



MAINTAINING VOTER CONFIDENCE.
ENHANCING THE VOTING EXPERIENCE.

ES&S Model 100 Precinct Ballot Counter Operator's Manual

**Version 5.2
For use with
Unity 3.0**

Election Systems and Software, Inc.

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August 13, 2005

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Revision History

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5.2	3.0_1	8/13/2005	53	Added note under Status Report.
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5.2	3.0_1	8/13/2005	100	In paragraph under The Election Test Menu last sentence changed Read Ballot Menu to Test Option.



Our Mission

Our Mission is to support democracy worldwide by providing proven, accurate, and innovative election systems and services to voters and election officials.

Our Vision

Our Vision is to continuously improve and grow our integrated total election solutions that provide "Better Elections Every Day." We will accomplish this vision with an uncompromising commitment to customer satisfaction and integrity within the election process.

Who We Are

ES&S is a company of dedicated people building integrated systems and developing solutions for the election official's total management needs:

- Election and voter registration management software
- Ballot counting and tabulation hardware
- Election information management software

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Election Systems & Software does not extend any warranties by this document. All product information and material disclosure contained in this document is furnished subject to the terms and conditions of a purchase or lease agreement. The only warranties made by Election Systems & Software are contained in such agreements. Users should ensure that the use of this equipment complies with all legal or other obligations of their governmental jurisdictions.

FCC Compliance:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

The Model 100 Operator's Manual version 5.2 contains all of the information necessary to use any firmware version of the Model 100 5.2.X.X. Any changes to the tabulator's firmware version number beyond one decimal place represents changes to that do not affect usability or system operation.

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Chapter 1: Introduction

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 a ballot as soon as a voter inserts it and then feeds the ballot into the attached ballot storage bin.

Election laws and procedures vary from state to state. Use the procedures in this manual combined with the election policies and guidelines for your jurisdictions to develop a comprehensive election strategy.

The *Model 100 Operator's Manual* contains the following sections:

- **Understanding Warning Symbols:** This section defines all of the warning symbols used in this manual used to indicate possible hazards when using the Model 100 scanner.
- **Understanding the Counter:** This section contains descriptions of ballot scanner functions, including diagrams and descriptions of the individual parts of the Model 100 and the control panel.
- **Performing Pre-Election Day Tasks:** This section contains a list of all necessary election supplies as well as instructions for assembling the ballot box and counter, preparing the counter for operation and testing the loading election definition.
- **Performing Election Day Tasks:** This section contains instructions for opening the polls, closing the polls and printing reports.
- **Performing Post-Election Day Tasks:** This section describes post-election tasks including shutting down and disassembling the counter.
- **Appendix A: Maintaining the Counter:** This section contains procedures for routine and preventative maintenance for the Model 100.
- **Appendix B: Understanding the Reports:** Appendix B contains descriptions and samples of each report generated by the Model 100.
- **Appendix C: Understanding System Messages:** Appendix C contains descriptions of all system messages and instructions for correcting errors.
- **Appendix D: Understanding System Menus:** Appendix D contains descriptions of Model 100 system menus.
- **Appendix E: Troubleshooting:** Appendix E contains troubleshooting tips for poll workers.

Contacting ES&S for Technical Support

The *Model 100 Operator's Manual* contains comprehensive instructions for using the tabulator and descriptions of all scanner functions. If you require additional assistance or encounter a processing problem or system error, contact the ES&S technical support staff for advice or assistance.

Stay close to your scanner when you contact ES&S for support. Also, be prepared to provide the following information to the ES&S support representative:

- **The model number of your tabulator.**
- **The version number of the firmware installed on the tabulator.**
- **The exact wording of any messages displayed by the scanner.**
- **A description of what happened to cause the problem.**

Support representatives normally answer calls between 8:00 a.m. and 5:00 p.m. CST but ES&S extends support hours during election periods.

To contact an ES&S support representative:

Telephone: 877-377-8683 (USA & Canada) or
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.

Chapter 2: Understanding Warning Symbols

The following symbols appear in the *Model 100 Operator's Manual* next to the descriptions for any procedure that, if improperly executed, could cause harm to the operator or damage to the scanner. Read all of the warnings in this manual and use extra caution when you carry out any task that may pose a physical danger to yourself or the Model 100 tabulator.



Electrical Shock Danger: This symbol appears next to procedures that expose the operator to a risk of electric shock. Any operation that requires opening the Model 100 enclosure exposes users to dangerous high voltages. To reduce the risk of fire or shock, do not attempt to open the Model 100 enclosure unless you receive proper training from an ES&S technician.



User Caution: The user caution symbol appears next to procedures that could cause damage to the scanner or injury to the operator if improperly executed. Carefully read all warnings and proceed with caution if you choose to carry out these tasks.

Important Safety Instructions



Important: Read and follow the safety recommendations in this section of the *Model 100 Operator's Manual* to maintain proper safety measures when operating the scanner.

Read the Operator's Manual

Carefully read the operator's manual before you attempt to operate the scanner. Carefully follow all instructions and read all warnings contained in the *Model 100 Operator's Manual*.

Power Sources

Only use the type of power source indicated on the ID label of your Model 100 to power the tabulator. Make sure that you install the tabulator in compliance with all applicable sections of the National Electric Code. Consult your local building code before you install any ballot-scanning equipment.

Ventilation

The case of the Model 100 scanner contains slots and openings that provide the ventilation for the unit. To prevent the Model 100 from overheating, do not block or cover any of the scanner's openings during operation. Do not operate the Model 100 in an enclosed housing unless ES&S approves the container. Use only the integrated ballot box supplied by ES&S as a ballot container for the Model 100.

Water and Moisture



Caution: Do not place containers with liquids such as coffee, water or soda on or near a Model 100 terminal. Do not operate the scanner in an excessively wet environment. Store the Model 100 in a cool dry place.

Cleaning

Follow instructions in the "Cleaning the Scanner" section of Appendix A to properly maintain the Model 100. Use only the cleaning solutions approved and specified by ES&S to clean the tabulator.

Heating

Do not install the Model 100 near heat sources such as radiators, air ducts, areas subject to direct sunlight or other products that produce excessive heat.

Power Cord Protection

After you plug the scanner into an approved outlet, route or install the power cord for the Model 100 in such a manner to protect it from being walked over or pinched. Turn the scanner key to the off position before connecting or disconnecting the power cord. Remove the power cord before you move the unit. Only plug the power cord in to an easily accessible unobstructed wall socket.

Servicing

Do not attempt to service the scanner unless specifically instructed to do so by ES&S. Do not attempt to open the scanner case or perform internal maintenance unless you receive proper training from ES&S.

Damage Requiring Service

Some situations require an ES&S technician to resolve. Unplug the Model 100 and call ES&S to schedule service with a technician for the following conditions. Do not attempt to repair the scanner without first contacting ES&S.

- When the power cord is damaged
- If liquid is spilled into the scanner casing
- If the product is physically damaged in any way
- When the scanner displays a negative change in performance

Additionally, you should seek assistance from ES&S if the scanner does not function according to the descriptions in the operator's manual. Unless you receive specialized training from ES&S, do not attempt to adjust advanced settings that are not described in the *Model 100 Operator's Manual*. Improper adjustment of advanced controls may result in damage to the scanner and often require service by an ES&S technician to restore the scanner.

Battery Replacement Warning



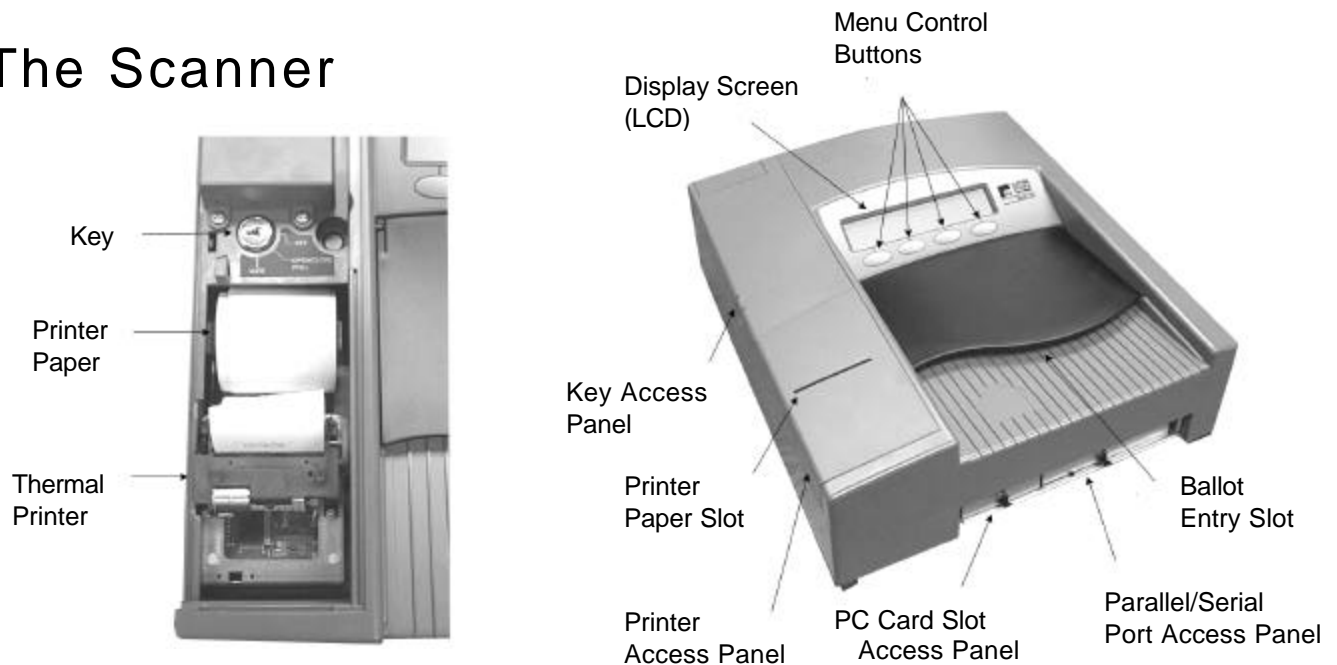
Caution: Improperly replacing the terminal battery exposes the operator to a risk of explosion. Only qualified ES&S technicians should replace Model 100 scanner batteries.

Chapter 3: Understanding the Counter

Use the diagrams and descriptions in this chapter to familiarize yourself with Model 100 scanner components and functions. Always scan a ballot test deck before your election to test the scanner for accuracy and to correct any functional errors before you count official ballots.

For a list of recommended polling place supplies and instructions for assembling and testing the Model 100, see Chapter 4, “Performing Pre-Election Day Tasks.”

The Scanner



The Model 100 scanner reads marks on both one and two-sided ballots. Administrators can request custom ballot acceptance criteria, which ES&S programs onto the scanner's election definition PC Card. For example, if a jurisdiction prohibits counting blank ballots, ES&S election coders can program the Model 100 sort blank ballots out of the general ballot count until jurisdiction officials can review the ballots. With each acceptable ballot counted, the Model 100 increases the running vote totals for each race included on the election definition.

A standard 120-volt AC power cord supplies electricity to the scanner. If a power outage occurs, the Model 100 contains an internal back-up battery that can run the scanner for one to three hours, depending on scanner activity. The tabulator stores accumulated totals to internal scanner memory (DRAM) and to a removable PC Card.

The Model 100 can generate reports and store election results in the following formats:

- Paper reports produced from the scanner's internal, thermal printer or by an external printer connected to the scanner.
- A removable PC Card that you can use to transfer scanner results to Election Reporting Manager after the polls close.
- Data transferred by modem directly from the scanner to a PC running Election Reporting Manager.

The Ballot Box

Model 100 ballot boxes store ballots and house the scanner at the polling place. ES&S supplies one of two styles of ballot box (metal or nested) with each Model 100 scanner. The Model 100 feeds scanned ballots directly into the ballot box, which sorts the ballots according to criteria programmed in the election definition with an internal diverter. The ballot box also has a compartment that poll workers can use to temporarily store uncounted or contested ballots in the event of a power failure or scanner error.

Metal Ballot Box



Nested Ballot Box



The PC Card

The Model 100 uses PC Cards to store the scanner's election definition, audit log and other election-specific information. Data on the PC Card exists in one sequential block, which is updated each time the Model 100 scans a ballot. Use PC Cards with a memory capacity of 256KB (kilobytes) or 512KB.

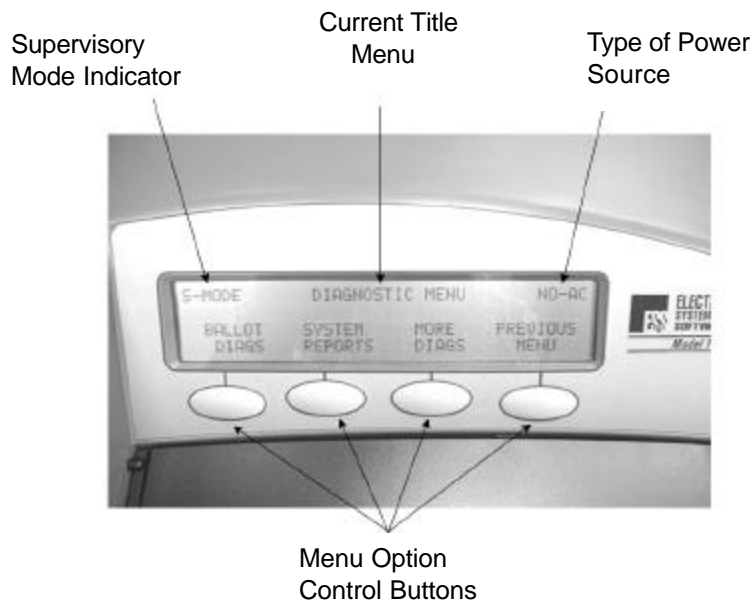


Scanner Controls

The four external buttons below the Model 100 LCD message screen control all scanner functions. Push the button below a menu option on the display screen to navigate Model 100 system menus.

The Menu Display

The Model 100 display screen contains four message areas. The top-center line of text on the screen identifies the current menu. The message in the top left corner identifies the status of the scanner. For example, "S-MODE" indicates that the operator has turned the scanner control key to the OPEN/CLOSE POLL position and the Model 100 is in supervisor mode. The message on the top right of the screen displays the scanner's battery status. The message "NO-AC" indicates that the scanner is using battery power. The lower line of text identifies available menu options. Press the button below a command to select a menu option.



Operators access most menu options through a series of sequential steps, while other options are only available while the scanner key is in the OPEN/CLOSE POLL position. The far right control button usually functions as a “Previous Menu” key that navigates backwards through Model 100 menus. For a detailed list of menu commands and functions, see Appendix D, “Understanding System Menus.”

Understanding the Three Operating Modes

The Model 100 operates in three separate modes. Operators open the scanner in diagnostic mode to calibrate and test the scanner. In polls open mode, the Model 100 actively scans ballots and tabulates results, and, in polls closed mode, the scanner prints poll reports and transfers election results.

Diagnostic Testing Mode

Open the scanner in diagnostic testing mode to load system firmware, calibrate the scanner and test your election definition.

Election officials should load system programs and test Model 100 election definitions before delivering scanners to polling places. Complete the following tasks to prepare a scanner for an election:

1. Load the election definition into the scanner. For more information, see “Loading the Election Definition” in Chapter 4.
2. Test the election definition and the scanner to ensure accuracy. For more information on testing the scanner, see Chapter 4, “Preparing the Counter.”
3. If necessary, lock out system functions after testing the scanner. For more information about locking down the system, see Chapter 4, “Preparing the Counter.”

Note: Locking out system functions keeps protects the Model 100 from tampering but still allows access to election testing functions.

Polls Open Mode

Open the polls to begin regular Election Day functions such as scanning ballots and tabulating vote totals.

