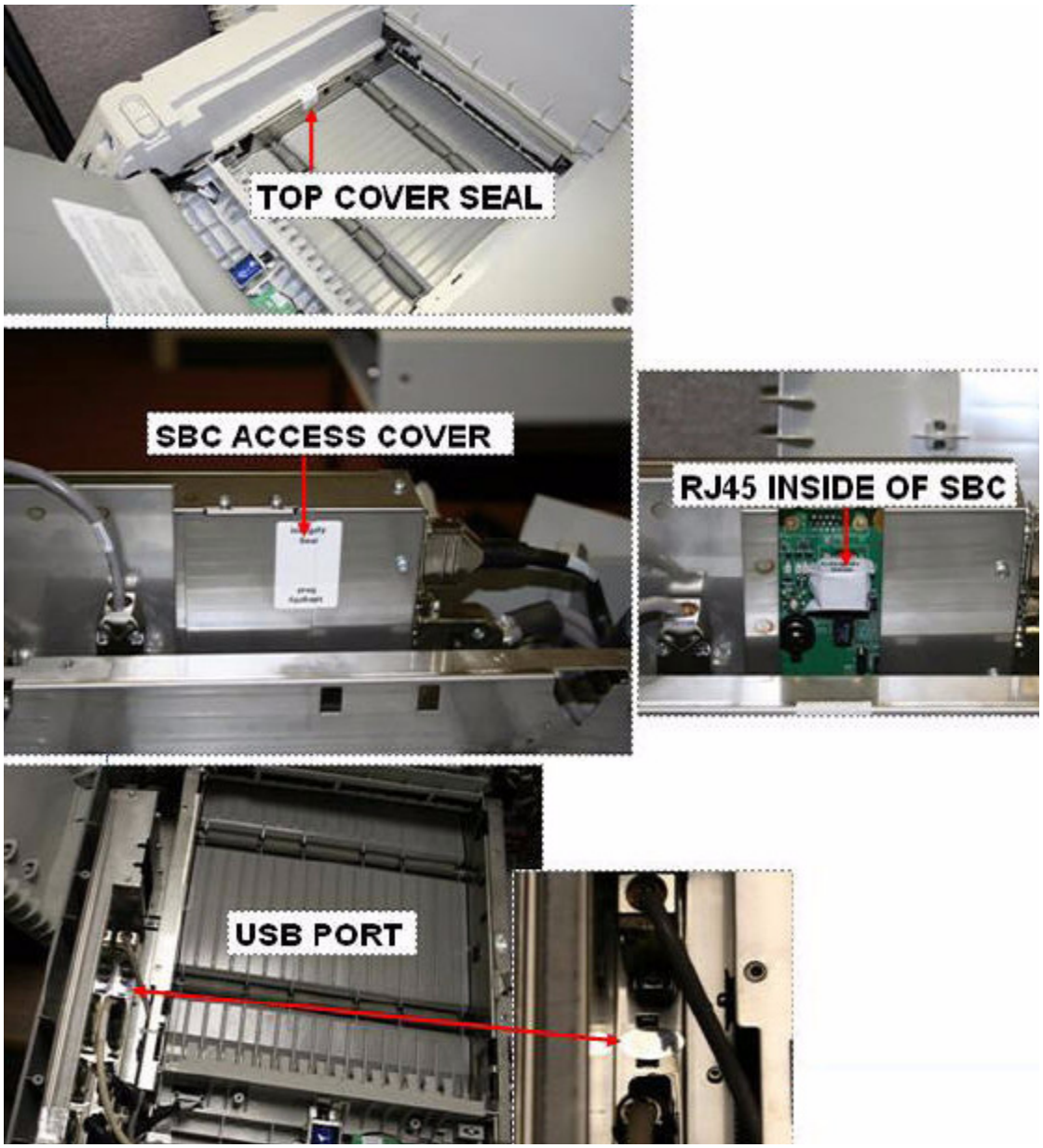


The following AutoMARK compact flash card access is shown with tamper-evident tape and a wire seal. These are used to prevent unauthorized access to the compact flash card.

The back of the following AutoMARK is shown with tamper-evident tape and a wire seal. These are used to prevent unauthorized access to the ink cartridge.

The following graphics show where to place additional seals for another level of security on the AutoMARK. These are used to prevent unauthorized access to the SBC casing and USB port.

NOTE: The application of these seals must be performed by an ES&S Certified Technician or a trained vendor technician.

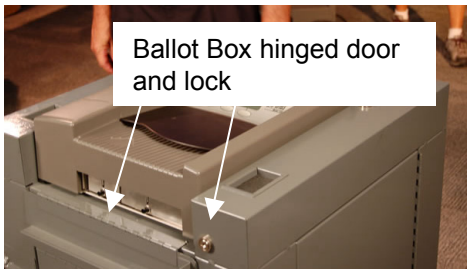


The following graphic shows the information window on the AutoMARK case. Insert equipment identification information in this window.

Model 100

Following is the Model 100 scanner with a numbered seal inserted into the PCMCIA door to prevent unauthorized access to the PCMCIA card. Numbered locking seals, similar to the ones in the following graphics are most appropriate for this application.

The Model 100 ballot box has a locking, hinged door that covers the PCMCIA door. This restricts access to the PCMCIA card to authorized personnel.



When the hinged door is locked in place, it secures the Model 100 scanner in the ballot box, and the door covers the PCMCIA door.

The Model 100 case can be sealed with tamper-evident tape, as shown in the following graphic.

Model 650

The following graphics show the position of the lock and tamper-evident tape on the Model 650 central count scanner.

Close-up of Model 650 lock and tamper-evident tape

Use tamper-evident tape to prevent unauthorized zip disks from being inserted into the Model 650. The following graphic shows tamper-evident tape over the zip disk slot.

Where application of tamper-evident seals directly to a system component is required to detect unauthorized access to the component, those seals must be serialized.

Upon request, members of the public must be permitted to observe and inspect, without physical contact, the integrity of all externally visible security seals used to secure voting equipment in a time and manner that does not interfere with the conduct of the election of the privacy of any voter.

Appendix F: Windows XP Hardening and Verification

This document gives step-by-step instructions for the following processes:

1. Installation of Windows XP Updates using the Heiss Security's c't Projekte - Offline-Update to generate an installation CD and install updates to Windows XP.

NOTE: Heiss Security's utility is one of many tools that can be used. This is up to the discretion of the jurisdiction's System Administrator. ES&S is not authorized to distribute this tool, but offers these procedures for its download and use.

2. Hardening of the Windows XP PC
3. Downloading and running the Hardening Verification Utility for the Windows PC using the Benchmark Scoring Tool from the Center for Internet Security.

NOTE: The California Secretary of State has authorized use of this tool. ES&S is not authorized to distribute this tool, but offers these procedures for its download and use.

All process and procedures should follow prescribed policies procedures described in the *California Election Procedures* manual, including but not limited to logging and separation of duties.

Update of Windows XP with currently approved and tested patches and updates

1. From the web site www.heise.de/ct/projekte/offlineupdate/download_uk.shtml, download v4.72 of the c't Projekte - Offline-Update to a designated system administration PC not used for election processes.
2. Unzip the download file and execute UpdateGenerator.exe
3. Select **Windows XP English** and **Create ISO image(s) per selected Product and Language (CD)** and click **Start**.

NOTE: This process can take 30 minutes or longer depending on the number or scope of the updates and the speed of the connection to the internet.

4. Click **OK** when the message **Download / image creation successful** appears.

NOTE: If **Create ISO image(s) per selected Product and Language (CD)** was checked, an iso image file will be created in the iso folder. If it was not checked, the application can be run again and it will see that the updates are current and build the iso file.

5. Burn the resulting update to a CD
6. Insert the update CD
7. If **Autorun** is not enabled, run the appropriate update executable from the CD, otherwise, skip to the next step.
8. If prompted to select options, ensure that **Install Internet Explorer** is checked and click **Start**.

NOTE: Internet Explorer is not used as part of the Unity Suite, but should be updated with the most recent security updates.

9. When installation indicates that it is successful, restart the computer.
10. With the Update CD still inserted, run the update program second time to install the XP updates

NOTE: If prompted to select options, ensure that Internet Explorer is not checked.

NOTE: If **Autorun** is not enabled, run the appropriate update executable from the CD, otherwise skip to the next step.

11. When installation indicates that it is successful, remove the update CD and restart the computer.

Hardening of the Windows XP PC

Upon authorization of the Secretary of State, ES&S will provide a self-contained executable and an .inf file that can be run using the following procedures to perform the hardening of the XP Workstation.

In addition to the following procedure, a full matrix of the lockdown performed by this utility is also included in a spreadsheet entitled Windows XP Hardening and Verification – Settings Requirements Matrix. These settings are required by the California Secretary of State. Loosening of any of the lockdown requirements is only to be done with the approval of the appropriate elections official for the jurisdiction and the Secretary of State's office, as required. Further tightening of the requirements should only be done after first consulting ES&S to determine the impact on the Unity applications.

Warning: This utility will rename the default Administrator account while leaving the password the same. It is highly recommended that the password be verified or changed before running this tool. The new password should be complex, and a minimum of eight characters in length.

1. From the root of the removable media, execute the program XP-Secure-1.0.EXE.
2. Press any key to continue.

NOTE: The utility will run for approximately 1-2 minutes.

3. When finished, you will be prompted to "press any key to continue."
4. When prompted to reboot, click **Yes** to restart the PC.
5. Log on to the PC via the new Sysadmin user ID using the password previously assigned to the "administrator" account.
6. Perform the following steps to enable Data Execution Prevention, which is required for hardening, but not set using the utility.
   a. From the Control Panel, selection **System**
   b. Form the System Properties window, select the **Advanced** tab.
   c. From the **Advanced** tab, click the **Settings** button in the **Performance** area.
   d. From the Performance Options window, select the **Data Execution Prevention** tab.
   f. From the Data Execution Prevention tab, select **Turn on DEP for all programs and services except those I selection**.

NOTE: Any exceptions required to run the Unity Suite will be documented in this section. Should the System administrator of the particular jurisdiction deem other exceptions specific to their setup policies and procedures, these should be approved by the appropriate elections official and documented.

g. Click **OK** to apply the change.

h. Click **OK** when prompted that a reboot is necessary

i. Restart the PC.

The PC has now been hardened.

Benchmark Tool

A single copy of the benchmark tool can be downloaded, as described in the following steps, at no cost. The free copy is a fixed benchmark that is not modifiable. A modifiable copy of this tool can be licensed by the State or the particular jurisdiction for a yearly membership fee to the Center for Internet Security. ES&S and the jurisdiction could then customize the benchmark to work with the Hardening script used resulting in none of the exceptions noted at the end of this procedure.

1. Download the Benchmark Tool from Center for Internet Security's (CIS) website http://www.cisecurity.org/sub_form.html and write the package to the appropriate removable media.
2. From the removable media containing the Benchmark Tool, execute ng_scoring_tool-gui-1.0-win32.exe.
3. Click **Next** through all of the prompts for a standard installation.
4. Remove the removable media before executing the utility.
5. Execute the Benchmark Tool executable from Start → Programs → The Center for Internet Security → CIS NG Scoring Tool → NG Scoring Tool GUI
6. Select **Windows XP Professional Benchmark** from the **Benchmark** dropdown window.
7. Select **SP2 Specialized Security Standalone** from the **Profile** dropdown menu.
8. Click the **Score** button to run the benchmark report.
9. Complete the Benchmark Questionnaire by selecting **Yes** or **No** as appropriate and click **Continue**.
   a. Item 1.2.1 – The system administrator must know if the most current patches have been installed and mark this option accordingly.

b. All remaining items should be can be marked as yes if no changes have been made to the ES&S hardening settings provided.

10. Click **OK** when the Processing Complete window appears.

11. The following issues are known with the free version of the Utility.

    The following may give false Fails and must be verified manually:

    a. 3.2.1.14
    b. 3.2.1.15
    c. 3.2.2.4
    d. 3.2.2.5

    The following sections are expected to fail due to settings.

    a. 3.2.1.12
    b. 3.2.2.26
    c. 5.1.1.1 – Not an issue due to Network Lockdown
    d. 5.1.1.2 – Not an issue due to Network Lockdown
    e. 5.2.1.1.2.1 – Due to Windows Firewall Disabled.
    f. 5.2.1.1.2.2
    g. 5.2.1.1.2.3
    h. 5.2.1.1.2.4
    i. 5.2.1.1.2.5
    j. 5.2.1.1.2.7
    k. 5.2.1.1.2.8
    l. 5.2.1.1.2.14
    m. 5.2.1.1.2.15
    n. 5.2.1.1.2.16

12. All failures other than those noted should be reported to the appropriate elections official.

13. Upon completion, the software package should be uninstalled as necessary to satisfy any license restrictions from the CIS

Appendix G: ES&S Software Validation Phase II

1. Introduction

1.1 Purpose

This document provides instructions for the utilization of the ES&S Software Validation Utility, Version 1.0.1.2 during the certification of ES&S software. The utility is used to create the ES&S Software Package Definition File(s).

1.2 Document Scope

The procedures detailed in this document detail the loading of the ES&S script files that comprise the Software Validation Utility onto the USB storage device and the use of the Software Validation Utility script files to create and store the Package Definition File(s) to the USB storage device.

Refer to Section 5 Software Validation Process Overview of this Appendix for an overview of the Software Validation Process.

2 General Requirements

2.1 Hardware Requirements

The minimum hardware requirements for the build environment are stated as follows.

- Peripherals
  - CD-ROM
  - USB Mass Storage Device (Thumb Drive)

2.2 Operating System Requirements

Here are the specific OS requirements that must be met for the build environment.

- None

2.3 COTS Requirements

Here are the specific details for any COTS requirements not listed above.

- Linux “Live CD”, SLAX Version 5.1.8.1

  The Linux “Live CD” may be obtained from an archive CD. A Linux “Live CD” is a CD that contains a bootable version of Linux. The Linux platform is configured to run entirely from the CD and whatever RAM memory is in the computer. It may access other devices within the computer, but is does not require them to operate. The reason for using a Linux “Live CD” is that it provides an operating system that is fully independent of Election Systems & Software. It can be downloaded and used independently, thus removing any possible source of tampering via the operating system.

2.4 Proprietary Requirements

Here are the specific details for any proprietary requirements not listed above.

- Windows XP Professional Version 2002 Service Pack 2 with the certified ES&S Software Product(s) installed

  If needed, perform the steps in *Windows XP on Corsair Orbit Installation Guide Version 2000* document to install the XP operating system.

- Trusted Build CD for ES&S Software Product(s)
- Script files for the Software Validation Utility

  The Software Validation Utility’s “scripts” are provided from the appropriate archive system or certification authority.

  - mkPackage.5
  - VerESS.9
  - VerifyEss
- Preliminary Definition File(s).

  The Preliminary Definition Files for a given software product (HPM, ERM, etc.) and the Software Validation Utility are stored on USB storage device. The Preliminary Definition File for a software product contains a list of the files that make up the given package. The ES&S Developer provides a Preliminary Definition File for each certified software product.

2.5 Other Requirements

Here are the specific details for any other requirements not listed above.

- USB Mass Storage Device

  This is a removable flash media Example: Thumb Drive, Compact Flash, Flash Drive, etc.

3 Initialize the Validation Storage Device

The Initialization of the storage device occurs during the certification process. ES&S provides a Preliminary Definition File for each certified software package and the Software Validation Utility's 'script' files.

3.1 Procedure

Here are the specific steps required to create a Preliminary Validation Storage Device.