Poll workers should monitor the scanner during an election, but the Model 100 requires minimal operator involvement during voting. The operator's main responsibility during voting is responding to system messages.

Polls Closed Mode

Close the polls at the assigned time to print reports or transfer scanner totals to election headquarters. Available Model 100 reports include Status Reports, Poll Reports, Precinct Reports, Certification Reports and the Audit Log report. After the polls close, operators can also transfer results to a central site using the scanner's modem.

Understanding the Election Definition

Election coders program a custom election definition onto a PC Card for each Model 100 used in your jurisdiction. An election definition contains all of the candidates, contests and ballot variations that the scanner will process at the polling place. The election definition also contains customizable program options that control how the tabulator operates and reports results. Customizable options include (but are not limited to):

- Automatic results transfer by modem
- Ability to re-open the polls
- Grouping of undervotes and overvotes on reports
- Automatic certification report printing when polls are closed
- Automatic results report printing when polls are closed
- Rejection, acceptance or query the voter when a scanner detects an overvoted, cross-voted or blank ballot

Chapter 4: Performing Pre-Election Day Tasks

Use the equipment list and the procedures included in this chapter to prepare your Model 100 scanner for a live election. Always perform routine maintenance on your voting equipment and test your ballot scanners before you open the polls on Election Day.

For instructions for opening and closing the polls, operating the scanner during an election and printing or transferring results, see Chapter 5, “Election Day Tasks.”

Recommended Supplies

ES&S recommends maintaining a supply of the following items for each Model 100 used in your jurisdiction. All of the listed items are available for order from ES&S. Contact ES&S customer service at (800) 247-8683 with any questions or orders. Allow four weeks for delivery.

- **Paper Spools:** The printer uses NCR 2.25” by 165’ thermal paper rolls. The NCR part number is 856704. **Recommended Quantity: 1 full roll per scanner**
- **PC Cards:** Battery backed PC cards that store the scanner’s election definition and ballot count. The standard memory capacity for Model 100 PC Cards is 256k but larger sizes are available. **Recommended Quantity: 1 per scanner**
- **Marking Devices:** ES&S recommends and supplies the Bic Round Stic (Black) medium point pen for voters to mark ballots. The Bic pen is the only marking device approved by ES&S for the use with the Model 100.
- **Pressurized air cans:** Use pressurized air to clean the scanner. **Recommended Quantity: 2 cans per scanner**
- **Cleaning pad and isopropyl rubbing alcohol:** Use isopropyl alcohol to clean the scanner rollers. If you order the cleanser from ES&S, the part identifier is ES-Cleaner. To clean the scanner rollers, pour the cleanser into a spray bottle and dampen the cleaning pad. Never spray cleanser directly on the scanner. **Recommended Quantity: 1 bottle per scanner**

Recommended Modem Types

Equip your Model 100 scanners with modems if your jurisdiction transfers precinct results to election headquarters over a network connection. ES&S tested and approved the following modems for use with Model 100 precinct scanners:

- **PCMCIA Modem:** MEGAHERTZ, XJ4336-CC4336, V.34+ Data/Fax/Cell/VOX
- **PCMCIA Modem:** 3COM, 3CXM/3CCM556, MEGAHERTZ Cell Telephony Modem, Data/Fax/Cell 56 Kbps
- **PCMCIA Modem:** USROBOTICS, XJ/CC5560, MEGAHERTZ Modem, Data/Fax/Cell 56 Kbps
- **PCMCIA Modem:** 3COM, MEGAHERTZ, 3CXM756 / 3CCM756, Data/Fax/Cell Serial Port Modem
- **External Modem:** Hayes compatible external modem
- **Cellular Digital Packet Data (CDPD):** Internal Novatel Model NRM 682 (n)
- **External PCS Phones:** Samsung PCS3500, Motorola PCS7876, Qualcomm PCS 2760, Sony SPC 4000

Note: If your jurisdiction transfers results via for TCP/IP wireless transmission, use one of the PCS phones in the previous list.

Note: CDPD wireless modem functionality is not supported for the Unity 2.5 voting system.

Assembling the Ballot Box

ES&S delivers each Model 100 scanner with either a nested ballot box (made of hard plastic) or a metal box. The metal ballot box does not require assembly. If your jurisdiction uses metal boxes, skip to the “Mounting the Scanner” section of this chapter. Use the instructions in the following sections to prepare ballot boxes at your polling places if your jurisdiction uses nested ballot boxes.

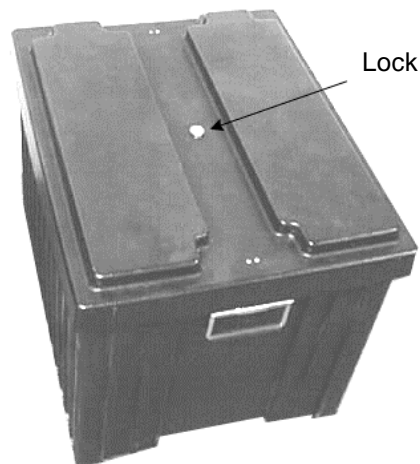
Assembling the Nested Ballot Box

ES&S delivers the nested ballot box and scanner in two containers. A carrying case that holds the scanner and power cord and a cube that assembles into the ballot box. Keys for the scanner and ballot box accompany the equipment. Completely assemble the ballot box before you mount the scanner.

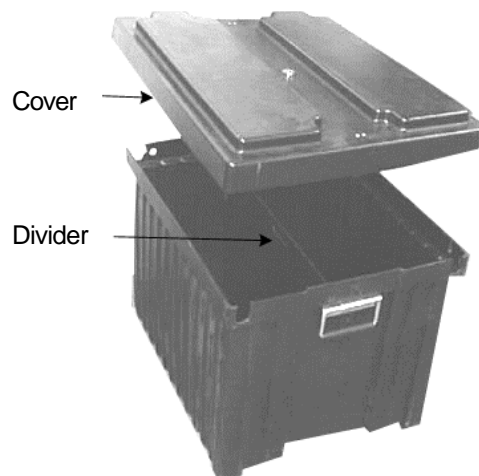
Note: Although the ballot box can be assembled by only one person, ES&S recommends a second poll worker assist with separating the top half of the box from the bottom half and with attaching the two halves during assembly.

To assemble the nested box

1. Unlock the cover of the ballot box with the key provided (one key fits the lock for all nested boxes).



2. Lift the box cover straight up and off the box and then set the cover aside.



3. Remove the divider, which looks like a flat piece of plastic with a cutout handle, from inside the box and set the divider aside.



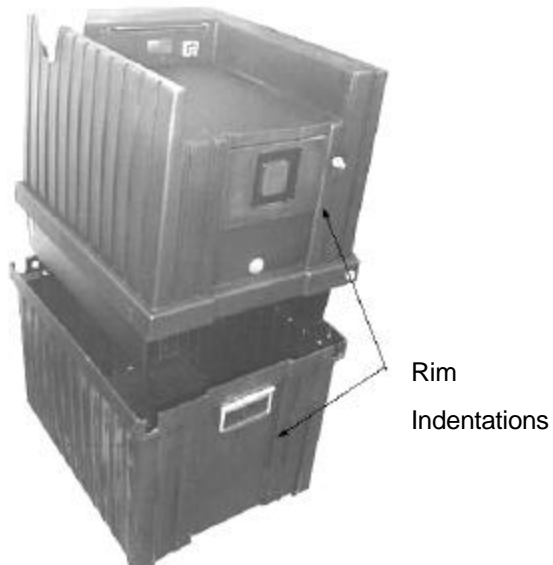
4. Swing the two handles up from inside the ballot box. Pull up on the handles until the top section of the box separates from the bottom section and then set the top section to the side.



5. Align the edges of the divider with the vertical grooves inside the bottom section of the box. Insert the divider until it locks into the tab at the bottom of the box.



6. Flip the top section of the box upside down so that the swinging handles hang down. Position the top section of the box over the bottom section. Make sure that the indentations on the front of both boxes face the same direction.



7. Lower the top section of the box until it fits inside the bottom. The handles on the top section should fit snugly inside of the bottom section. Use your ballot box key to lock the two locks on the front and the back of the box.
8. Slide the latch on the top section of the ballot box through the hole in the side of the bottom section.

Attaching the Model 100 to the Ballot Box

The metal box and nested box are equipped with different types of scanner access doors. Other than the access door, the process for mounting the scanner to either ballot box is the same.

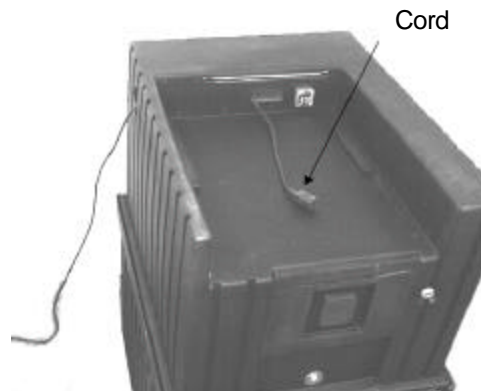
To set up the power cord

1. Before you mount your scanner to the top of a ballot box, inspect the power cord for damage.



Important: If the cord appears damaged, discard it and contact ES&S for a new cord.

2. Insert the female end of the cord through the opening on the outer left side of the ballot box.
3. Thread the cord through the outside opening on the back of the box until the cord appears on the inside of the opening at the top recessed area.



4. Pull the cord through the opening until it extends a few inches into the recessed area of the ballot box. Then, remove the scanner from the carrying case.

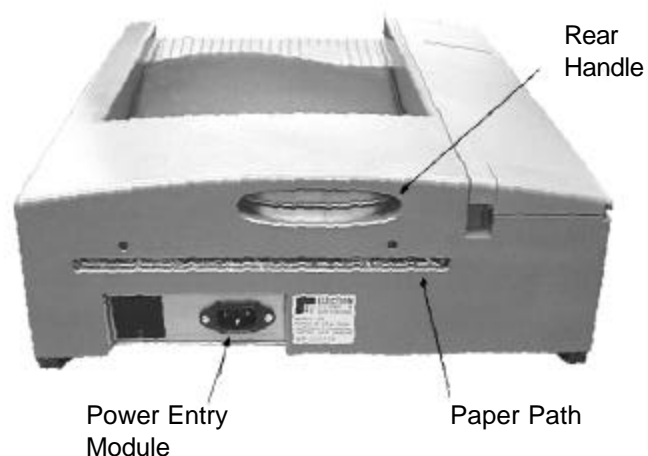
5. Place the scanner about one-third of the way into the recessed area and slide it onto the mounting rails until it sits about four or five inches from the back of the recessed area.



Warning: Only plug the Model 100 scanner into a grounded, three-pronged electrical outlet. Plug only one scanner into each available outlet. ES&S recommends does not recommend using an extension cord.

6. Plug the female end of the power cord into the Power Entry Module on the back of the scanner and then plug the male end of the cord into a wall outlet. Arrange your voting equipment to make sure that no one trips on the cord or accidentally unplugs the scanner on Election Day.

Note: The message, “NO-AC,” appears on the scanner’s display screen if the scanner is not receiving power through the power cord. Check your connections and the wall outlet if this message appears on your scanner’s display screen.

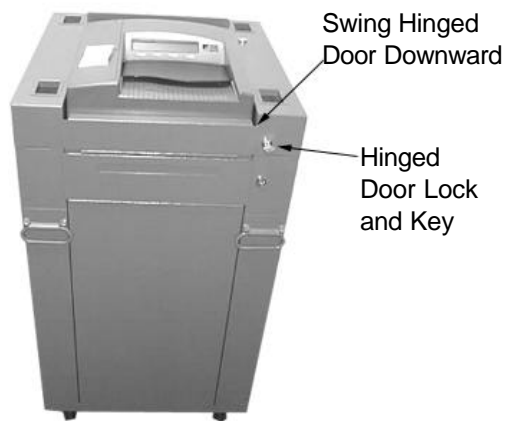


To attach the scanner to the ballot box

1. Slide the scanner against the back of the ballot box. Make sure the diverter connector at the back of the scanner locks into the slot on the ballot box.
2. Insert the scanner key into the control panel turn it to OPEN/CLOSE POLL position to start the Model 100 and generate an Initial State Report.
3. Slide the door on the front of the ballot box up until it covers the front of the scanner.

Note: The front access door on the nested ballot box slides up and down, while the door on the metal box is a hinged panel. Both doors lock to limit access to the scanner's PC Card.

Metal Ballot Box



Nested Ballot Box



4. If you use a nested ballot box, align the bottom arrow on the door with the center of the lock and lock the door into place.

OR

If you use a metal ballot box, align the hole in the access door with the bracket on the box and lock the hinged panel into place. Test the door to make sure the lock properly engages.

Preparing the Counter

After you mount the scanner to the ballot box, there are a number of tasks that you must complete before you open the polls. Because the proper operation of the counter depends on performing the following tasks, it is important to carefully review this section before every election.

Charging the Battery

The Model 100 uses a backup battery to ensure that scanner operations continue without interruption during a power failure. Plug the scanner in and turn the power on for twelve hours to fully charge the battery. If you charge multiple Model 100 precinct counters, do not connect more than 40 scanners per 15-amp circuit.

To check the battery charge

1. Turn the scanner key to the OPEN/CLOSE POLL position to power up the scanner and open the **DIAGNOSTIC-TEST** menu. Select **DIAGS** to open the **DIAGS** menu and select **MORE DIAGS**.
2. From the **MORE DIAGS** menu, select **BATTERY STATUS** to check your scanner's battery charge. For more information on the battery, see Appendix A, "Maintaining the Counter."

Loading the Election Definition

Model 100 precinct tabulators use election definitions programmed on PC Cards to recognize ballot marks and tabulate results. Make sure the scanner key is in the OFF position when you load an Election Definition.

To load an election definition

1. Lift the access door on the front left of the scanner to access the Model 100 PC Card slots. Insert the card programmed with your election definition into either card slot.
2. 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 either the top or the bottom slot. If



one slot does not accept the card, try the other. Do not force the card into a slot.

Checking 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. For more information about changing the date and time settings for the scanner, see “Changing the Date and Time” in this chapter.
- **Election Information:** Make sure that the jurisdiction name, polling place, and the number of precincts listed on the report are correct.

The Diagnostic-Test Menu

After you insert an election definition and start the scanner, the message, “ELECTION CARD INSERTED, OPEN POLLS NOW?” appears on the display screen. Press the first and third buttons on the control panel to access the scanner’s diagnostic test options.



Press both buttons at once to select the Diagnostic -Test menu

Access the following the following menus from the **DIAGNOSTIC-TEST** menu:

- **DIAGS:** Select **DIAGS** to open the **DIAGNOSTIC** menu. Select **MORE DIAGS** to access the **BATTERY STATUS** option and check the charge for the backup batter. Only ES&S technicians should select the **MOTOR CONTROL**, **BALLOT DIAGS** and **SYSTEM REPORTS** commands.
- **SYSTEM SETTINGS:** Access the **SYSTEM SETTINGS** and select **THRHLDS** to perform system tests such as the multi-sheet test (see “Checking the Multi-sheet Sensor” in this chapter). Select **DATE TIME** to change the scanners date and time settings (see “Changing the Date and Time” in this chapter). Only ES&S technicians should select **CALIBRATE DACS**.
- **ELECTION TEST:** Select the **ELECTION TEST** menu to test your scanner and election definition. For more information about testing your scanner, see “Testing the Election Definition” in this chapter

Note: The Model 100 does not allow you to open the scanner for voting unless you install a PC Card programmed with an election definition. If you start the Model 100, without installing a PC card first, only the diagnostics menu will be accessible. For a description of the menu options available without an election definition, see “Appendix D: Understanding System Menus.”