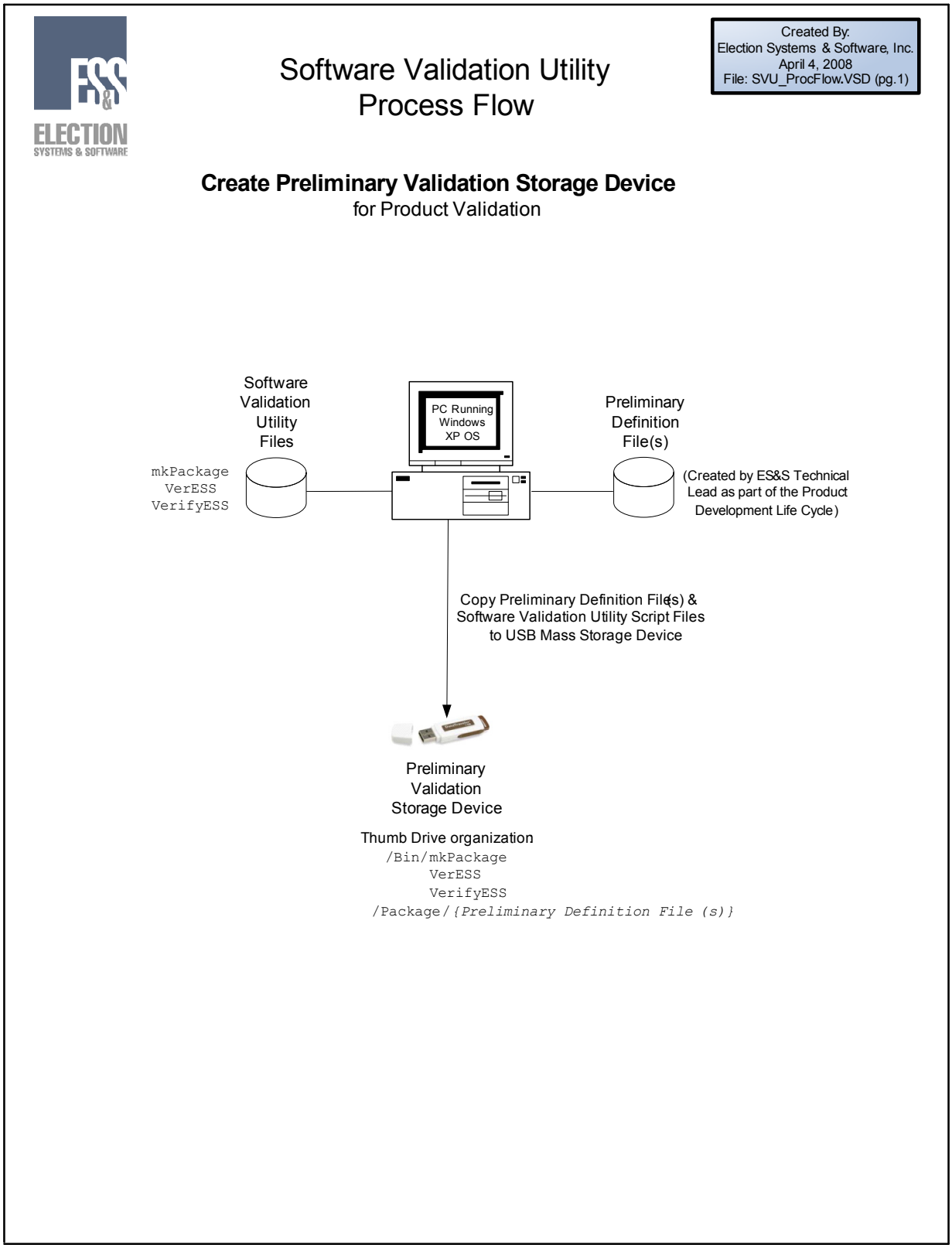
Refer to Section 3.2 Process Flow Diagram in this appendix for an overview of the following steps.

1. Obtain a copy of the Preliminary Definition File(s) from the appropriate archive system or certification authority. These files could come in a variety of media formats, depending on the source: CD, another USB flash drive, system archive file folder, etc.
2. Obtain a copy of the script files that make up the "Software Validation Utility" from the appropriate archive system or certification authority. These files could come in a variety of media formats, depending on the source: CD, another USB flash drive, system archive file folder, etc.
3. Insert and format a "USB Mass Storage Device" to ensure it is blank.
4. Create two directories on the blank USB Mass Storage Device:
   a. Bin
   b. Package

NOTE: The directory names are case specific.

5. Copy the Preliminary Definition File(s) to the “Package” directory of the USB Mass Storage device.
6. Copy the script files for the Software Validation Utility to the “Bin” directory of the USB Mass Storage device.
7. The Preliminary Validation Storage Device is now created. Remove the USB Mass Storage device.

3.2 Process Flow Diagram



4 Create the Package Definition File

The creation of the Package Definition File occurs after the certification process.

The process uses the Preliminary Validation Storage Device that contains the Software Validation Utility's "scripts" and the Preliminary Definition File(s) provided by the software product developer.

4.1 Procedure

Here are the specific steps required to create a Package Validation Storage Device.

Refer to Section 5 Software Validation Process Overview in this appendix for an overview of the following steps.

1. These steps must be executed on the PC where the software product has been installed.

NOTE: These steps must be done in the order shown.

2. Load the "Live CD" into the CD drive on the PC.

NOTE: Any number of Windows screens may appear. Select "No Action" or "Cancel", as appropriate.

3. Shutdown (Not Restart) Windows on the PC.
4. Connect the "Preliminary Validation Storage Device" to the computer. (Plug in the thumb drive.)
5. Turn on the PC.

NOTE: If the PC boots to Windows, shut it down again and reconfigure the BIOS to boot from the CD drive before the hard drive. Reboot again.

6. At the login prompt enter:

   "root"

7. At the password prompt enter:

   "toor"

8. Entering the following command to list all the mounted devices.

   ls -l /mnt

9. Locate the item in the list that ends with "_removable", and then enter the following command to create a shortcut.

   ln -s /mnt/<item that ends with "_removable"> /cf

NOTE: This command will create a shortcut called /cf pointing to the "USB Mass Storage Device". For example, if the item's text was "sdj1_removable", the command would be "ln -s /mnt/sdj1_removable /cf".

10. Invoke the Software Validation Utility that builds the Package Definition File.

    a. To run the utility enter:

       /cf/Bin/VerifyESS mkPackage

    b. At the prompt:

       "Enter Package Verification File Name:"

       Enter the file name for the Package Definition File and press "Enter".

       For example, PKG_ERM_4.2.3.8

       The utility creates the file if it does not exist. This file will contain the "SHA-1" hash values for the files associated with the software product(s) based on the Preliminary Definition File(s).

NOTE: the "PKG_" prefix indicates that these Definition File(s**) include the "SHA-1" hash** data.

    c. At the prompt

       "Enter Package Name:"

       Enter a "Description Name" for the software products to be verified with this Package Definition File. For example, ERM Version 4.2.3.9" and press the "Enter" key.

NOTE: If the Package Definition File exists, the utility is being used to add files to a Package. In this case the Descriptive Name stored in the Package Definition File is displayed after the "`Package:`" heading. If this is not the correct file press "<Ctrl> C" to terminate the utility and restart it with the correct Package Definition File.

d. At the prompt

"`Input list from file? [y/n]`"

enter "y" or "n".

- Enter ,"y", if using Preliminary Definition Files

  Enter the name of the Preliminary Definition File after the prompt (including any file extension, for example ".txt"):

  "`Enter List File Name:`"

- Enter, "n" if you are adding a single file and know the file path and name.

  You will be prompted for the path/file name to be added. Type

  "`Enter File Name:`"

If the Preliminary Definition list was long, it may take 30 – 40 seconds before the next prompt. During this time the **Package Definition File is created** and stored to the "/Package" directory.

If there are problems with the Preliminary Definition File, error messages that include the file name will be listed to the monitor.

A fully detailed log file is created on the "USB Mass Storage Device" in the directory "/Logs". This log file may be viewed with any text editor/viewer on a Windows computer later, if needed. The log file name will be the start with the "mkPackage" prefix appended with a date and time stamp. Each execution of the utility will create a new log file. No log files will be erased.

If any errors are displayed on the monitor screen during this step, the Preliminary Definition Files must be modified to address these errors. Do not continue, return to step #1 and fix the problem. It is up to the user to determine the best way to edit the Preliminary Definition File(s). If the Preliminary Definition File, is not fixed the associated Package Definition Files will contain errors that may impact the software validation step.

e. At the prompt:

"`Add more? [y/n]`"

- Enter "y", to indicate you want to add more files to the package
- Enter "n" to terminate the prompting for package file names.

f. The Package Definition File entered after at the "`Enter Package Verification File Name:`" prompt above, will be saved under the "/Package" directory of the "USB Mass Storage Device".

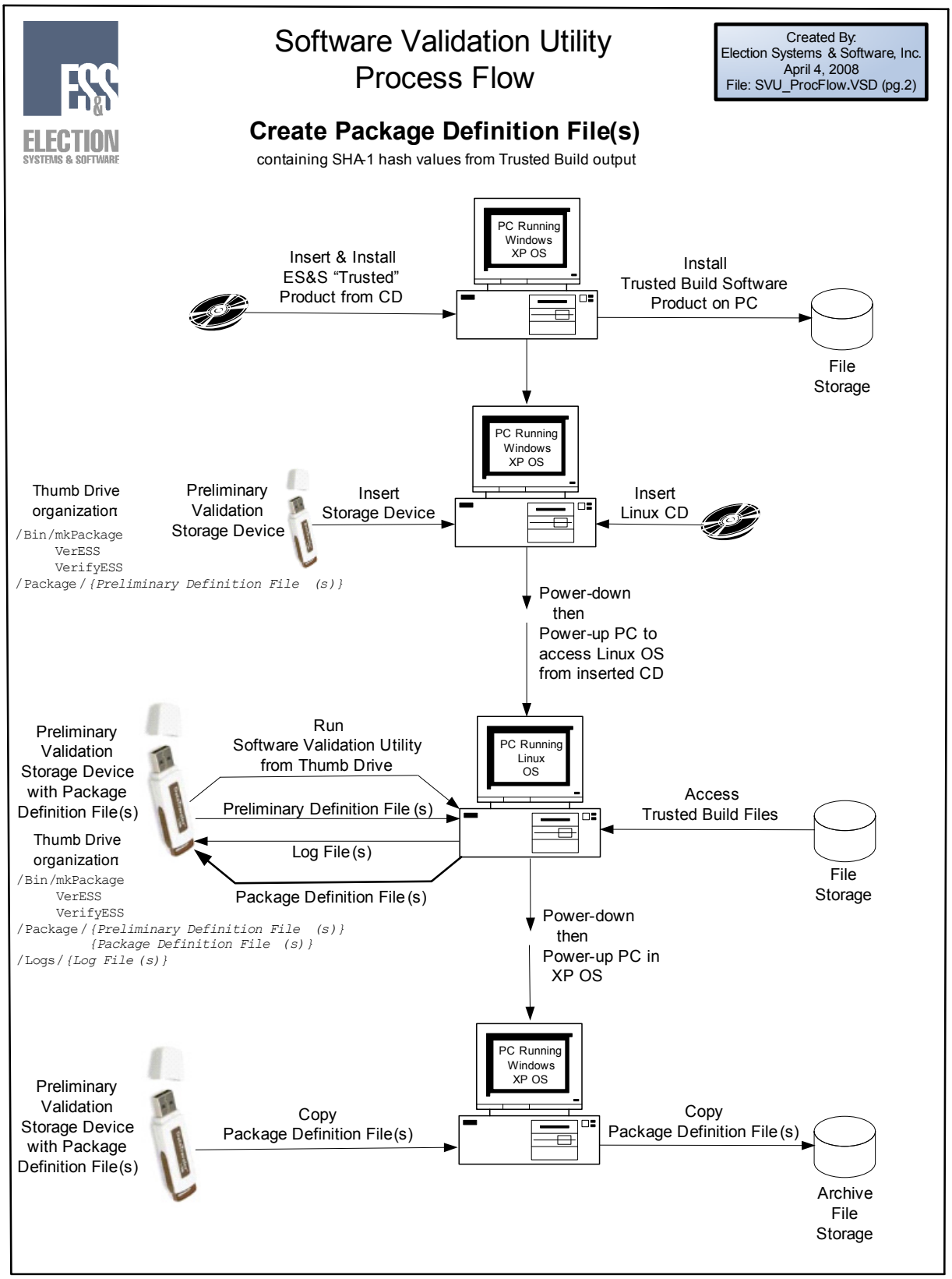
g. At the prompt:

   "`Enter Package Verification File Name:`"

   - Enter <ctrl> c", if all the Package Definition Files for this software package are created.
   - Enter the file name for the next Package Definition File, if there are additional Package Definition Files to create and press "Enter" and repeat steps b through g.

11. Remove the "USB Mass Storage Device" from the computer
12. Turn off the PC and restore normal operation by typing "init 0" (lower case) and pressing the "Enter" key.
13. The PC will start the shut down process and eject the "Live CD".
14. Remove the "Live CD".
15. Turn on the PC to restore XP operating system.
16. Use Windows Explorer to verify that the UPB device contains the Package Definition Files in addition to the utility's script files.
17. Store the Package Definition File(s) in the appropriate archive system or with the certification authority.

4.2 Process Flow Diagram



4.3 Sample Definition Files

4.3.1 Preliminary Definition File

A Preliminary Definition File should only contain preliminary Static, Dynamic, records and the comment records. The “Name” record will be added when this file is converted into a Package

Sample Preliminary Definition File

```
 These files are static (non changing)

Program Files/ESS/CF_Utility/CF_Utility.exe
Program Files/ESS/GetAuditData/GetAuditData.exe

 These files are dynamic  (they change after the software is executed)

Program Files/ESS/CF_Dup/CF_Duplicator.log
Program Files/ESS/CF_Dup/CF_Duplicator_9100.log
Program Files/ESS/SuperRestore/SuperRestore.dat
```

4.3.2 Package Definition File

Sample Package Definition File

```
AME:=Misc VB programs

 These files are static (non changing)

b3f80b06ad6283fc021de1682772c22dd6f2436b  Program Files/ESS/CF_Utility/CF_Utility.exe
986f221ef049f7663c30297b89d67640b86e7ef5  Program Files/ESS/GetAuditData/GetAuditData.exe

 These files are dynamic  (they change after the software is executed)

629652c0d72b5221afef5d1f5755171f52ba4de1  Program Files/ESS/CF_Dup/CF_Duplicator.log
398f64c00b026d1c6d94a6efd180f20c010f5ee9  Program Files/ESS/CF_Dup/CF_Duplicator_9100.log
607329d446b344209ade8b501ba37893b95f3e2a  Program Files/ESS/SuperRestore/SuperRestore.dat
```

The Validation Utility produces a Package Definition File that contains the “Name”, record in addition to the “Static”, “Dynamic”, and comment records for the package.

Comment records may be added to the Package Definition File using any text editor. A comment record must start with the semi-colon character, “;”. and be terminated with either the “end-of-line” or “new-line” character.

The sample Package Definition File shown above, contains the following two comment records.

“; These files are static (non changing)”

"; These files are dynamic (they change after the software is executed)"

4.4 Log File

The log records displayed to the screen during the validation process are stored to a log file in the "/Logs" directory. If this directory does not exist, the Validation utility will create it. The Utility will generate a log file for each package validated. The log file is created regardless of the outcome of the validation process.

The file will contain a record for each file listed in the Package Definition File. If the hash value of the file specified matches the hash value of the file contained in the installed package, the record is marked with an "OK". If the hash value of the file specified does not match the hash value of the file contained in the installed package, the record is marked with an "FAILED"

Sample: Validation Log File

```
S&S Make Package Utility  --  mkPackage.6   Version = 1.0.1.2

008-04-04 08:03:00
pdating Configuration File: '/mnt/sdo1_removable/Package/VerFile'.
pdating Package: AuditMgr

  These files are static (non changing)

 b3f80b06ad6283fc021de1682772c22dd6f2436b  Program Files/ESS/CF_Utility/CF_Utility.exe
 986f221ef049f7663c30297b89d67640b86e7ef5  Program Files/ESS/GetAuditData/GetAuditData.exe

  These files are dynamic  (they change after the software is executed)

 629652c0d72b5221afef5d1f5755171f52ba4de1  Program Files/ESS/CF_Dup/CF_Duplicator.log
 398f64c00b026d1c6d94a6efd180f20c010f5ee9  Program Files/ESS/CF_Dup/CF_Duplicator_9100.log
 607329d446b344209ade8b501ba37893b95f3e2a  Program Files/ESS/SuperRestore/SuperRestore.dat
```

Sample: Failed Validation Log File

```
S&S Make Package Utility  --  mkPackage.6   Version = 1.0.1.2

008-04-04 08:03:00
pdating Configuration File: '/mnt/sdo1_removable/Package/VerFile'.
pdating Package: AuditMgr

  These files are static (non changing)

AILED Program Files/ESS/CF_Utility/CF_Utility.exe
 986f221ef049f7663c30297b89d67640b86e7ef5  Program Files/ESS/GetAuditData/GetAuditData.exe

  These files are dynamic  (they change after the software is executed)

 629652c0d72b5221afef5d1f5755171f52ba4de1  Program Files/ESS/CF_Dup/CF_Duplicator.log
 398f64c00b026d1c6d94a6efd180f20c010f5ee9  Program Files/ESS/CF_Dup/CF_Duplicator_9100.log
 607329d446b344209ade8b501ba37893b95f3e2a  Program Files/ESS/SuperRestore/SuperRestore.dat
```

5 Software Validation Process Overview

The Software Validation Utility provides a validation tool. This tool verifies that files associated with an ES&S Software package were certified by a certification authority. This tool consists of a set of Linux scripts. To ensure that the validation tool is independent of either the operating system of the PC or the software package it is validating, it is run from a USB storage device.