Changing Date and Time Settings

Daylight savings or a power failure can throw off Model 100 date and time settings. Use the **DATE/TIME** option from the **SYSTEM SETTINGS** menu to reset the scanner’s date and time settings.

To change the date and time

1. Access the **SYSTEM SETTINGS** menu from the **DIAGNOSTIC-TEST** menu and select **DATE TIME**
2. Select **SET DATE** or **SET TIME**, depending on which setting you want to change.
3. In either mode, press **SELECT** to scroll through number positions and then select **PLUS** or **MINUS** to increase or decrease the values.

Note: The **SET ZONE** option is the time zone setting based on Greenwich Mean Time. The **DAYLIGHT SAVINGS** option sets the date that the internal clock automatically changes for daylight savings. ES&S sets the **TIME ZONE** and **DAYLIGHT SAVINGS** options before shipping the scanner, and you should not adjust them.

4. After you correct the scanner’s date and time settings, select **PREVIOUS MENU** twice to return to the **DIAGNOSTIC-TEST** menu. The message, “LOCK OUT SYSTEM SETTINGS?” appears.

5. Select **YES** to remove the **SYSTEM SETTINGS** option from the **DIAGNOSTIC-TEST** menu. If you lock out the scanner's system settings, the option will not be available unless you install new election definition PC Card into the scanner. Select **NO** to retain access to the scanner's system settings.

Testing the Multi-Sheet Sensor

The Model 100's multi-sheet sensor prevents multiple ballots from passing through the scanner's read area at the same time. Test the multi-sheet sensor before Election Day to make sure that your scanner does not accept multiple ballots.

To test the multi-sheet sensor

1. From the **SYSTEM SETTINGS** menu, select **THRHLDS** to access the **THRESHOLDS** menu.
2. Select **MULTI SHEET** to open the **MULTI SHEET DETECTION** menu.
3. Place one test ballot on top of another and push the stacked ballots halfway into the ballot entry slot. The message, "DETECT TRUE," appears if the scanner recognizes the presence of more than one ballot in the read area. The message, "FALSE," appears if the scanner fails to detect multiple ballots.
4. If the multi-sheet sensor functions properly, press **PREVIOUS** to return to the **THRESHOLDS** menu. From the **THRESHOLDS** menu, press **PREVIOUS MENU** to return to the **SYSTEM SETTINGS** menu.

Note: If your scanner fails to detect multiple ballots, try the test again. Make sure that you feed the ballots at least halfway into the read area. If the sensor fails repeatedly, contact ES&S customer service for assistance.

Connecting an External Printer

You can connect an external printer to the Model 100 in order to print scanner reports on 8.5 x 11-inch paper. The scanner automatically sets the external printer as the default report destination once you attach a printer to your Model 100.

To connect an external printer, plug the printer cable into the parallel printer port located behind the right, front door of the scanner.



Connecting an External Modem

If your Model 100 is not equipped with an internal modem, connect an external modem to the scanner to transfer results directly from your polling place to election headquarters.

To connect an external modem

1. Connect the serial cable for your modem to the external communications port under the Model 100's right, front panel.
2. Connect the other end of the modem cable to the RS-232 port on the modem.
3. Connect the telephone line at your polling place to the RJ-11 telephone jack on the modem.
4. Plug the modem into an electrical outlet.

Connecting the Internal Modem

If your Model 100 scanner is equipped with an internal modem, use the telephone cord that came with your scanner to connect the Model 100 to a telephone jack.

To connect the internal modem

1. Connect one end of the telephone line to the RJ-11 telephone jack behind the front, right access door on the scanner.
2. Connect the other end of the telephone line to a telephone jack at the polling place.

Testing the Election Definition

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.

Test the scanner only after you install the election definition and configure the Model 100. If your jurisdiction programs its own election definitions, create a test deck that includes at least one ballot for each precinct enabled for your scanner and maintain accurate records of your test ballot selections. 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.

Note: The following ballot test is not accurate if you modify the **TARGET COUNT** setting from the **AUTOREAD SETTINGS** menu.

To scan a ballot test deck

1. Start the scanner and access the **DIAGNOSTIC-TEST** menu, select **ELECTION TEST** to open the **ELECTION TEST** menu.
2. From the **ELECTION TEST** menu, select **TEST BALLOT** to open the **BALLOT TEST** menu.
3. From the **BALLOT TEST** menu, select **FEED BALLOTS** to open the **ELECTION TEST INSERT BALLOT** menu.
4. Insert test ballots into your scanner one at a time. The public counter on the Model 100 message display screen should increase by one for each ballot the scanner processes. The Model 100 can scan ballots inserted in any orientation.

Note: If you programmed the Model 100 to tabulate ballots for multiple precincts, you must enable the additional precincts before scanning your ballots. For more information about scanning ballots for multiple precincts, see “Enabling Multiple Precincts for Testing” in this chapter.

To print ballot test reports

1. After you finish scanning test ballots, select **PREVIOUS** to open the **BALLOT TEST** menu. From the **BALLOT TEST** menu, select **PREVIOUS MENU** to return to the **ELECTION TEST** menu.
2. From the **ELECTION TEST** menu, select **REPORTS** to open the **ELECTION REPORTS** menu.
3. From the **ELECTION REPORTS** menu, select **REPORTS** to open the **PRINT REPORTS** menu.
4. From the **PRINT REPORTS** menu, access the following reports to view test results for your scanner:

- Select **STATUS REPORT** to generate a report that includes the number of ballots processed by your scanner. Verify that the number of ballots counted matches the number of ballots in your test deck.
 - Select **PRECINCT REPORT** or **POLL REPORT** to generate test results reports. Compare the scanner reports to your test ballot records to make sure that the totals match.
5. Verify your results and then select **PREVIOUS MENU** three times to exit the **ELECTION TEST** menu. The third time you select **PREVIOUS MENU** the message “Clear Election Test Results and Leave Election Test Menu?” appears. Select **YES** to clear test results and return to the **DIAGNOSTIC TEST** menu. If your scanner results and test records do not match, review your test ballots for errors and repeat the test. If the results are not correct after running the test a second time, contact ES&S for customer support.

To repeat a diagnostic test from the PRINT REPORTS menu

1. Beginning in the **PRINT REPORTS** menu, press **PREVIOUS MENU** twice to open the **ELECTION TEST** menu.
2. Select **ZERO TOTALS** to clear the scanner totals from your previous test. The message “Counters are set to zero” appears when the scanner memory is clear. Press **OK** to continue.
3. Select **TEST BALLOT** and repeat the testing process described in the “Testing the Election Definition” section of this chapter.

Note: If your scanner totals do not match test ballot records after a second test, contact an ES&S technical support representative for assistance.

Enabling Multiple Precincts for Testing

The Model 100 can process ballots for up to 10 precincts. This feature is useful for the following reasons:

- System redundancy and backup
- Absentee ballot counting, (ES&S can program a “dummy” precinct that allows you to view absentee ballot totals separately from Election Day totals)
- Processing ballots for multiple precincts on a single scanner

Note: When you create a ballot test deck for a scanner programmed to read ballots for multiple precincts, create and scan at least one ballot for each precinct the scanner will process on Election Day.

To enable multiple precincts for a ballot test

1. Use the instructions in the “Testing the Election Definition” section of this chapter to access the ballot test menu. Feed one test ballot into the scanner and then press the far left button on the scanner’s control panel under the **ELECTION TEST INSERT BALLOT** menu to open the **ENABLE PRECINCTS** menu.
2. Select **NXT-PREC** to cycle through the available precincts.
3. Select **ENABLE** for each precinct that you want to open on your scanner. Selected precincts remain enabled for the duration of your ballot test. The scanner defaults to original precinct settings after you complete the test.
4. Select **PREVIOUS** to return to the **ELECTION TEST INSERT BALLOT** menu.
5. Resume your ballot test and print your test reports. For more information on testing your scanner, see “Testing the Election Definition” in this chapter.
Note: After you open the polls, enable precincts by turning the key to the **OPEN/CLOSE** polls position and pressing the button furthest to the left on the control panel. Once you enable a precinct, you cannot disable it.

Configuring a Wireless Modem

If your jurisdiction uses optional, Model 100 wireless modems to transfer results to election headquarters, configure the modem from the **DIAGNOSTIC-TEST** menu before you open the scanner for voting.

To configure the Model 100 wireless modem

1. Turn the key on the Model 100 to the **OPEN/CLOSE POLL** position. The message, “ELECTION CARD INSERTED OPEN POLLS NOW?” appears.
2. Press the first and second buttons from the left simultaneously to open the **MODEM** menu. The options available in the **MODEM** menu are **MODEM SETTINGS** and **CDPD STATUS**.

3. Select **MODEM SETTINGS** to change the telephone number for election headquarters, change IP address settings for your network transfers and to configure other modem functions.
4. Select **CDPD STATUS** to test the Model 100 wireless modem.

Note: CDPD wireless modems are not supported by the Unity 2.5 voting system

The Pre-Voting Checklist

Review the following list before you open the scanner for voting:

- Have you anticipated all potential special voting conditions, such as overvotes and absentees, and included those conditions in the election definition?
- Have you charged the scanner's back-up battery?
- Is there a sufficient paper supply for the printer? If you use an external printer, have you recently changed the ribbon? Is a backup ribbon readily available?

- Have properly completed setup and test procedures?
- Do ballots contain the correct precinct identification number(s)? Does the identification number on the PC Card match the number on your ballots?

After completing all pre-election preparations, turn the key on the Model 100 to the OFF position. Remove the key, close the key access panel and prepare the scanner for transportation to the polling place.

Chapter 5: Performing Election Day Tasks

This chapter contains instructions for the following Election Day tasks:

- **Opening the polls**
- **Scanning Ballot**
- **Closing the polls**
- **Re-Opening the polls**
- **Handling Uncounted Ballots**
- **Printing election reports**
- **Transferring results**

Opening the Polls

Before your polling location opens for voting, retest and check the system configuration for each of your scanners. For more information about testing and configuring scanners, see Chapter 4, “Performing Pre-Election Day Tasks.”

After you test and configure your scanners, load the PC Cards with the scanner election definitions and turn the Model 100 control key to the OPEN/CLOSE POLL position on each scanner at the polling location. Then, use the instructions in this section to prepare the scanners for voting.

To open the polls

1. After you start the scanner with the control key, the system initializes and the message “ELECTION CARD INSERTED: OPEN POLLS NOW?” appears. Select **YES** to open the polls.
2. 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 scanner checks available memory and scans election definition for errors.
 - Depending on options set for your election definition, the Model 100 prints a Status Report, a Zero Totals Report and/or a Zero Certification Report

on activation. Select **CANCEL** at any time during printing to cancel the current report and all following reports.

3. After the Model 100 finishes printing the startup reports, make sure the scanner key is in the **VOTE** position, and then remove the key and close the access panel.
4. After you remove the key, you can open the scanner for live voting. Make sure that the public counter on the Model 100 display screen increases by one with each ballot cast but do not make any further adjustments to the scanner unless a system message appears.

Note: If you need to review a scanner's function history, you can print a system audit report at any time while the polls are open. To print an audit report, open the scanner's access panel, insert the control key and turn the key to the **OPEN/CLOSE POLL** position. Select **AUDIT LOG REPORT** from the scanner control panel to print the report. You can cancel the report at any time by pressing **CANCEL**. After you finish printing, turn the key to the **VOTE** position and close the key access panel to re-open the scanner for voting.

Scanning Ballots

The Model 100 can scan ballots inserted in any direction or orientation. Depending the options set for your election definition, the Model 100 will use one of the following methods for accepting or rejecting blank ballots, overvotes, and crossover votes:

- **Unconditional acceptance:** The scanner accepts and tabulates results for all ballots. The scanner automatically sorts questioned ballots without storing results from those ballots.
- **Unconditional rejection:** The Model 100 automatically rejects crossover, overvoted or blank ballots. Voters must review and correct ballot selections before the scanner will accept the ballot.
- **Query the voter for correction:** The Model 100 returns 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. The voter can press **RETURN** to correct the ballot or presses **ACCEPT** to cast the ballot without editing selections.

Poll workers should closely monitor system messages during voting. For descriptions of system messages and recommended actions, see Appendix C, "Understanding System Messages." If you encounter a problem that you cannot correct, contact election headquarters or ES&S technical support.

Closing the Polls

Close your polling place for voting at the assigned time and then, use the Model 100 control key to prepare scanner results for processing. You cannot print reports, transfer results or process vote totals from the scanner's PC Card until you properly close the polls.

You can print election, event, and audit log reports after you close the scanner for voting. You can also transfer results to combine your scanner totals with the final vote tallies from other polling places at a central counting location.

To close the polls

1. Check the ballot auxiliary bin for sorted, uncounted ballots.

Note: Study your jurisdiction's procedures for handling uncounted ballots before Election Day. For more information about removing and processing sorted ballots, see "Handling Uncounted Ballots" in this chapter.

2. 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.
3. Press **CLOSE POLLS** to officially close the polls. Depending on your election configuration, the scanner may automatically print one or more of the following reports: Status report, Race Results report, Certification report and/or Audit Log report. Select **CANCEL** to stop printing a report at any time. The **POLLS CLOSED** menu appears after the scanner finishes printing.

Note: If you configured the Model 100 election definition to automatically transmit results over a network connection to a central PC, the data transfer begins at this time.

4. To print additional Audit Log Reports, select **AUDIT – LOG REPORT** from the scanner control panel. Select **CANCEL** to stop printing at any time.

Caution: If you use a modem to transfer Model 100 results, generate all necessary, printed reports before you transmit results. In order print paper reports, the scanner uses PC Card data that the Model 100 automatically deletes after transferring data over a network. For descriptions and examples of each Model 100 report, see Appendix B, "Understanding Reports."

5. From the **POLLS CLOSED** menu, select **SEND RESULTS** to manually transmit election results over a network connection. After the Model 100 attempts to send results, the scanner displays a message that indicates whether data transfer was successful. If the transfer fails, attempt to send results again. Deliver the PC Card to election headquarters if the transfer fails a second time.

For more information about transferring Model 100 results, see the “Transferring Results” section of this chapter.

Reopening the Polls

If you discover voted ballots mistakenly left in voting booths after the polls close or, if you must close the scanner for voting before the assigned time, you can reopen the Model 100 to scan uncounted ballots.

Note: Some jurisdictions do not allow reopening of the polls after the assigned closing time. Your jurisdiction must specifically request the option to reopen the polls from ES&S election programmers or include the option on the election definition PC Card in order to reopen polls.

To reopen the polls

1. Turn the scanner control key to the OPEN/CLOSE POLL position to access the **POLLS CLOSED** menu. Select **MORE** to open the **MORE SELECTIONS** menu. From the **MORE SELECTIONS** menu, press **RE-OPEN POLLS**, to open a password selection screen.
2. Contact your election administrator or ES&S customer support for the scanner password. 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.
3. Press the button labeled **ENTER** after you input the password. The message, “CLEAR ELECTION DAY TOTALS,” appears if your password is correct. Select **YES** to clear scanner totals or **NO** to add the totals from any scanned ballots to the stored results.

Note: Do not select **YES** under the “CLEAR ELECTION DAY TOTALS” heading unless you want to erase *all* vote totals from scanner memory. If you accidentally press **YES**, you must rescan all of the ballots cast on the scanner.

4. The message, “ELECTION CARD INSERTED, OPEN POLLS NOW?” appears after you clear or retain scanner results. Simultaneously press the first and third buttons on the control panel to access the **DIAGNOSTIC-TEST** menu from this screen. Select **YES** and then turn the key back to the **VOTE** position to re-open the polls.