5.1 Definitions

Preliminary Definition File

The Preliminary Definition File is a text file created by the software developer. It contains the list of files associated with an ES&S software package. The format for this file is detailed in the ES&S Software Validation document (Phase I).

Package Definition File

The Package Definition file is a text file created by the Software Validation Utility. It is created after the certified build of a software package. The file contains the list of files associated with an ES&S software package and the hash values for those files. This file will be used to validate a customer installed ES&S software package.

To ensure that the installed package is the certified version, the customer runs the Utility which compares the hash values stored in this file against the hash values of the installed files. The creation and use of the Package Definition File are detailed in the ES&S Software Validation documents (Phase III).

Software Validation Utility

Linux scripts are used to create, store, and process the Package Definition File(s). The Software Validation Utility creates and stores the Package Definition File(s) to a USB Storage Device. It then uses the Package Definition File(s) during the validation of an installed software package. The creation and use of the utility are detailed in the ES&S Software Validation documents (Phase II and III).

5.2 Overview

The validation of an ES&S certified software package is a three phase process.

Phase I:

Creation of the Preliminary Definition File

Scope:

For each ES&S software package, a Preliminary Definition File must be created. The Preliminary Definition File is a text file that contains a list of the files associated with an ES&S software package.

Responsibility:

The Preliminary Definition File is created by the software developer and is submitted along with the package for certification.

Phase II:

Creation of the Software Validation Package Storage Device

Scope:

The Software Validation Package Storage Device consists of two parts.

- Software Validation Utility scripts
- Package Definition File(s).

After the initial install of the software package during functional certification, the Software Validation Utility scripts are loaded on a blank USB Storage device along with the Preliminary Definition File(s) associated with the ES&S software package.

The USB device is inserted into the computer containing the installed ES&S software packages. This PC is then booted as a Linux machine and the Software Validation Utility scripts use the Preliminary Definition File(S) on the USB device and the files associated with the installed package to create the Package Definition file(s). The utility stores the Package Definition file(s) in the USB device. A Log file is created for each Package Definition file. This log file contains a record for each file in the Preliminary Definition File. The log files are stored on the USB device. The Utility also displays the error messages to the screen. It is up to the user to determine if the files that were marked as errors are still valid.

Store the Package Definition File(s) for future use.

Responsibility:

The Package Definition File(s) are captured after the initial install of the package during functional certification.

Phase III:

Validation of an ES&S Software Package

Create the Software Validation Package Storage Device by storing all the Package Definition file(s) and the Software Validation Utility script files to the USB Storage Device.

Start the validation process by inserting the Software Validation Package Storage Device into the customer PC containing the installed ES&S software package.

This PC is then booted as a Linux machine and the Software Validation Utility scripts on the USB device are run against the Package Definition File(s). The utility compares the hash values stored in the Package Definition file(s) to the actual hash values of the software package's files. A Log file is created for each Package Definition file. This log file contains a record for each file in the Package Definition File. If the hash values match the log will reflect that the files match if there is a mismatch in the hash values an error message for each mismatch will be logged. The log files are stored on the USB device. The Utility also displays the error messages to the screen. It is up to the user to determine if the files that were marked as errors are still valid.

Responsibility:

The Software Validation Package Storage Device is created and run by the customer to validate the ES&S software package installed on the customer's PC.

ES&S Software Validation Phase III

1 Introduction

1.1 Purpose

This document provides instructions for the utilization of the ES&S Software Validation Utility, Version 1.0.1.2 to validate ES&S Software Products.

The utility provides a tool to verify that programs and files loaded on a PC were certified by a certification authority. This tool runs independent of the application programs and operating system.

1.2 Document Scope

The procedures detailed in this document cover using the Software Validation Utility to verify that programs and files that were place on the PC by ES&S Product install were certified by the certification authority. This tool must be separate from the application programs and operating system of the PC. See the Appendix for an overview of the Software Validation Process.

2 General Requirements

2.1 Hardware Requirements

Here are the specific hardware requirements required to create the build environment.

- Peripherals
  - CD-ROM
  - USB Mass Storage Device (Thumb Drive)

2.2 Operating System Requirements

Here are the specific OS requirements that must be met for the build environment.

- Windows XP Professional Version 2002 Service Pack 2

2.3 COTS Requirements

Here are the specific details for any COTS requirements not listed above.

- Linux “Live CD”, SLAX Version 5.1.8.1

  The Linux “Live CD” may be obtained from an archive CD. A Linux “Live CD” is a CD that contains a bootable version of Linux. The Linux platform is configured to run entirely from the CD and whatever RAM memory is in the computer. It may access other devices within the computer, but is does not require them to operate. The reason for using a Linux “Live CD” is that it provides an operating system that is fully independent of Election Systems & Software. It can be downloaded and used independently, thus removing any possible source of tampering via the operating system.

2.4 Proprietary Requirements

Here are the specific details for any proprietary requirements not listed above.

- Windows XP Professional Version 2002 Service Pack 2 with the certified ES&S Software Product(s) installed
- ES&S Software Validation Package Storage Device Containing:
  - The Software Validation Utility scripts

    The Software Validation Utility’s “scripts” are provided from the appropriate archive system or certification authority.

    - `mkPackage`
    - `VerESS`
    - `VerifyEss`
  - Package Definition File(s).

    The Package Definition File(s) for a given software product (HPM, ERM, etc.) are stored on the USB storage device. The Package Definition File for a software product contains a list of the files that make up the given package. and the “SHA-1” hash value for each file. This file list and the hash values are generated during the functional installation after the certification of the package.

2.5 Other Requirements

Here are the specific details for any other requirements not listed above.

- USB Mass Storage Device

This is a removable flash media Example: Thumb Drive, Compact Flash, Flash Drive, etc.

3 Create the Package Validation Storage Device

The creation of the Package Validation storage device occurs after the certification process.

The Package Validation Storage Device will contain only the Software Validation Utility's "scripts" and the required Package Definition File(s).

3.1 Procedure

Here are the specific steps required to create a Preliminary Validation Storage Device.

Refer to Section 3.2 Process Flow Diagram of this Appendix for an overview of the following steps.