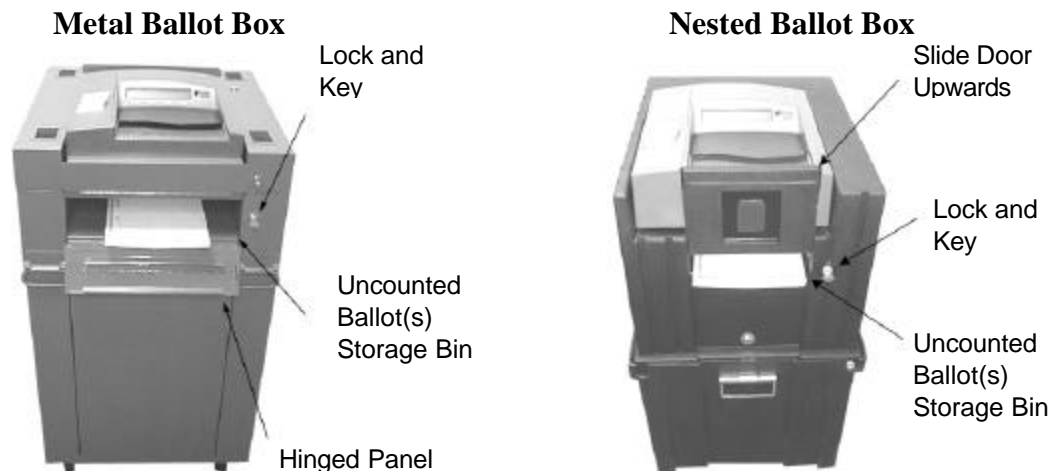
Handling Uncounted Ballots

Save any ballots that were uncounted during voting due to, sorting, power failure or scanner problems in the temporary ballot storage bin. After you close the polls, remove and scan the uncounted ballots to add the totals to your scanner's memory. Study your jurisdiction's regulations for handling uncounted ballots before you remove and scan stored ballots.

If your jurisdiction uses metal ballot boxes, unlock the ballot access panel on the left side of the ballot box to remove stored write-in ballots.

To access the temporary ballot storage bin

1. Unlock the sliding door on the front of the nested ballot box or the bottom door on the front of the metal ballot box.
2. If you use the nested ballot box, slide the bin door upward and away from the storage bin to access your uncounted ballots. If you use the metal ballot box, swing the hinged door on the front of the box down to access the uncounted ballot storage bin.



3. Inspect the uncounted ballots and then feed them into the scanner.

Note: Double-check the back of the bin to make sure that no ballots remain uncounted.

Printing Election Reports

The Model 100 generates a variety of results reports after the polls close. Depending on the options configured for your election definition, the scanner may automatically print reports when you close the polls or you can manually select reports from the **POLLS CLOSED** menu.

To print a report

1. Close the polls to access the **POLLS CLOSED** menu and select **RESULTS REPORT** to reprint any automatic reports generated by the polls closed. The types of reports generated depend on your election definition settings.
2. To print additional reports, return to the **POLLS CLOSED** menu and select **MORE** to access additional commands. Press **MORE REPORTS** to access additional report formats.



Note: You can configure your election definition to require a password to access the report menus.

3. Select **CHANGE TYPE** to toggle between Media and Summary report formats. For descriptions and examples of Media and Summary reports, see Appendix B, “Understanding Reports.”
4. From the **REPORT SELECTION** menu, select a report to begin printing. Press **CANCEL** to stop printing at any time.

Note: For descriptions and examples of each Model 100 report, see Appendix B, “Understanding Reports.”

Transferring Results

If your jurisdiction uses Election Reporting Manager to generate election reports, transfer results from your precinct counters to the PC running the reporting software.

To transfer the results with a modem:

1. Select **SEND RESULTS** from the **POLLS CLOSED** menu. The Model 100 automatically searches for a modem and dials the phone number programmed into the election definition. The scanner displays a confirmation message if the data transfer is successful.
2. If the transfer fails, try to send results a second time. If the transfer fails again, deliver the scanner's PC Card to election headquarters and load scanner results directly to Election Reporting Manager.

To transfer results with the PC Card:

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. Deliver the PC Card to election headquarters.

Note: Deliver all write-in ballots to your election administrator as soon as possible after the polls close. Separate all of the write-in ballots from regular ballots. To remove write-in ballots from the ballot box, follow the instructions in the "Handling Uncounted Ballots" section of this chapter.

Chapter 6: Performing Post-Election Day Tasks

Use the instructions in this chapter to perform routine maintenance and clean the Model 100 after the polls close. Post-election maintenance ensures that your scanner will be usable for many elections.

Disassembling and Packing the Ballot Box

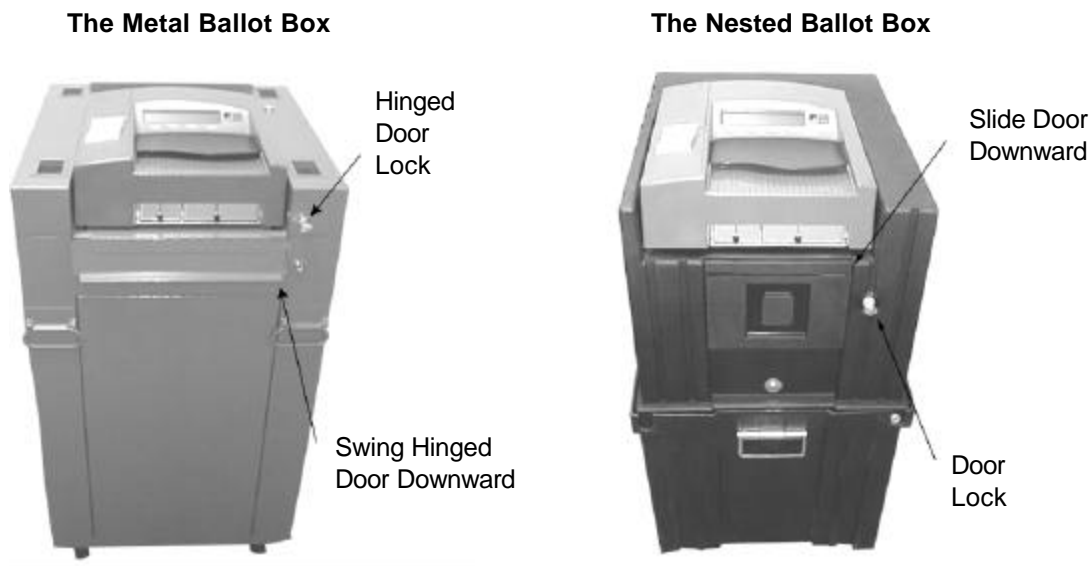
Carefully pack the scanner and ballot box for storage. Disassemble the Nested Ballot Box after you remove uncounted ballots from the ballot storage bin. The Metal Ballot Box requires no disassembly.

To remove the scanner from the ballot box:

1. If you use the nested box, unlock the small sliding door on the front ballot box and slide the door down until it no longer covers the front of the scanner.

OR

If you use the metal box, unlock the top hinged panel on the front of the ballot box and swing it down to expose the front of the scanner.



2. Turn the scanner control key to the **OFF** position, remove the key, and give it to the Election Administrator.

Note: Close the Key Access Panel and Printer Access Panel before you continue.

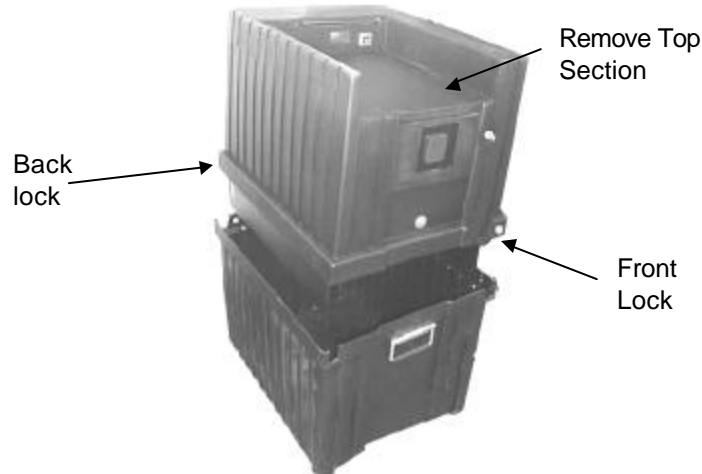
3. Pull the scanner forward about four to five inches and disconnect the power cord from the back of the terminal. Thread the cord through the back of the ballot box and unplug it from the wall outlet.
4. Slide the scanner forward until it clears the mounting rails and remove the scanner from the ballot box.

Note: Lock and secure all of the ballot box doors before you place the metal box in storage.

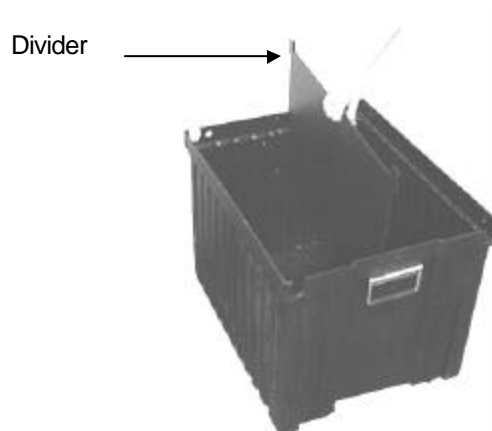
5. Place the scanner and its power cord into the scanner carrying case.

To dismantle the nested ballot box:

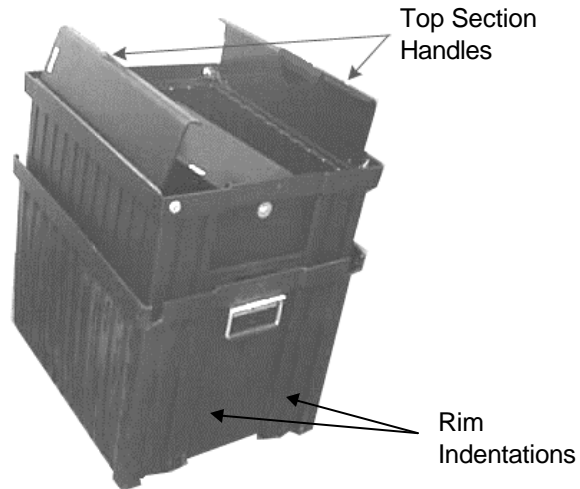
1. Unlock the front and back locks that secure the two halves of the ballot box. Then, remove the top section of the box and set it aside.



2. A plastic divider separates write-in ballots from the rest of the stored ballots in the box. The Model 100 diverts write-in ballots to the right side of the box and sends regular ballots to the left side. Keep the write-in ballots separated and remove all of the ballots from the box. Pack the regular and write-in ballots into separate, secure cases and transport them to your election headquarters.
3. Remove the plastic divider from inside the box.



4. Turn the top section of the box so that the scanner compartment rests on the floor. Lift the top section and align the indentations on the front of the top and bottom of the ballot boxes. Lower the top half of the box into the bottom half.



5. Slide the divider into the left side of the top section until the top of the divider rests below the top rim of the box. Do not force the divider into the box. If you encounter any resistance when you slide the divider into the box, you are attempting to place the divider on the wrong side of the box.
6. Locate the ballot box cover and align the front of the rim (the side with the indentation) with the front edge of the ballot box.
7. Place the cover onto the ballot box. Firmly press on the lid to engage the locks on the top of the cover at the front and back of the nested box.

Appendix A: Maintaining the Counter

Perform the following maintenance tasks to keep your Model 100 scanner in proper working order:

- Clean the scanner
- Clean the ballot box
- Maintain the internal printer
- Maintain the scanner battery

Cleaning the Scanner

Clean your scanner before and after each election.

To clean the scanner

1. Turn off the scanner and unplug the power cord.



Warning: *Electrical Shock Danger.* Always unplug the AC power cord, turn the scanner's key to the OFF position and remove the key before you clean a Model 100 scanner.

2. Clean the ballot entry and exit slots with a can of pressurized clean, dry air or inert gas, which is available for order from ES&S. Aim the air can's spray tube into the ballot entry slot and blow out all the debris. Clean the ballot exit slot in the same way. Repeat the entire procedure and inspect the entrance and exit slots with a flashlight.
3. Use pressurized air to remove dust and debris from around the menu display.
4. Use a soft cloth and water, or a mild solution of water and soap, to wipe down the scanner. Dampen, do not soak, the cloth with the cleaning solution. Do not spray cleaning solution directly onto the scanner.
5. Clean the menu display window with the damp cloth. Be careful not to scratch the display panel. Then, clean the control panel buttons and the area around the buttons.
6. Use the cloth and cleaning solution to clean the scanner's outer case. Start at the top and work down to the base.
7. Clean the scanner's stainless steel base plate with the cleaning solution. Wipe all traces of the cleaning solution off the scanner after you finish cleaning.

Cleaning the Ballot Box

Clean your Model 100 ballot boxes either before or after each election. You must disassemble the nested box for cleaning. The metal box requires no disassembly.

To clean the ballot box

1. If you use the nested ballot box, separate the box into its two halves. For instructions for disassembling the ballot box, see Chapter 4, “Assembling the Ballot Box.”
2. Use a cloth dampened with cleaning solution to clear dust and debris from the ballot box. For instructions for mixing cleaning solution, see “Cleaning the Scanner,” earlier in this appendix.
3. Remove the divider from the lower ballot bin before you clean the bottom section of the ballot box. Clean the inside of the bin first and then the outside. Wipe down the interior ballot divider and the box cover. Remember to periodically rinse the cleaning cloth.
4. Stand the ballot box upright to clean the recessed, scanner housing.



Important: Make sure the power cord and the diverter motor connector are not damaged or dirty.

5. Turn the mounting pedestal upside down and clean the inside of the box. Use a soft cleaning brush or feather duster to clear dust and debris. Use a brush to clean the diverter vane, the diverter motor and the controller circuit board for the ballot diverter. Do not to bend or damage any of the sensitive components contained in the diverter motor assembly.
6. Use a brush to clean debris and dust from the ballot chute assembly. Do not use liquids to clean the inside of scanner mounting pedestal. Re-assemble the unit after you finish cleaning.

Maintaining the Internal Printer

Open the door on the left side of the scanner to access the internal printer.

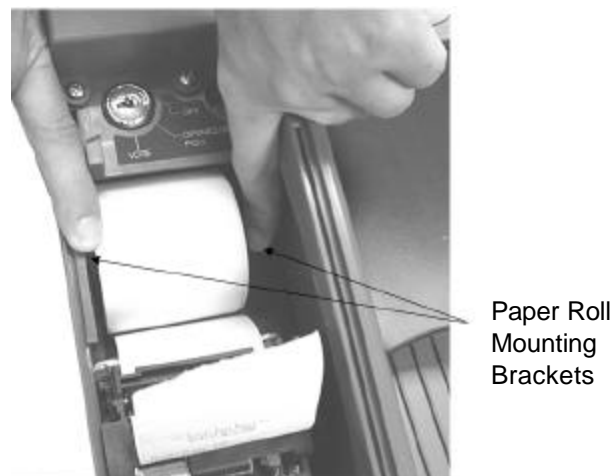
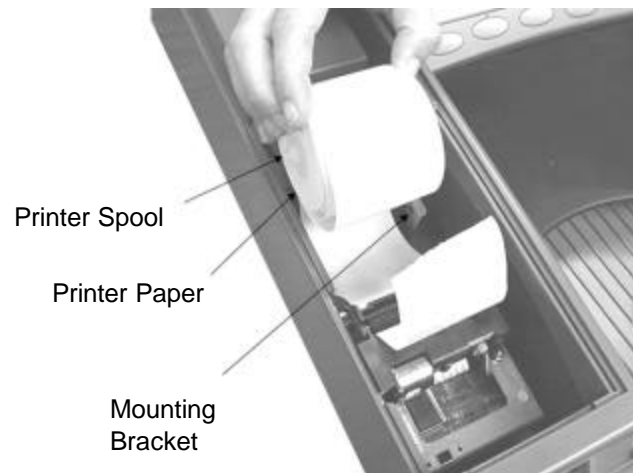
Replacing the Paper Roll

Check the Model 100 printer and change the paper roll, if necessary, for Election Day.

Note: A “time out waiting for paper” message may appear due to the internal printer being out of paper.

To replace the paper roll

1. Depress the mounting brackets on each side of the empty paper roll and lift the roll out of the scanner.
2. Remove the white plastic paper spool from the center of the empty paper roll and insert it into a new roll. Press out on the paper mounting brackets and insert the new roll into the printer.
3. Manually feed the paper or select **PAPER FEED** from the **ELECTION TEST** menu to position the printer paper.



Feeding the Paper

Use the following instructions to place blank space on the paper between reports or to advance the paper if the printer jams.

To advance the paper

1. From the **DIAGNOSTIC-TEST** menu, select **ELECTION TEST**.
2. Select **REPORTS** in the **ELECTION TEST** menu.
3. Select **PAPER FEED** to advance the printer paper.

OR

1. From the **POLLS CLOSED** menu, select **MORE**.
2. Press **PAPER FEED** to advance the printer paper.

Maintaining the Scanner Battery

The Model 100 uses a 12-volt, 7-amp lead acid battery to power the scanner in case of an electrical power failure. Depending on the age of your scanner, the battery is either an *Exide NP7-12* or *Powersonic PS-1270*. A fully charged battery can power an “active” scanner for up to one hour and an “idle” scanner for up to three hours. The machine is “active” when counting ballots or printing reports. Estimated battery life is five years.

To check the charge for your backup battery, open the **DIAGNOSTIC-TEST** menu and select **DIAGS**, then **MORE DIAGS**, and then select **BATTERY STATUS**. Refer to the following instructions for more information.

Battery Cautions



Important: You can use the backup battery under normal operating conditions, in any orientation without danger of leaking. Removing the battery from the scanner exposes it to risks that are not present under normal operating conditions.



Warning: Shorting the battery terminals together is especially hazardous even if the battery is “discharged” or “dead.” Shorting the terminals can create sparks, melt wires, and possibly start a fire. Use extreme caution when handling the backup battery.

Note: The Model 100 battery may be recycled. Please dispose of the battery properly.

Charging the Battery

Plug the power cord into the scanner and turn the power on for at least 12 hours to fully charge the battery. Check the condition of your power cord if the message “NO-AC” appears in the upper right quarter of the menu display after you turn the scanner on.

Removing and Replacing the Battery



Warning: Do not attempt to replace the battery in the Model 100 scanner. Only qualified ES&S technicians should replace the battery for this machine.

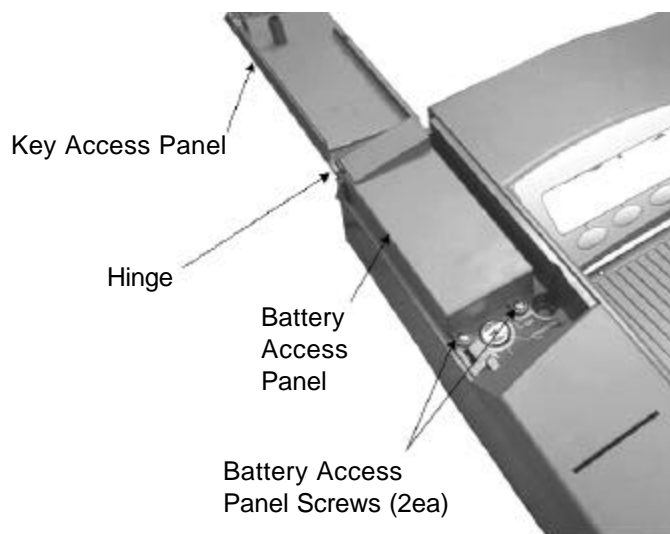


Warning: *Electrical Shock Danger.* Make sure that you unplug the AC power cord, turn the scanner key to the OFF position and removed it before replacing the battery.

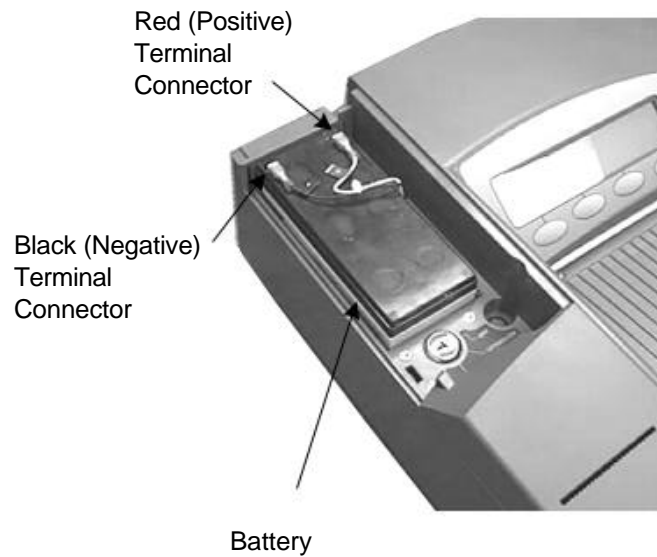
Because you must remove the external cover of the Model 100 before you can replace the battery, you should not attempt to replace the battery without proper training from ES&S. Removing the cover exposes the scanner’s internal circuitry to damage. Always contact ES&S technical support before you attempt to replace a Model 100 backup battery.

To remove the battery

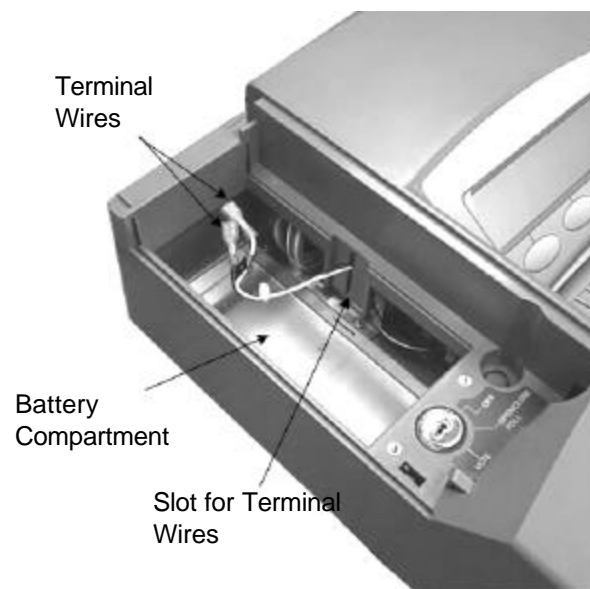
1. Open the Key Access Panel, locate the two screws for the Battery Access Panel and remove the screws.



2. Remove the two panels as one unit (with a hinge). Rotate the Key Access Panel towards the closed position until the panels clear the slots. Remove the panel to expose the battery.



3. Disconnect the red (positive) and black (negative) terminal connectors and lift the battery out of the scanner housing.
4. Inspect the Model 100 battery compartment. Make sure the terminal wires are properly threaded through the terminal wire slot in order to protect the wires from crimping when you install a new battery.



To install a new battery

1. Place a new battery into the battery compartment at the rear of the scanner.
2. Insert the red, positive wire from the terminal into the red battery connector on the battery. Then, insert the black wire into the black battery connector.



Warning: Use caution when you connect the battery to the scanner. Inserting a scanner wire into the wrong battery port can cause a short circuit that can injure you or cause permanent damage to the scanner.

3. Insert the panel hinge into the scanner slots and reinstall the two access panels (Key and Battery Access Panels).



4. Rotate the Battery Access Panel forward until the two screw holes align with the nut plates on the main unit and insert the two screws.
5. Turn on the scanner for 24 hours to charge the battery then check the battery status to confirm that the battery holds a charge.

To replace a Model 100 fuse

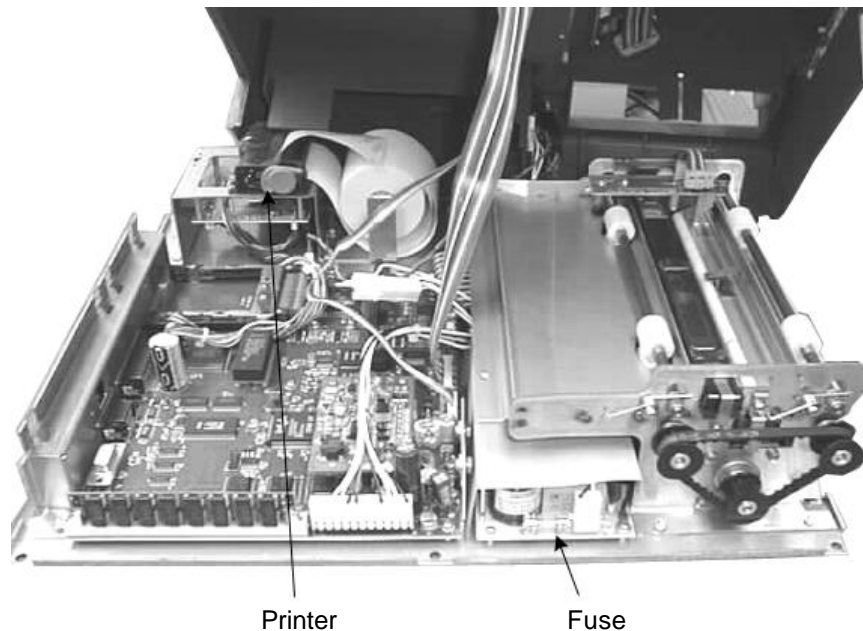


Warning: *Electrical shock danger.* Do not replace the fuse for the Model 100 scanner unless you receive proper training from ES&S. Only qualified ES&S technicians should attempt to replace the scanner fuse.

1. To replace the AC line fuse, turn the scanner key to the OFF position, disconnect the power cord and remove the scanner from the Ballot Box. Then, remove the battery (See “Removing and Replacing the Battery” in this chapter).
2. Turn the scanner on its side, and remove the six Phillips head screws that connect the mounting rails to the stainless steel base plate. Set the mounting rails aside and set the scanner upright.
3. Remove the ballot cover above the ballot input path to expose the two Phillips head screws near the ballot insert slot. Remove the two Phillips head screws to open the scanner’s outer case.



4. The Model 100 AC power supply module contains a 3 AG, 2-amp Fast-Blow fuse. This power module is mounted on the left side of the stainless steel deck plate near the center of the scanner. You can recognize the power supply by the shield made out of stiff “fish” paper that surrounds the module. The fuse is mounted on the outside edge of the power supply module and can be accessed without removing the fish paper shield.



5. After you replace the fuse, check the fish paper shield to make sure it remains in place around the AC power supply module.
6. Replace the scanner's cover and secure the eight mounting screws (six mounting rails and two screws near the ballot insert slot). Route the cables from the cover assembly away from the paper drive mechanism.

Note: For more information about reassembling the scanner, see the “Removing and Replacing the Battery” section of this appendix.

Appendix B: Understanding Reports

The Model 100 generates a variety of election results reports. Appendix B contains descriptions and examples of each available report. Familiarize yourself with the available report formats and types to generate the proper reports for your jurisdiction.

Results Reports

Select from the following report formats and types to configure reports for your jurisdiction.

Report Format

ES&S or your jurisdiction's election programmer hard code available report formats into the Model 100 election definition. The report formats that you select (either media or summary) affect the Poll Reports and Precinct Reports generated directly from the Model 100. Reports printed in media format display candidate names, candidate vote totals and write-in totals. Reports printed in summary format display candidates, candidate vote totals, write-ins, undervote and overvote totals.

Report Types

Select from the following report types.

Status Report

The status report lists the number of ballots accepted by the scanner and categorizes the ballots by type. This report also displays the ballot counts each active precinct and the totals for your polling place.

Note: Counts of cross over votes are for statistical use and are not included in the ballot totals.

Poll Report

The poll report lists results for every contest voted and recorded on the scanner.

Precinct Report

The precinct report displays the results for every contest voted on the scanner broken down by precinct.

System Reports

The Model 100 can generate the following system reports.

Initial State Report

The initial state report is a descriptive list of system settings that automatically generates when you turn on the scanner. The report includes a list of election configuration settings if the election definition is loaded when you turn on the scanner.

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.

Certification/Zero Report

The certification report, or zero report, prints automatically when you open the polls for voting. The zero report lists the date and time that the polls open followed by the vote count for all of your contests and blank signature lines for poll worker certification. The Model 100 allows you to print an additional certification report immediately after printing a results report.

Diagnostic Reports

The Model 100 prints the following diagnostic report types.

Configuration Report

The configuration report lists system and election configuration settings along with scanning parameters and cell window locations.

Debug Report

The debug report displays low-level system settings. ES&S technical support uses the debug report to diagnose problems with the Model 100.

System Report

Select the System Report to print a System Audit Log.

Status Report

Status Report

10:57:34 06/19/2002

Wisconsin Certification

Wisconsin Open Primary 17/41

0001 POLLING PLACE 1 0001

Election Date: July 4, 2002

WARD 1

Ballot Types:

DEM	REP	WIS	LIB	NON	XRV
0	1	0	0	0	0

Total: 1

WARD 2

Ballot Types:

DEM	REP	WIS	LIB	NON	XRV
0	1	0	0	0	0

Total: 1

WARD 4

Ballot Types:

DEM	REP	WIS	LIB	NON	XRV
0	1	0	0	0	0

Total: 1

WARD 5

Ballot Types:

DEM	REP	WIS	LIB	NON	XRV
0	1	0	0	0	0

Total: 1

Grand Total

Ballot Types:

DEM	REP	WIS	LIB	NON	XRV
-----	-----	-----	-----	-----	-----
0	1	0	0	0	0
Total: 1					

Poll Report-Media Format

*** Voting Results Report ***
 10:37:28 06/19/2002

Sample County
 Test Election
 0001 POLLING PLACE 1
 Election Date: July 4, 2002
 Total Number Voting: 50

Poll Voting Report

Total Ballots for All Precincts 50
 Ballots for Code 000001-01-01 12
 Ballots for Code 000002-01-01 14
 Ballots for Code 000004-01-01 12
 Ballots for Code 000005-01-01 12

GOVERNOR

WILLIAM A. (BILL) ALLAIN 18
 BILLY M. DAVID 5
 EVELYN GANDY 8
 LONNIE C. JOHNSON 8
 MIKE P STURDIVANT 5
 Write In 4

AGRICULTURE AND COMMERCE COMMISSIONER

TROY MAJURE, JR. 19
 JIM BUCK ROSS 18
 CHARLES J.D. TILLMAN 8
 Write In 3

CITY COUNCIL

Number to Vote For: 2

ELIZABETH M. VERTERANO 16
 NICK DeROSA 23
 CONNIE MANGINO 17
 THOMAS P. COSTA 17
 EUGENE DeCAPRIO 9
 Write In 9

HIGH SCHOOL LEVY

FOR	12
AGAINST	27

Poll Report—Summary Format

*** Voting Results Report ***
 10:37:28 06/19/2002

Sample County
 Test Election
 0001 POLLING PLACE 1
 Election Date: July 4, 2002
 Total Number Voting: 50

Poll Voting Report

Total Ballots for All Precincts	50
Ballots for Code 000001-01-01	12
Ballots for Code 000002-01-01	14
Ballots for Code 000004-01-01	12
Ballots for Code 000005-01-01	12

GOVERNOR

WILLIAM A. (BILL) ALLAIN	18
BILLY M. DAVID	5
EVELYN GANDY	8
LONNIE C. JOHNSON	8
MIKE P STURDIVANT	5
Write In	4
Over Votes	1
Under Votes	1

.....
 Total Votes 50

AGRICULTURE AND COMMERCE COMMISSIONER

TROY MAJURE, JR.	19
JIM BUCK ROSS	18
CHARLES J.D. TILLMAN	8
Write In	3
Over Votes	0
Under Votes	2

.....
 Total Votes 50

CITY COUNCIL

Number to Vote For:	2
---------------------	---

ELIZABETH M. VERTERANO	16
------------------------	----

NICK DeROSA	23
CONNIE MANGINO	17
THOMAS P. COSTA	17
EUGENE DeCAPRIO	9
Write In	9
Over Votes	0
Under Votes	2
.....	
Total Votes	100

Precinct Report—Summary Format

*** Voting Results Report ***
 10:48:54 06/19-2002

Wisconsin Certification
 Wisconsin Open Primary 17/41
 0001 POLLING PLACE 1 0001
 Election Date: July 4, 2002
 Total Number Voting: 4

Precinct Voting Report

WARD 1

Total Ballots 1
 Ballots for Code00001-01-01

PARTY PREFERENCE

DEMOCRAT	0
REPUBLICAN	1
WISCONSIN GREEN	0
LIBERTARIAN	0
Over Votes	0
Under Votes	0
.....	