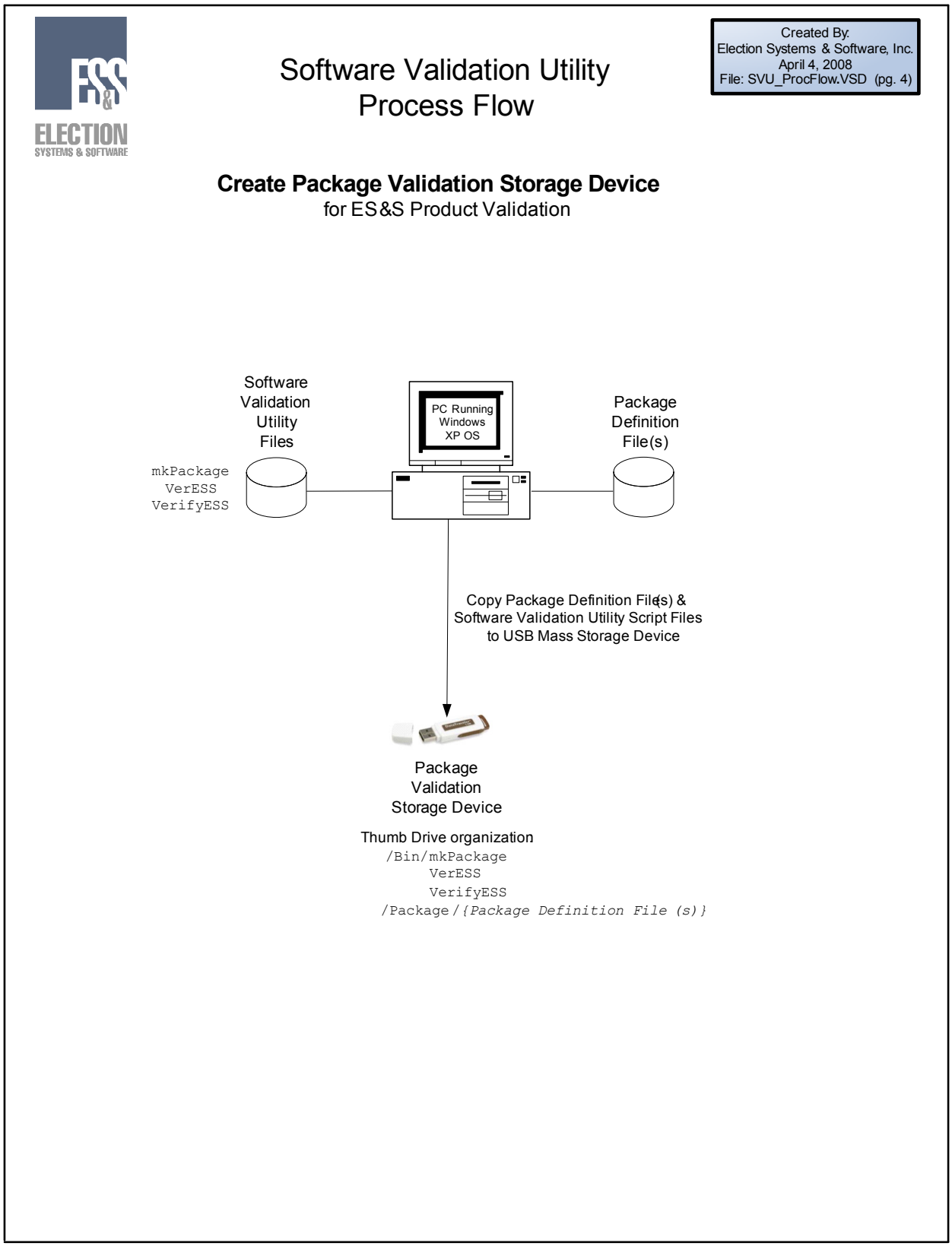
1. Obtain a copy of the Package Definition File(s) from the appropriate archive system or certification authority. These files could come in a variety of media formats, depending on the source: CD, another USB flash drive, system archive file folder, etc.
2. Obtain a copy of the script files that make up the "Software Validation Utility" from the appropriate archive system or certification authority. These files could come in a variety of media formats, depending on the source: CD, another USB flash drive, system archive file folder, etc.
3. Insert and format a "USB Mass Storage Device" to insure it is blank.
4. Create two directories on the blank USB Mass Storage Device:
   a. Bin
   b. Package

NOTE: The directory names are case specific.

5. Copy the Package Definition File(s) to the "Package" directory of the USB Mass Storage device.

6. Copy the script files for the Software Validation Utility to the “Bin” directory of the USB Mass Storage device.
7. The Package Validation Storage Device is now created. Remove the USB Mass Storage device.
8. Provide the Package Validation Storage Device to the customer.

3.2 Process Flow Diagram



4 Validate ES&S Software Product

The ES&S Software Validation Package Storage Device must be available to complete this step. If the Package Storage Device is not available, see the Appendix to determine who is responsible for providing the device.

The Software Package Validation Storage Device contains the Software Validation Utility's "scripts" and the Package Definition File(s).

Refer to Section 5 Software Validation Process Overview of this Appendix for information about the creation and storage of these scripts.

When the Software Validation utility's scripts are executed from the storage device against the installed software package, the utility validates the hash values of the files associated with the installed software packages against the hash values stored in the Package Definition File. A Log file that contains the results of the comparison is created and stored on the "/Logs" directory of the USB device.

4.1 Procedure

Here are the specific steps required to create a Package Validation Storage Device.

Refer to Section 4.2 Process Flow Diagram of this Appendix for an overview of the following steps.

1. These steps must be executed on the PC where the software product has been installed.

NOTE: These steps must be done in the order shown.

2. Load the "Live CD" into the CD drive on the PC.

NOTE: Any number of Windows screens may appear. Select "No Action" or "Cancel", as appropriate.

3. Shutdown (Not Restart) Windows on the PC.

4. Connect the “Preliminary Validation Storage Device” to the computer. (Plug in the thumb drive.)
5. Turn on the PC.

NOTE: If the PC boots to Windows, shut it down again and reconfigure the BIOS to boot from the CD drive before the hard drive. Reboot again.

6. At the login prompt enter:

   `“root”`

7. At the password prompt enter:

   `“toor”`

8. Enter the following command to list all the mounted devices.:

   `ls -l /mnt`

9. Locate the item in the list that ends with “_removable”, then enter the following command to create a shortcut.

   `ln -s /mnt/<item that ends with “_removable”> /cf`

NOTE: This command will create a shortcut called /cf pointing to the “USB Mass Storage Device”. For example, if the item’s text was “sdj1_removable,” the command would be `“ln -s /mnt/sdj1_removable /cf”`.

10. Invoke the Software Validation Utility that builds the Package Definition File.
    a. To run the utility enter:

       `/cf/Bin/VerifyESS`

    b. At the prompt:

       `“Enter Package Verification File Name:”`

       Enter the file name for the Package Definition File and press “Enter.”

       For example, PKG_ERM_4.2.3.8

       The utility will use the “SHA-1” hash values for the files associated with the software product(s) to validate the software products installed on this PC.

       Note that the ”PKG_” prefix indicates that these Definition File(s) **include the “SHA-1” hash** data.

    c. If there are multiple drives installed in the PC, They are listed at this time.

Enter the drive number that the install package is located on.

d. The next prompt is:

```
Enter code for test style:
S for the Static only Files or
A For All the Files  . . .
```

- Enter an “S” (caps required) to verify the “Static” files only in the specified in the Package Definition File(s).
- Enter an “A” (caps required) to verify “All” the files in the specified in the Package Definition File(s).

For each product in the Package Definition File, the following message appear:

```
“Product Name” . . . Testing
“Product Name” is Verifying
```

e. After verification testing, a status OK or NOT OK message is displayed.

If there are verification errors, the offending file name and error text is listed on the PC screen.

A fully detailed log file is created on the “USB Mass Storage Device” in the directory “/Logs”. This log file may be viewed with any text editor/viewer on a Windows computer later, if needed. The log file name will be the Package name appended with a date and time stamp. Each execution of the utility will create a new log file. No log files will be erased.

NOTE: It is up to the user to determine the best way to view the errors stored in the log file(s).

f. The next prompt is:

```
“Press enter to continue…”
Press the “Enter” key.
```

g. At the prompt:

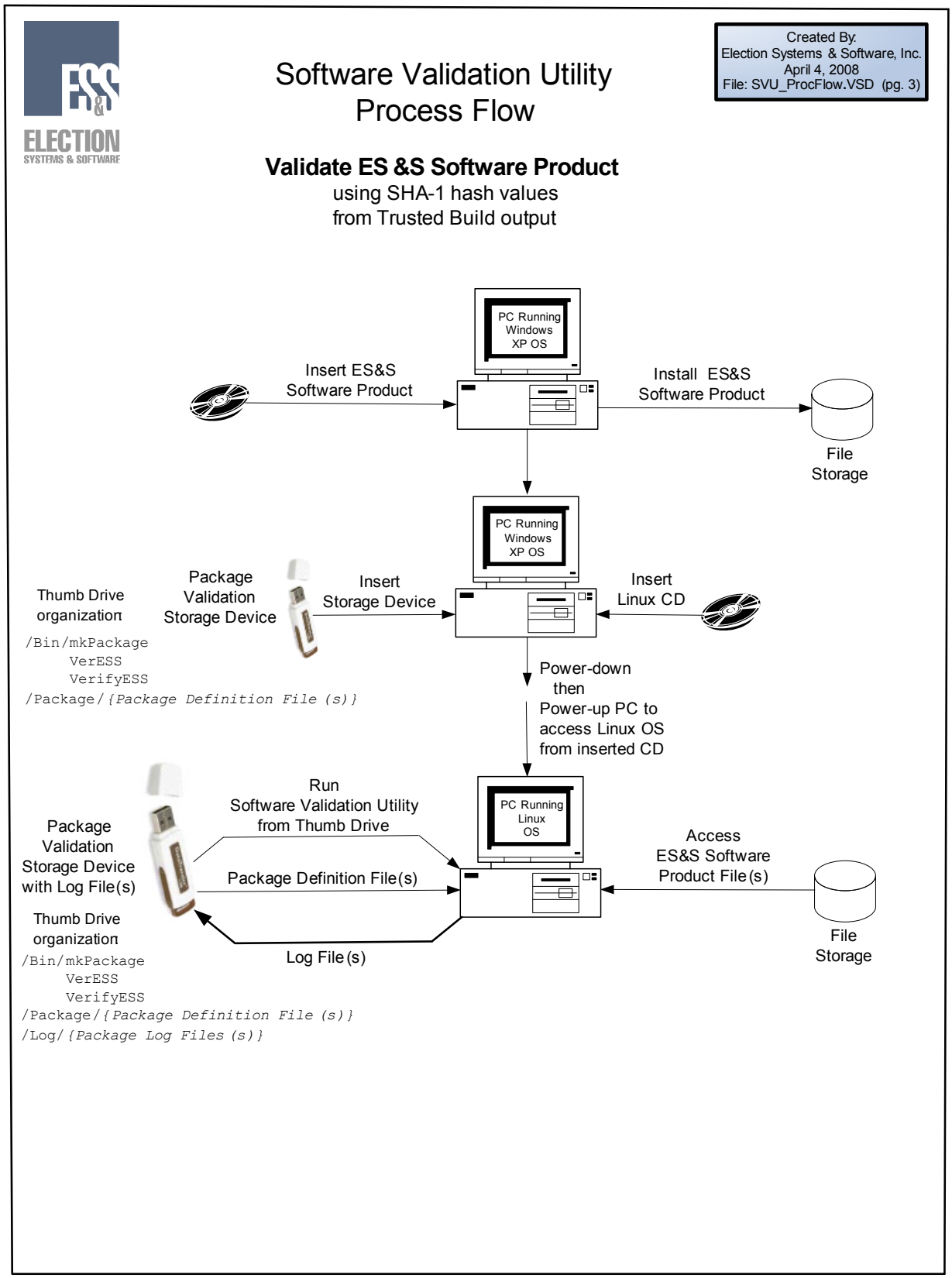
```
“Enter Package Verification File Name:”
```

- If additional Package Definition Files are available, enter the next Package Definition File name and repeat the sub-steps b – g in this step

- If all the Package Definition Files are processed, terminate the utility by typing “quit” after the `“Enter Package Verification File Name:”` prompt and pressing the “Enter” key.

11. Remove the “USB Mass Storage Device” from the computer
12. Turn off the PC and restore normal operation by typing “init 0” (lower case) and pressing the “Enter” key.
13. The PC will start the shut down process and eject the “Live CD”.
14. Remove the “Live CD”
15. Turn on the PC to restore XP operating system.
16. Use Windows Explorer to verify that the UPB device contains log files in addition to the Package Definition File(s) and the utility’s script files.
17. These log files are the validation files and should be stored by the customer for future reference.

4.2 Process Flow Diagram



4.3 Sample Files

4.3.1 Package Definition File

Sample Package Definition File - File name: PKG_VB_Programs

```
AME:=Misc VB programs

 These files are static (non changing)

b3f80b06ad6283fc021de1682772c22dd6f2436b  Program Files/ESS/CF_Utility/CF_Utility.exe
986f221ef049f7663c30297b89d67640b86e7ef5  Program Files/ESS/GetAuditData/GetAuditData.exe

 These files are dynamic  (they change after the software is executed)

629652c0d72b5221afef5d1f5755171f52ba4de1  Program Files/ESS/CF_Dup/CF_Duplicator.log
398f64c00b026d1c6d94a6efd180f20c010f5ee9  Program Files/ESS/CF_Dup/CF_Duplicator_9100.log
607329d446b344209ade8b501ba37893b95f3e2a  Program Files/ESS/SuperRestore/SuperRestore.dat
```

The Validation Utility produces a Package Definition File that contains the “Name”, the “Static”, “Dynamic”, and “Comment” records for the package.

Comment records may be added to the Package Definition File using any text editor. A comment record must start with the semi-colon character, “;”. and be terminated with either the “end-of-line” or “new-line” character.

The sample Package Definition File shown above, contains the following two comment records.

```
“; These files are static (non changing)”

“;  These files are dynamic (they change after the software
is executed)”
```

4.3.2 Log file

The log records displayed to the screen during the validation process are stored to a log file in the “/Logs” directory. If this directory does not exist, the Validation utility will create it. The Utility will generate a log file for each package validated. The log file is created regardless of the outcome of the validation process.

The file will contain a record for each file listed in the Package Definition File. If the hash value of the file specified matches the hash value of the file contained in the installed package, the record is marked with an “OK”. If the hash value of the file specified does not match the hash value of the file contained in the installed package, the record is marked with an “FAILED”

If all the records match the last line in the log file will state that the package “is Verified”.

If any of the records do not match the last line in the log file will state that the package “DOES NOT VERIFY”.

Sample: Validation Log File

```
S&S Verification Utility  --  VerESS.9   Version = 1.0.1.2

008-04-01 11:01:59

udit Manager  ...Testing: /mnt/hda1

  These files are static (non changing)

K: Program Files/ESS/CF_Utility/CF_Utility.exe
K: Program Files/ESS/GetAuditData/GetAuditData.exe

  These files are dynamic  (they change after the software is executed)

K: Program Files/ESS/CF_Dup/CF_Duplicator.log
K: Program Files/ESS/CF_Dup/CF_Duplicator_9100.log
K: Program Files/ESS/SuperRestore/SuperRestore.dat

uditMgr is Verified
```

Sample: Failed Validation Log File

```
S&S Verification Utility  --  VerESS.9   Version = 1.0.1.2

008-04-01 11:01:59

udit Manager  ...Testing: /mnt/hda1

  These files are static (non changing)

AILED: Missing file
K: Program Files/ESS/GetAuditData/GetAuditData.exe

  These files are dynamic  (they change after the software is executed)

K: Program Files/ESS/CF_Dup/CF_Duplicator.log
K: Program Files/ESS/CF_Dup/CF_Duplicator_9100.log
K: Program Files/ESS/SuperRestore/SuperRestore.dat

uditMgr DOES NOT VERIFY
```

5 Software Validation Process Overview

The Software Validation Utility provides a validation tool. This tool verifies that files associated with an ES&S Software package were certified by a certification authority. This tool consists of a set of Linux scripts. To ensure that the validation tool is independent of either the operating system of the PC or the software package it is validating, it is run from a USB storage device.

5.1 Definitions

Preliminary Definition File

The Preliminary Definition File is a text file created by the software developer. It contains the list of files associated with an ES&S software package. The format for this file is detailed in the ES&S Software Validation document (Phase I).

Package Definition File

The Package Definition File is a text file created by the Software Validation Utility. It is created after the certified build of a software package. The file contains the list of files associated with an ES&S software package and the hash values for those files. This file will be used to validate a customer installed ES&S software package.

To ensure that the installed package is the certified version, the customer runs the Utility which compares the hash values stored in this file against the hash values of the installed files. The creation and use of the Package Definition File are detailed in the ES&S Software Validation documents (Phase III).

Software Validation Utility

Linux scripts are used to create, store, and process the Package Definition File(s). The Software Validation Utility creates and stores the Package Definition File(s) to a USB Storage Device. It then uses the Package Definition File(s) during the validation of an installed software package. The creation and use of the utility are detailed in the ES&S Software Validation documents (Phase II and III).