Total Votes	1
-------------	---

(REP) GOVERNOR

CHUCK HALE	1
Write In	0
Over Votes	0
Under Votes	0
.....	

Total Votes	1
-------------	---

(REP) LIEUTENANT GOVERNOR

MICK FLEETWOOD	0
Write In	0
Over Votes	0
Under Votes	1
.....	

Total Votes	1
NONPARTISAN JUDICIAL RACE	
JUDICIAL CANDIDATE 1	1
Over Votes	0
Under Votes	0
.....	
Total Votes	1

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
PCMCIA modems supported
TCP/IP based communications supported

*** Initial State Report ***
10:57:25 07/15/2003

Firmware Version: 5.1.0.0
Machine ID: 3159
Wisconsin Certification
Wisconsin Open Primary 17/41
0001 POLLING PLACE 1 0001
Election Date: July 4, 2003
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

Modem Info

Modem Phone #: 555-5555
Server IP: 192.168.1.5
M100 IP: 192.168.2.11
MAC (EID): 0060 D618 OABE

Audit Log Report

*** 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 Accept:	0
Total Undervote Reject:	0

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 Accept:	0
Total Undervote Reject:	0

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

Zero/Certification Report

*** Zero Totals Report ***

11:03:10 06/19/2002

SAMPLE COUNTY
TEST ELECTION
POLLING PLACE 1
Election Date: November 11, 2000
Total Number Voting: 0

Poll Voting Report

GOVERNOR

WILLIAM A. (BILL) ALLAIN	0
BILLY M. DAVID	0
EVELYN GANDY	0
LONNIE C. JOHNSON	0
MIKE P STURDIVANT	0
Write In	0
Over Votes	0
Under Votes	0
Total Votes	0

AGRICULTURE AND COMMERCE COMMISSIONER

TROY MAJURE, JR.	0
JIM BUCK ROSS	0
CHARLES J.D. TILLMAN	0
Write In	0
Over Votes	0
Under Votes	0

Total Votes	0
-------------	---

CITY COUNCIL

Number to Vote For:	2
ELIZABETH M. VERTERANO	0
NICK DeROSA	0
CONNIE MANGINO	0
THOMAS P. COSTA	0
EUGENE DeCAPRIO	0
Write In	0

Over Votes	0
Under Votes	0
Total Votes	0

---Report Continued---

WE, THE UNDERSIGNED, DO HEREBY CERTIFY
THAT THE ABOVE RESULTS ARE A TRUE AND
ACCURATE ACCOUNT OF ALL BALLOTS COUNTED
AND THAT ALL COUNTERS WERE ZERO (0)
WHEN THE POLLS OPENED AND THAT THE
ELECTION WAS HELD IN ACCORDANCE WITH
THE LAWS OF THE STATE.

ELECTION JUDGE

ELECTION JUDGE

ELECTION JUDGE

ELECTION JUDGE

Configuration Report

*** Configuration Report***

11:10:10 06/19/2002

Firmware Version: 5.1.0.0

Machine ID: 3161

Wisconsin Certification

Wisconsin Open Primary 17/41

0002 POLLIN PLACE 2 0002

Election Date: July 4, 2002

Maximum Number of Types: 6

Number of Precincts: 1

Number of Ballot Face Styles: 6

Audit Log Entries: 14/20857

System Configuration:

Election Results Printing: Enabled

Election Results Transferred: NO

Diverter Installed: YES

Unreadable Marks Setting: Reject

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 Overvote: 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

Modem Information:

Modem Phone #: 333-4576

Server Phone #: (if applicable)

Modem MAC: (if applicable)

Modem Server IP address: (if applicable)

Scanning Parameters:

Top DAC Value: 80

Bottom DAC Value: 80

Ballot Size: 14 Inches x 36 Rows

Debug Report

*** DEBUG REPORT ***

11:09:48 06/19/2002

Program Version: 5.1.0.0

OS Version: 4.22

Errno: 35

Errno String: No message of desired type

Memory Available: 2860

Largest Mem Block: 2844

Heap Check: Good Heap

Counter Size: 2252 Bytes

Election Definition Size: 6308 Bytes

System Audit Log Report

*** System Audit Log ***

11:10:29 06/19/2002

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

Appendix C: Understanding System Messages

This appendix lists all system messages. In addition to the message itself, the scanner beeps to provide an audible cue that a message requires attention from a poll worker. If you find your message in this appendix and still require assistance, please contact your election administrator to schedule technical service or a back-up machine. Election administrators may contact ES&S at 1-800-247-8683.

System Error Recovery

If you encounter the ‘SYSTEM ERROR’ message, use the following process to continue counting ballots.

1. Turn the key to the OFF position to turn off the tabulator, and then remove the PC Card.
2. Make a duplicate copy of the PC Card.
3. Send the duplicate card with the Model 100 to ES&S for testing.
4. Replace the Model 100 with the back-up Model 100 tabulator assigned to your polling place.
5. Insert the original PC Card with the election definition
6. Turn the key to OPEN/CLOSE POLL and continue counting ballots.

Understanding Text Messages

Accept Ballots For Precinct

Cause: The “Accept Ballots For Precinct” message appears when the Model 100 enables a precinct that has been programmed in the election definition card, but marked as inactive.

Solution: Ballots for the enabled precinct are counted and cannot be canceled. No response required.

Attempt Send Results

Cause: This message appears when the Model 100 locates a TCP/IP protocol, CDPD, or landline network attempts to send election results.

Solution: No response required.

Audit Log Full

Cause: This message appears if audit log is full. There is a limited capacity for audit log entries stored to the PC Card. Exceeding this limit either: 1) prevents the scanner from entering Polls Open mode, or 2) causes the scanner to stop counting ballots. If the Audit Log exceeds its capacity during voting, the scanner defaults to a read-only mode. This means that no additional information is added to the PC Card; the Polls Open mode is not allowed.

Solution: A new PC Card is required to continue counting ballots. Select **Previous** to return to the Main menu. Remove the original PC Card and insert a new card programmed with a duplicate election definition. Return to the menu and function where the error occurred and contact your system administrator.

Ballot Jammed

Cause: This message appears if a ballot becomes trapped in the scanner's read area.

Solution: Check the back of the scanner to make sure that nothing blocks the ballot path. Contact ES&S for assistance if you cannot resolve the problem.

Blank Ballot Accepted

Cause: This message appears after the scanner accepts a blank ballot.

Solution: No response required.

Blank Ballot Returned

Cause: This verification appears when the scanner returns a blank ballot to the voter.

Solution: No response required.

Blocked Sensor Continuous

Cause: This message appears if the scanner detects an obstruction on part of the CCD array Read-Head, or a contiguous vertical line on the ballot.

Solution: First, make sure the machine is not in vote mode. Then try feeding clean, blank ballots into the scanner to remove any possible obstruction. If the error continues, contact your election administrator to schedule technical service and a back-up machine.

Counter Block Failed CRC

Cause: This message appears if the counter block fails a cyclic redundancy check (CRC). As the election progresses, data is copied to the PC Card in "counter blocks" of data. The CRC is a safety check that the scanner performs to ensure proper copying of data to the card.

Solution: The PC Card may be corrupt. Try a different card. If the message continues, contact your election administrator to schedule technical service.

Counters Are Full

Cause: This message appears if the scanner blocks on the PC Card are full and there is no room to write further election data to the card. Results from the ballot currently inserted in the machine are not added to the scanner's running total.

Solution: The system halts when counters are full. Turn the power switch OFF and then back ON to reboot the system. Keep the PC Card loaded in the scanner. If the error continues, contact your election administrator to schedule technical service.

Counters Are In Overflow

Cause: The counter has exceeded its storage limit. If this error occurs, the election results stored to the scanner's DRAM are corrupt, although the scanner values on the card may be correct.

Solution: This error causes a system halt. Reboot the system by turning the power switch OFF and then back ON. Keep the PC Card loaded in the scanner. If the error persists, contact your election administrator to schedule technical service and locate a backup tabulator.

Counters Cannot Hold Next Count

Cause: There is not enough space left within the counters to store the count for the current race.

Solution: This condition causes a system halt. Reboot the system by turning the power switch OFF and then back ON. Leave the PC Card loaded in the scanner. If the error persists, contact your election administrator to schedule technical service and request a backup tabulator.

Counters Cleared

Cause: This message appears after the DRAM counters are successfully cleared in the election definition.

Solution: No response required.

Cross Voted Ballot Accepted

Cause: This is a verification message that confirms that a cross-voted ballot has been accepted by the Model 100.

Solution: This message only appears with straight party or pick-a-party ballots, when a voter has voted in more than one party. No response required.

Cross Voted Ballot Returned

Cause: This message appears when the scanner returns a cross-voted ballot to the voter.

Solution: This message only appears with straight party or pick-a-party ballots, when a voter has voted in more than one party. Return the ballot to the voter for review or verification.

Diverter Control Error

Cause: This message appears if the scanner fails to change the diverter position after a ballot has been fed.

Solution: Retry and contact ES&S if the problem persists.

Diverter Not Detected

Cause: The scanner cannot detect the diverter on a second attempt.

Solution: Contact your election administrator to schedule technical service and request a backup tabulator.

Diverter Not Found

Cause: This message appears if the election definition loaded into the Model 100 is programmed for a ballot box with a diverter unit, but no diverter unit is detected.

Solution: Contact your election administrator to schedule technical service and request a backup scanner.

DRAM Counter Space Bad

Cause: This message appears if the scanner encounters a problem with the DRAM memory section that stores the election results.

Solution: Contact your election administrator to schedule technical service and request a backup scanner.

Election Card Recovered In The Machine

Cause: This verification message indicates that the inserted card been opened and removed from another machine, while still in the vote mode.

Solution: No response required.

Election Certified – Card In Rom Mode

Cause: The election has been certified and the card is closed. You may remove the card from the scanner after viewing this message.

Solution: No response required.

Election Definition Failed CRC

Cause: This message indicates that the election definition failed the CRC.

Solution: The PC Card may be corrupt and a new PC Card is required. If the message continues, contact your election administrator to schedule technical service.

Election Totals Cleared

Cause: This verification message indicates that election totals are set to zero.

Solution: No response required.

Error Accessing NVRAM

Cause: This message appears if the scanner encounters a problem accessing the NVRAM (Non-Volatile Random Access Memory).

Solution: Contact your election administrator to schedule technical service and request a backup scanner.

Error Getting Machine ID

Cause: This message appears if the scanner has a problem retrieving the machine identification number from FLASH memory.

Solution: Contact your election administrator to schedule technical service and request a backup scanner.

Error Reading Ballot Retry Ballot Black Check - <code> (x)

Cause: This message appears if the scanner cannot read one of the black boxes printed at the top and bottom of each ballot column. The displayed <code> will be one of the following: UT – ballot fed face up, top first; UB – ballot fed face down, bottom first; DT – ballot fed face down, top first; DB – ballot fed face down, bottom first. The (x) indicates the letter, A-F, that appears in the error message and identifies which black check the scanner failed to read.

Solution: Feed the ballot into the scanner in a different orientation. If the mark still does not register, use compressed air to clean the Model 100 optical sensors. If the scanner still does not read, manually darken the black check mark with a sharpie and scan the ballot again.

Error Reading PCMCIA Card

Cause: This message appears if the scanner encounters a problem reading a block of data from the PC Card. The election results stored to the scanner's DRAM may be corrupt.

Solution: This condition causes a system halt. Reboot the system by turning the scanner OFF and then back ON with the PC Card inserted. If the error continues, attempt to restart the scanner with a new PC Card. If there are still problems, contact your election administrator to schedule technical service and request a backup scanner.

Error Reading System Audit Log

Cause: This message appears if an error occurs while the scanner reads the system Audit Log in NVRAM (Non-Volatile Random Access Memory).

Solution: Allow the system to initialize the System Audit Log with default values. The system automatically initializes the log to default settings and displays a status message.

Error Seeking On PCMCIA Card

Cause: This message appears if the scanner encounters a problem while seeking a specific offset on the PC Card.

Solution: This condition causes a system halt. Reboot the scanner by turning it OFF and then back ON with the original PC Card inserted. If the error persists, attempt to reboot the system with a new PC Card. Turn the system off and insert a new card programmed with a duplicate election definition. Turn the system back on. If it continues, contact your election administrator to schedule technical service and request a backup scanner.

Error Setting Real Time Clock

Cause: This message appears if you encounter a problem setting the real-time clock.

Solution: Contact your election administrator to schedule technical service and request a backup scanner.

Error Writing PCMCIA Card

Cause: This message appears if the scanner encounters a problem while writing data to the PC Card. This condition can corrupt election results if the error occurs while your scanner is open for voting.

Solution: This error causes a system halt. Turn the scanner OFF and then back ON, without removing the PC Card, to re-initialize your election. If the error continues, try to reboot the system using a new PC Card with a duplicate election definition. If there are still problems, contact your election administrator to schedule technical service and request a backup scanner.

Error Writing System Audit Log

Cause: This message appears if an error occurs while the scanner is writing the system audit log in NVRAM (Non-Volatile Random Access Memory).

Solution: Allow the system to initialize the System Audit Log with default values. The system automatically initializes the log to default settings and displays a status message.

Error Writing To The Print Device

Cause: This message displays if the system encounters a printer processing error.

Solution: Contact your election administrator to schedule technical service and request a backup scanner.

Event Log Failed CRC

Cause: The Event Log failed the Cyclic Redundancy Check (CRC). A CRC is a safety check the counter performs to ensure that data is being copied properly.

Solution: This condition indicates that your PC Card may be corrupt; either reprogram the same PC Card or try a different card programmed with a duplicate election definition. If the error continues, contact your election administrator to schedule technical service and request a backup scanner.

Factory Parameters Corrupt-Reset

Cause: The factory parameter values in NVRAM do not match the CRC calculation. This error only occurs during the boot process.

Solution: Contact your election administrator for assistance.

Incompatible PCMCIA Card Format

Cause: This message indicates that the PC Card format is incompatible with the current application code version.

Solution: Contact your election administrator to schedule technical service.

Incompatible System Log Format

Cause: This message indicates that the System Log format is incompatible with the current application code version.

Solution: Contact your election administrator to schedule technical service.

Invalid Instruction

Cause: This is an internal error message.

Solution: Contact your election administrator to schedule technical service.

Invalid Memory Reference

Cause: This is an internal error message.

Solution: Contact your election administrator to schedule technical service.

Invalid Parity Error

Cause: This is an internal error message.

Solution: Contact your election administrator to schedule technical service.

Invalid Seq-Type-Split (X-X-X)

Cause: This message indicates that the Sequence-Type-Split code on an inserted ballot does not match the codes defined in the election definition. The 'X' values will be the Sequence-Type-Split code of the scanned ballot.

Solution: Insert a ballot with the correct Sequence-Type-Split code. If the error occurs again, contact your election administrator to schedule technical service.

Invalid Sub Routine

Cause: This is an internal error message.

Solution: Contact your election administrator to schedule technical service.

Memory Allocation Error

Cause: This message indicates that the scanner did not successfully allocate system memory.

Solution: This condition may halt the system. Even if the scanner does not halt, contact your election administrator to schedule technical service and request a backup scanner.

Menuing System Error

Cause: This message appears when the scanner encounters a system error.

Solution: This condition may halt the system. Even if the scanner does not halt, contact your election administrator to schedule technical service and request a backup scanner.

Missing Precinct Counter Block

Cause: This message appears if the scanner cannot locate the race counter block for a given race.

Solution: Contact your election administrator to schedule technical service.

More than one party has votes. Votes In Party Contests Will Be Ignored

Cause: This condition only occurs during an open primary election. This message indicates that a party preference selection could not be established and the voter marked contests affiliated with more than one party,

Solution: If you programmed your election definition to “Query upon Occurrence” of a cross-voted ballot, the poll worker is responsible for accepting or rejecting the ballot. If you programmed the election definition to “Always Reject” cross-voted ballots, the voter must remark and resubmit the ballot. If the error continues, contact your election administrator to schedule technical service.

Note: This error message does not appear if you programmed the Model 100 to “Always Accept” cross-voted ballots.

NO BACK IMAGE DETECTED/Please See Election Official

Cause: The scanner displays this message if the 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.

Solution: Contact your election administrator.

One Contest Has Too Many Votes

Cause: This message appears if the number of valid marks detected in the voting area for a contest exceeds the number of votes allowed for that contest.

Solution: If you programmed your election definition to “Query upon Occurrence” of an overvoted ballot, the poll worker must review the ballot and then decide whether to accept or reject the voter’s selections. If you programmed the election definition to “Always Reject” overvoted ballots, the voter must edit and resubmit the ballot. If this message appears for a ballot that does not contain an overvoted contest, contact your election administrator to schedule technical service.

Note: This error message does not appear if you programmed the Model 100 to “Always Accept” overvoted ballots.

One Contest Has Too Many Votes (RACE TITLE)

Cause: This message appears if the number of valid marks detected on the ballot for a contest exceeds the number of votes allowed for that contest. This message appears if you program the election definition to display the contest title along with the error condition.

Solution: If you programmed your election definition to “Query upon Occurrence” of an overvoted ballot, the poll worker must review the ballot and then decide whether to accept or

reject the voter's selections. If you programmed the election definition to "Always Reject" overvoted ballots, the voter must edit and resubmit the ballot. If this message appears for a ballot that does not contain an overvoted contest, contact your election administrator to schedule technical service.

Note: This error message does not appear if you programmed the Model 100 to "Always Accept" overvoted ballots.

(X) Races Have Too Many Votes

Cause: The Model 100 displays this message if the number of valid marks detected for more than one contest on the ballot exceeds the number allowed votes for each of those contests.

Solution: If you programmed your election definition to "Query upon Occurrence" of an overvoted ballot, the poll worker must review the ballot and then decide whether to accept or reject the voter's selections. If you programmed your election definition to "Always Reject" overvoted ballots, the Model 100 returns the ballot to the voter who must edit and resubmit the ballot. If the error appears for a ballot that does not contain an overvoted contest, contact your election administrator to schedule technical service.

Note: This error message does not appear if you programmed the Model 100 to "Always Accept" overvoted ballots.

(X) Races Have Too Many Votes Including RACE TITLE

Cause: This message appears if the number of valid marks detected for more than one contest exceeds the number of votes allowed for each of those contests. This message appears if you program the election definition to display the contest title along with the error condition.

Solution: If you programmed your election definition to "Query upon Occurrence" of an overvoted ballot, the poll worker must review the ballot and then decide whether to accept or reject the voter's selections. If you programmed your election definition to "Always Reject" overvoted ballots, the Model 100 returns the ballot to the voter who must edit and resubmit the ballot. If the error appears for a ballot that does not contain an overvoted contest, contact your election administrator to schedule technical service.

Note: This error message does not appear if you programmed the Model 100 to "Always Accept" overvoted ballots.

OS Shell Command Fail

Cause: This message appears if system call in the Model 100 code fails to function correctly.

Solution: This condition may cause a system halt. Even if the system remains in operation, contact your election administrator to schedule technical service and request a backup scanner.

Overvoted Ballot Accepted

Cause: This verification message appears when the scanner accepts a ballot that contains an overvoted contest.

Solution: No response required.

Overvoted Ballot Returned

Cause: The Model 100 displays this message when the scanner returns a ballot that includes an overvoted contest to the voter.

Solution: No response required.

Party Preference Race Missing

Cause: This message appears if the scanner processes a ballot that includes a party preference contest and the selected party preference is not detected in the election definition.

Solution: You may require a new election definition. Contact your election administrator for assistance.

PCMCIA Card Not Inserted

Cause: This message appears if the PC Card is removed while the scanner attempts to access the card.

Solution: This condition causes a system halt and may corrupt the data stored to the PC Card. Attempt to re-initialize the card by turning the system off, re-inserting the card, and turning the power back on. If this action fails, you may require a new PC Card. Try the same procedure with a different PC Card programmed with a duplicate election definition. If the error continues, contact your election administrator to schedule technical service and request a backup scanner.

PCMCIA Driver Missing

Cause: The message appears if the scanner cannot access the QNX/PC Card driver.

Solution: This condition causes a system halt. Contact your election administrator to schedule technical service and request a backup scanner.

PCMCIA Header Section Failed CRC

Cause: This message appears if the header section of the PCMCIA card fails the CRC.

Solution: This message indicates that your PC Card may be corrupt. Try a different card. If the error continues, contact your election administrator to schedule technical service.

Possible Bad Sensor

Cause: This message appears if the scanner detects an unacceptably long vertical line on a ballot.

Solution: Retry the ballot. If the problem continues, contact the election supervisor.

Possible Blocked Sensor

Cause: This message appears if the scanner detects an intermittent obstruction on part of the Read-Head, an intermittent fault in the CCD array Read-Head, or a non-contiguous vertical line on the ballot.

Solution: Make sure that your scanner is not in the vote mode and then attempt to scan entering clean, blank ballots to remove possible obstructions. If the error continues, contact your election administrator to schedule technical service and request a backup scanner.

Printer Driver Missing

Cause: This message appears if the Model 100 fails to detect the printer driver.

Solution: Contact your election administrator to schedule technical service and request a backup scanner.

Race Results Cross-Check Fail

Cause: The Model 100 displays this message if the race result counters fail the system cross-check (between the precinct and master counters). This condition indicates that the election results stored in the system's DRAM are corrupt. The vote count results stored on the PC Card may be corrupted.

Solution: This condition causes a system halt. Reboot the system by turning the power switch OFF and then back ON to re-initialize the PC Card. If the system reads the card correctly, continue with the election process. If the error continues, contact your election administrator for a new card.

Note: The Model 100 does not record results from the ballot scanned when this error occurs. You must remove and rescan the ballot.

Status Results Cross-Check Fail

Cause: This message appears if the status counters fail the cross-check (between the precinct and master counters). This condition indicates that the election results stored in DRAM are corrupt.

Solution: This condition causes a system halt. Reboot the system by turning the power switch OFF and then back ON to re-initialize the PC Card. If the system reads the card correctly, continue with the election process. If the error appears again, contact your election administrator for a new card.

Note: You must remove and rescan the ballot that was in the scanner when the error occurred.

System Audit Log Failed CRC

Cause: This message appears if the System Audit Log stored to NVRAM fails the CRC. The software attempts to initialize the log with default values. If this operation is unsuccessful, the system shuts down.

Solution: Allow the system to initialize the System Audit Log using default values. If the initialization shuts down the system using default values, contact your election administrator to schedule technical service and request a backup scanner.

System Halted

Cause: The system has halted.

Solution: Restart the counter by turning the scanner key to the OFF position and then back ON. If the scanner does not restart, contact your election administrator to schedule technical service and request a backup scanner.

Unable To Initialize Scanning System-System Halted

Cause: This message indicates that an error occurred when your Model 100 attempted to automatically initialize the machine scanner board.

Solution: Contact ES&S.

Unable To Load Keypad Server-System Halted

Cause: This message appears if the scanner fails to detect the keypad server.

Solution: Contact ES&S.

Unable To Load Signal Handlers-System Halted

Cause: This message appears if the scanner fails to detect signal handlers.

Solution: Contact ES&S.

Unable To Load Speaker Server-System Halted

Cause: This message appears if the scanner fails to detect the speaker server.

Solution: Contact ES&S.

Unable To Update Counters

Cause: This message appears if the scanner software fails to update the counters after you scan a ballot.

Solution: This condition causes a system halt and requires a new PC Card to resolve. Turn off the scanner, insert a new PC Card with a duplicate election definition and turn the scanner back on. If the problem continues, contact your election administrator to schedule technical service and request a backup scanner.

Unable To Close Election

Cause: This message appears if scanner software fails to access the PC Card when you attempt to close the election.

Solution: Check the PC Card for proper installation. If the card is installed properly, the card may be defective or another hardware fault may have occurred. If the problem continues, contact your election administrator to schedule technical service and request a backup scanner.

Unable To Read PCMCIA Counter Block

Cause: This message appears if the system software fails to read the PC Card counter block.

Solution: Check the PC Card for proper installation. If the card is installed properly, the card may be defective or another hardware fault may have occurred. If the problem continues, contact your election administrator to schedule technical service and request a backup scanner.

Unidentified Mark – Check Your Ballot

Cause: This message appears if the scanner detects a mark that meets the minimum threshold for recognition by the system, but is not dark enough for the scanner to read as a valid vote.

Solution: Re-mark or darken the marks and rescan the ballot.

Unknown Error

Cause: This message appears if the Model 100 detects an internal system error.

Solution: Contact your election administrator to schedule technical service.

Voltage Too Low

Cause: This message appears if the scanner's battery voltage falls below the acceptable operating level.

Solution: Plug the terminal into a 120-volt A/C outlet. For more information about charging the scanner battery, see “Charging the Battery” in Chapter 2. If the problem persists, contact your election administrator to schedule technical service and request a backup scanner.

Voting Continued Prev Unit

Cause: This verification message appears if you successfully transfer a PC Card from one Model 100 to another during active voting. The Model 100 also displays the machine ID for the scanner that was previously using the card.

Solution: No response required.

Warning-The unit is on Battery Power

Cause: This message appears if the AC connection in the back of the machine has been unplugged or if the scanner’s outlet fails to receive power.

Solution: Check the power cord connections to the scanner and wall outlet. Contact the supervisor for your polling place if the scanner continues to run on battery power after you properly plug it in.

Working Parameters Corrupt-Reset

Cause: This message appears if the working parameter values stored to the scanner’s NVRAM do not match those calculated during the CRC. This error can only occur during the scanner’s boot sequence

Solution: Contact your election administrator to schedule technical service and request a backup scanner.

XBIN Directory Not Found

Cause: This message appears if a required XBIN directory does not exist because the binary executable image block required for TCP/IP or PSMCIA modems was not programmed to the election definition card, or the card could not be started successfully by the resource manager.

Solution: Contact your election administrator to schedule technical service and request a backup scanner.

Verification Messages

The following verification messages are self-explanatory, descriptive messages that the Model 100 displays in response to a specific action. Verification messages do not require action from a poll worker.

- Aborted Printing
- Counters Cleared
- Current Unit
- Diagnostic Check Completed
- Election Definition Loaded
- Election Definition Unloaded
- Election Results Sent
- Entered Ballot Test Mode
- Exited Ballot Test Mode
- First Ballot Processed
- No Election Card
- Opening Polls
- Polls Closed
- Polls Opened
- Power On
- Real Time Clock Set
- Switched to AC Power
- Switched to Battery Power
- Total Ballots Accepted
- Voting Enabled

Understanding Numeric Messages

100 – MISSED ORIENTATION MARKS/Turn Ballot Over and Try Again

Cause: The scanner failed to detect the orientation of a ballot.

Solution: Remove the ballot from the scanner and attempt to feed the ballot in a different orientation. If the error continues, contact your election administrator to schedule technical service and request a backup scanner.

101 – MISSED TIMING MARKS/ Turn Ballot Over and Try Again

Cause: The scanner failed to detect one or more marks that appear in the ballot's timing track.

Solution: Remove the ballot and reinsert it into the scanner. If the error persists, contact your election administrator to schedule technical service and request a backup scanner.

102 – NO DATA FOUND/Please Re-insert Ballot After Beeps

Cause: The scanner failed to locate the leading edge of an inserted ballot.

Solution: Remove and reinsert the ballot. If the error continues, contact your election administrator to schedule technical service and request a backup scanner.

103 – SYSTEM ERROR/Please See Election Official

Cause: The scanner encountered an unrecoverable error occurred in the operating system.

Solution: Contact your election administrator to schedule technical support and request a backup scanner.

104 – ORIENTATION SKIP ERROR

Cause: The scanner failed to read the black checks on the leading edge of a ballot.

Solution: Remove and reinsert the ballot. If the error persists, contact your election administrator to schedule technical service and request a backup scanner.

105 – SYSTEM ERROR/Please See Election Official

Cause: The scanner encountered an unrecoverable error in the operating system..

Solution: Contact your election administrator to schedule technical support and request a backup scanner. Do not use the scanner until an ES&S service technician identifies and repairs the problem.

106 – MISSED TIMING MARKS/ Turn Ballot Over and Try Again

Cause: The scanner failed to properly read one or more marks from a ballot's timing track

Solution: Remove and reinsert the ballot. If the error persists, contact your election administrator to schedule technical service and request a backup scanner.

107 – BALLOT ERROR: INVALID CC SEQUENCE

Cause: The scanner failed to read the correct sequence code from a ballot.

Solution: Remove and reinsert the ballot. If the error persists, contact your election administrator to schedule technical service.

108 – BALLOT ERROR: INVALID CC TYPE

Cause: The scanner failed to recognize the type code for a ballot.

Solution: Remove and reinsert the ballot. If the error persists, contact your election administrator to schedule technical service.

109 – BALLOT ERROR: INVALID CC SPLIT

Cause: The scanner failed to recognize a ballot's split code.

Solution: Remove and reinsert the ballot. If the error persists, contact your election administrator to schedule technical service.

110 – SYSTEM ERROR/Please See Election Official

Cause: The scanner encountered an unrecoverable error in the operating system.

Solution: Turn off the scanner and remove it from the polling area. Contact your election administrator to schedule scanner maintenance. Do not use the scanner again until an ES&S technician repairs the Model 100.

111 – SYSTEM ERROR/Please See Election Official

Cause: The scanner encountered an unrecoverable error in the operating system.

Solution: Turn off the scanner and remove it from the polling area. Contact your election administrator to schedule scanner maintenance. Do not use the scanner again until an ES&S technician repairs the Model 100.

112 – SYSTEM ERROR/Please See Election Official

Cause: The scanner encountered an unrecoverable error in the operating system.

Solution: Turn off the scanner and remove it from the polling area. Contact your election administrator to schedule scanner maintenance. Do not use the scanner again until an ES&S technician repairs the Model 100.

113 – SYSTEM ERROR/Please See Election Official

Cause: The scanner encountered an unrecoverable error in the operating system.

Solution: Turn off the scanner and remove it from the polling area. Contact your election administrator to schedule scanner maintenance. Do not use the scanner again until an ES&S technician repairs the Model 100.