5.2 Overview

The validation of an ES&S certified software package is a three phase process.

Phase I:

Creation of the Preliminary Definition File

Scope:

For each ES&S software package, a Preliminary Definition File must be created. The Preliminary Definition File is a text file that contains a list of the files associated with an ES&S software package.

Responsibility:

The Preliminary Definition File is created by the software developer and is submitted along with the package for certification.

Phase II:

Creation of the Software Validation Package Storage Device

Scope:

The Software Validation Package Storage Device consists of two parts.

- Software Validation Utility scripts
- Package Definition File(s).

After the initial install of the software package during functional certification, the Software Validation Utility scripts are loaded on a blank USB Storage device along with the Preliminary Definition File(s) associated with the ES&S software package.

The USD device is inserted into the computer containing the installed ES&S software packages. This PC is then booted as a Linux machine and the Software Validation Utility scripts use the Preliminary Definition File(S) on the USB device and the files associated with the installed package to create the Package Definition File(s). The utility stores the Package Definition File(s) in the USB device. A Log file is created for each Package Definition File. This log file contains a record for each file in the Preliminary Definition File. The log files are stored on the USB device. The Utility also displays the error messages to the screen. It is up to the user to determine if the files that were marked as errors are still valid.

Store the Package Definition File(s) for future use.

Responsibility:

The Package Definition File(s) are captured after the initial install of the package during functional certification.

Phase III:

Validation of an ES&S Software Package

Create the Software Validation Package Storage Device by storing all the Package Definition File(s) and the Software Validation Utility script files to the USB Storage Device.

Start the validation process by inserting the Software Validation Package Storage Device into the customer PC containing the installed ES&S software package.

This PC is then booted as a Linux machine and the Software Validation Utility scripts on the USB device are run against the Package Definition File(s). The utility compares the hash values stored in the Package Definition File(s) to the actual hash values of the software package's files. A Log file is created for each Package Definition File. This log file contains a record for each file in the Package Definition File. If the hash values match the log will reflect that the files match if there is a mismatch in the hash values an error message for each mismatch will be logged. The log files are stored on the USB device. The Utility also displays the error messages to the screen. It is up to the user to determine if the files that were marked as errors are still valid.

Responsibility:

The Software Validation Package Storage Device is created and run by the customer to validate the ES&S software package installed on the customer's PC.

Appendix H: ES&S California County Operating System Install and Upgrade to Unity 3.0.1.1

ES&S California County AutoMARK Operating System Install and Upgrade to Unity 3.0.1.1

AutoMARK Upgrade Options	Comments
Upgrade and conversion performed by ES&S Technicians.	ES&S Requirements: • Suitable efficient work area to allow minimum of 3 units, per person staged. • A well lighted work area with ample power, tables and power strips. • Two (2) county support staff per person, to set-up and remove units on staging tables.
Upgrade and conversion performed by County Technical Staff under ES&S supervision: • Training Fee for Class • Tool Kits, average 3 per tech required (USB Hub, Keyboard, Mouse,) 1 per tech required Torx T10 Screwdriver. • Oversight ES&S technical management fee/day.	ES&S Requirements: • Suitable efficient work area to allow minimum of 3 units, per person staged. • A well lighted work area with ample power, tables and power strips. • Two (2) county support staff per person, to set-up and remove units on staging tables.

ES&S California County Model 650 Operating System Install and Upgrade to Unity 3.0.1.1

Model 650 Upgrade Options	Comments
Option 1 - 650 Board Upgrade and Conversion - ES&S Technician removes CPU board(s) from 650(s), board(s) are transported to Omaha, via customer, for upgrade. ES&S technician reinstalls upgraded board(s) at customer site.	Travel costs to/from Omaha are the responsibility of the county. Per the CA SOS – counties may nominate one county representative to bring all CA ES&S 650 boards to Omaha for the upgrade.
Option 2 - 650 Board Upgrade and Conversion - Customer purchases new board(s) and an ES&S technician is scheduled onsite to remove old board(s) and reinstall new board(s).	1 CPU Board and 1 CF Board Assembly required for each 650.

ES&S California County Model 650 Operating System Install and Upgrade to Unity 3.0.1.1 *(continued)*

Model 650 Upgrade Options	Comments
650 Visible Green Light Upgrade - Upgrade and conversion.	Components changed during VGL upgrade: • Kit of Resistors • 6 Visible Green Light Sensor Assemblies • 2 headers, code stock and additional fiber bundles

ES&S California County Model 100 Operating System Install and Upgrade to Unity 3.0.1.1

Model 100 Upgrade Options	Comments
Standard Upgrade Procedure	ES&S Technical Bulletin FYI1000013

Revision History

California Election Procedures August, 2010

Chapter	Description	Project
5.8 Audit Log: Procedures to Locate, Retrieve, Export, and Archive Audit Logs	Updated System Message tables and procedures	Audit log mitigation
10.6 Protective Measures and Prohibited Practices	Added new section to cover protective measures and prohibitive actions.	Audit log mitigation

California Election Procedures March, 2010

Chapter	Description	Project
Appendix E: Security Seals, Locks, and Tape	Added AutoMARK screens to the section regarding additional seals that can be used for more security.	Cert request

California Election Procedures August, 2008

Chapter	Description	Project
	Removed proprietary statement from copyright page. Also removed “Confidential and proprietary to ES&S” from the footer of each page.	
Introduction	Updated the telephone number to contact ES&S on page 5.	
1.2 Terms and Definitions	Changed the name of “Ballot CA Code 13200-13220” to “Ballot”on page 18. In addition, updated the maximum ballot length described in the definition of Ballot on page 18. Updated the definitions of Blank Ballot and Damaged Ballot on page 18 to include all ES&S tabulators.	

California Election Procedures August, 2008 *(continued)*

Chapter	Description	Project
	Updated the Marking Device definition on page 23 to include pictures of the preferred marking devices and a list of which device is preferable for each type of equipment.	
	Updated the description of the Memory Card Reading (Download and Upload) and Multiple Precinct Processing on page 24.	
Ballot Definition	Changed the length of ballots accepted by ES&S scanners to 11, 14, 17, and 19 inches on page 31.	
2.2 Paper and Printing Specifications (as appropriate)	A reference to incomplete arrows as voting targets has been removed from the 80# Opaque Ballot Paper heading on page 37.	
3.2 Hardware and Network Set-Up and Configuration	Updated information under the Install Model 100 Firmware heading on page 49 about where to obtain a firmware update disk.	
	Updated information under the Install Model 650 Firmware heading on page 52 about where to obtain a firmware update disk.	
	Updated information under the Install AutoMARK Firmware heading on page 53 about where to obtain a firmware update disk.	
4.1 Section B: Create a County Database	Information about the order in which you enter political parties controlling the home position for candidate rotation under the Political Parties heading on page 132 has been removed. The order in which political parties are entered does not control home rotation.	
4.1 Section K: Ballot Layout File	Changed the length of ballots accepted by ES&S scanners to 11, 14, 17, and 19 inches on page 235.	
4.5 Logic and Accuracy Testing of System and Components	Added “or actual election” to the following phrase under the 4.5.1 Pre-conditions for Performance of Tests, Including Test Decks (as appropriate) heading on page 469 .	
	”all memory cards to be used for Logic testing shall have been coded with the current election; all memory cards to be used for Accuracy testing shall have been coded with the “BMW” election, or with a similar fictitious election or actual election that will provide compliance with Section 2.6”	

California Election Procedures
August, 2008 *(continued)*

Chapter	Description	Project
	Changed the sentence under the Performance of Logic Test(s) heading from “During the Canvass period all of the Model 100s’ Precinct Results Tapes should be compared against the summary system generated precinct reports for agreeement.” to “During the Canvass period all of the Model 100s’ Precinct Results Tapes should be checked as outlined by the California Election Code.” on page 478.	
Appendix H: ES&S California County Operating System Install and Upgrade to Unity 3.0.1.1	Added the following tables beginning on page 874. • ES&S California County AutoMARK Operating System Install and Upgrade to Unity 3.0.1.1 • ES&S California County Model 650 Operating System Install and Upgrade to Unity 3.0.1.1 • ES&S California County Model 100 Operating System Install and Upgrade to Unity 3.0.1.1	

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