114 – SYSTEM ERROR/Please See Election Official

Cause: The scanner encountered an unrecoverable error in the operating system.

Solution: Turn off the scanner and remove it from the polling area. Contact your election administrator to schedule scanner maintenance. Do not use the scanner again until an ES&S technician repairs the Model 100.

115 – MISSED BACK ORIENTATION MARK/Turn Ballot Over and Try Again

Cause: The counter failed to read an orientation mark on one side of the ballot.

Solution: Turn the ballot over and reinsert it into the scanner. If the scanner still cannot read the orientation mark, contact your election administrator to schedule technical service and request a backup Model 100.

116 – SYSTEM ERROR/Please See Election Official

Cause: The scanner encountered an unrecoverable error in the operating system.

Solution: Turn off the scanner and remove it from the polling area. Contact your election administrator to schedule scanner maintenance. Do not use the scanner again until an ES&S technician repairs the Model 100.

117 – SYSTEM ERROR/Please See Election Official

Cause: The scanner encountered an unrecoverable error in the operating system.

Solution: Turn off the scanner and remove it from the polling area. Contact your election administrator to schedule scanner maintenance. Do not use the scanner again until an ES&S technician repairs the Model 100.

118 – SYSTEM ERROR/Please See Election Official

Cause: The scanner encountered an unrecoverable error in the operating system.

Solution: Turn off the scanner and remove it from the polling area. Contact your election administrator to schedule scanner maintenance. Do not use the scanner again until an ES&S technician repairs the Model 100.

119 – MULTIPLE BALLOTS DETECTED/Please Re-insert One Ballot After Beeps

Cause: The Model 100 detected more than one ballot in the scanner read area.

Solution: Remove ballots from the read area and reinsert them one at a time. If the error occurs repeatedly, contact your election administrator to schedule technical service and request a backup scanner.

120 – DIVERTER NOT INITIALIZED

Cause: The Model 100 failed to initialize the ballot box diverter. The scanner does not sort write-in ballots properly if the diverter fails.

Solution: Make sure the scanner is correctly mounted to the ballot box. If the error persists, contact your election administrator to schedule technical service and a back-up machine or ballot box.

121 – DIVERTER DETECTION ERROR

Cause: The scanner failed to stop the diverter motor in the ballot box from running after scanning a ballot.

Solution: Contact your election administrator to schedule technical service.

122 – DIVERTER NOT DETECTED

Cause: The scanner failed to detect the ballot diverter during a diverter test.

Solution: Contact your election administrator to schedule maintenance.

123 – UNABLE TO READ TIMING BAND/Turn Ballot Over and Try Again

Cause: The scanner detected a problem with a ballot's alignment as it passed through the read area.

Solution: Remove and reinsert the ballot in a different orientation. If the system continues to reject the ballot, contact ES&S technical support for assistance.

124 – BALLOT DRAGGED/Turn Ballot Over and Try Again

Cause: The ballot did not enter the feed mechanism smoothly, which caused misalignment during scanning.

Solution: Remove and reinsert the ballot. If the system continues to reject the ballot, contact ES&S technical support for assistance.

125 - BALLOT TOO LONG/Please See Election Official

Cause: The length of an inserted ballot was greater than the ballot length specified in the scanner's election definition.

Solution: Contact ES&S technical support for assistance.

126 - BLACK CHECK: FACE DOWN HEAD EDGE/Turn Ballot Over and Try Again

Cause: The scanner failed to read one or more of the orientation marks that appear at the top and bottom of each ballot column.

Solution: Remove and reinsert the ballot in a different orientation. If the Model 100 fails to read the ballot a second time, clean the scanner's optical sensors with compressed air. If the scanner continues to fail, darken the black check marks with a black sharpie.

127 - BLACK CHECK: FACE DOWN TAIL EDGE/Turn Ballot Over and Try Again

Cause: The scanner failed to read one or more of the orientation marks that appear at the top and bottom of each ballot column.

Solution: Remove and reinsert the ballot in a different orientation. If the Model 100 fails to read the ballot a second time, clean the scanner's optical sensors with compressed air. If the scanner continues to fail, darken the black check marks with a black sharpie.

128 - BLACK CHECK: FACE UP HEAD EDGE/Turn Ballot Over and Try Again

Cause: The scanner failed to read one or more of the orientation marks that appear at the top and bottom of each ballot column.

Solution: Remove and reinsert the ballot in a different orientation. If the Model 100 fails to read the ballot a second time, clean the scanner's optical sensors with compressed air. If the scanner continues to fail, darken the black check marks with a black sharpie.

129 - BLACK CHECK: FACE UP TAIL EDGE/ Turn Ballot Over and Try Again

Cause: The scanner failed to read one or more of the orientation marks that appear at the top and bottom of each ballot column.

Solution: Remove and reinsert the ballot in a different orientation. If the Model 100 fails to read the ballot a second time, clean the scanner's optical sensors with compressed air. If the scanner continues to fail, darken the black check marks with a black sharpie.

130 - POSSIBLE FOLDED BALLOT/ Turn Ballot Over and Try Again

Cause: The scanner detected a ballot that is either folded, or shorter than the ballot length specified in the scanner's election definition.

Solution: Remove and reinsert the scanner. If the problem persists, contact the election supervisor for assistance.

131 -BALLOT READ ERROR-Please See Election Official

Cause: The scanner detected possible counterfeit marks on the ballot.

Solution: Remove and examine the ballot. Attempt to rescan the ballot if it appears to be genuine. If you detect a problem with the ballot, pass it on to your jurisdiction's review board. If this error message continues to appear as the scanner reads valid ballots, contact your election administrator for assistance.

132 - - TOP SCANBAR HAS BLOCKED SENSORS/Please See Election Official.

Cause: The scanner has detected a particle blocking one of its top sensors or a sensor failure.

Solution: Clean the scanner's optical sensors with compressed air. If the error persists, contact your election administrator to schedule technical service.

133 - BOTTOM SCANBAR HAS BLOCKED SENSORS/ Please See Election Official

Cause: The scanner has detected a particle blocking one of its bottom sensors or a sensor failure.

Solution: Clean the scanner's optical sensors with compressed air. If the error persists, contact your election administrator to schedule technical service.

134 - BOTH SCANBARS HAVE BLOCKED SENSORS/Please See Election Official

Cause: The scanner has detected a particle blocking one of its sensors or a sensor failure.

Solution: Clean the scanner's optical sensors with compressed air. If the error persists, contact your election administrator to schedule technical service.

135 - UNKNOWN ERROR, CODE: XXX

Cause: The scanner detected an undefined error during the scanning routine.

Solution: Remove and reinsert the ballot. If the error persists, contact your election administrator to schedule technical service and request a backup scanner.

136 - UNKNOWN ERROR, DECODE: XXX

Cause: The scanner encountered an undefined error while attempting to decode a ballot.

Solution: Remove and reinsert the ballot. If the error persists, contact your election administrator to schedule technical service and request a backup scanner.

137 - BALLOT TOO SHORT: XXX

Cause: The length of an inserted ballot was less than the ballot length specified in the scanner's election definition.

Solution: Contact ES&S technical support for assistance.

Appendix D: Understanding System Menus

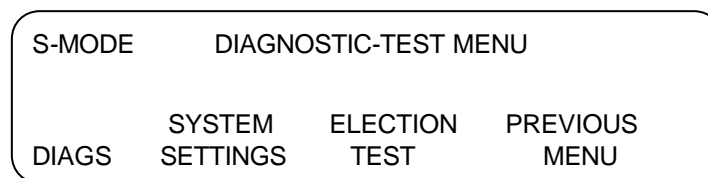
Appendix D contains diagrams and descriptions of Model 100 menu functions. Which menu selections are available depend on what operating mode you activate for the Model 100. For example, if you turn the control key to the OPEN/CLOSE POLL position, Model 100 POLLS OPEN options are not accessible.

The Model 100's three operating modes are DIAGNOSTIC-TEST, POLLS OPEN, and POLLS CLOSED. You can only activate one mode at a time.

Diagnostic Test Mode

Perform diagnostic tests before you open the scanner for voting. Model 100 diagnostic test functions include processing a test deck, setting the system time, calibrating the scanner, and auto-reading ballots. After you open the polls, the **DIAGNOSTIC-TEST** menu is not available unless you reopen the polls after closing the scanner for voting. To access the **DIAGNOSTIC-TEST** menu, start the Model 100 with a PC Card loaded, wait until the automatic reports print and then press the first and third buttons from the left on the control panel simultaneously. You can also access the **DIAGNOSTIC-TEST** menu by starting the Model 100 without installing a PC Card.

Accessing the Diagnostic Test Menu (with a PC Card Loaded)



To access the DIAGNOSTIC-TEST menu (with a PC Card loaded)

1. Insert the PC Card with the election definition and turn the scanner on. The scanner powers up and the message "ELECTION CARD INSERTED: OPEN POLLS NOW?" appears.

2. Press the first and third buttons from the left to access the **DIAGNOSTIC-TEST** menu.



3. The three selections under the **DIAGNOSTIC-TEST** menu are **DIAGS** (diagnostics), **SYSTEM SETTINGS**, and **ELECTION TEST**.

Accessing the Diagnostic Test Menu (without a PC Card)



To access the DIAGNOSTIC-TEST menu (without a PC Card)

Do not insert a PC Card into the scanner and turn the scanner key to OPEN/CLOSE POLL. **DIAGS** is the only menu selection available when no PC Card is loaded in the Model 100.

The DIAGS Menu

Select **DIAGS** from the **DIAGNOSTIC-TEST** menu to test the scanner's accuracy and print reports that detail the current machine status. The three options available from the **DIAGS** menu are **BALLOT DIAGS**, **SYSTEM REPORTS**, and **MORE DIAGS**.

Select **BALLOT DIAGS** to test your scanner's accuracy. The two options available from the **BALLOT DIAGS** menu are **FEED BALLOTS** and **RECYCLE SET**. Select **RECYCLE SET** to select the number of times that the scanner will read the next ballot inserted into the Model 100.

To test the scanner

Select **FEED BALLOTS** and insert ballots into the scanner. If the scanner successfully reads the ballot, the ballot emerges from the back of the scanner and drops into the ballot box. If the scanner detects ballot irregularities, the scanner rejects the ballot and a system error message appears.

The Ballot Diagnostics menu

S-MODE	BALLOT DIAGNOSTICS		
	TOTAL BALLOTS 0000		
DIGITAL REPORTS	MARKS TALLY	GRAPHICS PRINT	PREVIOUS MENU

After scanning test ballots, use the report options available under the **BALLOT DIAGNOSTICS** menu to check the scanner's accuracy. **BALLOT DIAGNOSTICS** options print reports that describe the last ballot scanned. Available options include: **DIGITAL REPORTS**, **MARKS TALLY**, and **GRAPHICS PRINT**.

To print diagnostics reports

1. Select **DIGITAL REPORTS** and then select **DIGITAL TABLE** to generate a report that shows how many pixels the scanner reads in each oval location.
2. Select **MARK CODE** from the **DIGITAL TABLE** menu to generate a report that shows the different types of marks recognized by the scanner in each response area. Four different kinds of readings are displayed:
 - A dash (-) appears if the scanner detects a blank response area.
 - An I (ignore) code appears if the scanner detects too few pixels in the response area to register a valid mark.
 - A V (vote) code appears if detects a valid voting mark in the specified area.
 - An E (error) code appears if the scanner reads detects a mark but cannot read the mark as a valid vote.

A number representing the variations in darkness (the thickness) of the mark follows the vote codes.

Mark Code Table

*** Mark Code Table ***							
10:37:01 03/20/2001							
Orientation: FACE UP, HEAD FIRST							
ROW	CODE	-A-	-B-	-C-	-D-	-E-	-F-
001	12	V4	V4	V4	-	-	-
002	000	V1	V1	E2	-	-	-
003	000	-	-	-	-	-	-
004	000	-	-	-	-	-	-
005	000	-	-	V2	-	-	-
006	138	-	V6	-	-	-	-
007	000	-	V6	-	-	-	-
008	000	-	-	-	-	-	-
009	000	-	V5	V5	-	-	-
010	000	V6	-	-	-	-	-
011	000	V6	-	V6	-	-	-
012	000	-	-	-	-	-	-
013	000	-	-	-	-	-	-
014	000	-	-	V3	-	-	-
015	309	V6	-	-	-	-	-
016	308	-	-	V6	-	-	-
017	319	-	-	-	-	-	-
018	160	V6	-	-	-	-	-

3. From the **DIGITAL REPORTS** menu, select **SCAN REPORT** to produce a report that assists you with diagnosing ballots with a high scan error rate.

Sample Scan Report and Description

*** Scanned Ballot Information ***

Orientation: FACE UP, HEAD FIRST (Orientation determined by the scanning algorithm)

Ballot Sides Defined: 2
(Number of ballot sides defined on the Election Definition PCMCIA card: 1 or 2)

Ballot Sides Determined: 2
(Number of sides the ballot has: 1 or 2)

FRONT OF BALLOT

Black Check Information	
Mark:	The black check mark types on the ballot; TT, A, B, C, D, E, F
Left Edge:	Millimeter measurement from the left edge of the ballot to the left edge of the specified black check mark
Right Edge:	Millimeter measurement from the left edge of the ballot to the right edge of the specified black check mark
Size:	Number of pixels that exist horizontally within the specified black check mark

Black Checks Info:

Mark:	Left Edge	Right Edge	Size
TT:	008,	027,	152
A:	034,	040,	048
B:	092,	098,	046
C:	151,	157,	048

Vertical skew: 1

(Difference in scans when finding the left edge and right edge of the leading edge of the ballot; caused by the user inserting the ballot at an angle)

Timing Track Info:

(Number of timing tracks found on the target side)

Number of timing bands: 036

Number of Timing Bands

(Number of black check marks (timing bands) vertically on the ballot; the number of white bands should match the number of bands of the Election Definition where a 14/36 ballot should have a value of 36)

Number of white bands: 036

Number of White Bands

Number of white spaces between the timing bands vertically on the ballot; the number of white bands should match the number of bands of the Election Definition where a 14/36 ballot should have a value of 36)

Number of horizontal adjustments: -1

Number of horizontal adjustments

(Number in millimeters that the timing track shifted during the scanning of the ballot; -4 to +4 where negative values determine a left shift and positive values a right shift)

BACK OF BALLOT

Black Checks Info:

Mark:	Left Edge	Right Edge	Size
D:	012,	018,	048
E:	071,	077,	048
F:	129,	135	,048
TT:	201,	207,	050

Vertical skew: 4

Timing Track Info:

Number of timing bands: 036

Number of white bands: 036

Number of horizontal adjustments: 2

SUCCESSFUL SCAN (0)

4. Select **PREVIOUS MENU** and then **MARKS TALLY** from the **BALLOT DIAGNOSTICS** menu to generate a report that identifies the number of marked ovals, by row, detected on both sides of the ballot. The report heading shows how many ballots the Model 100 scanned and the report itself shows the ballot position of marks read by the scanner.

A zero on the **MARKS TALLY** report identifies an oval that failed to register on the scanner. A number (001, for example) indicates a scanned oval and identifies the row/column position of the oval. The value of the number indicates how many scanned ballots registered a valid mark in the specified ballot position. For example, if the value 003 appears in row one, column A, three scanned ballots contain a valid mark in the specified oval position.

Sample Marks Tally Report and Sample Ballot

Ballot Position Totals Report
Total ballots Scanned: 001

Row	-A-	-B-	-C-	-D-	-E-	-F-
1	000	000	000	000	000	000
2	000	000	000	000	000	000
3	000	000	000	000	000	000
4	000	000	000	000	000	000
5	001	000	000	000	000	000
6	000	000	000	000	000	000
7	000	000	000	000	000	000
8	000	000	000	000	000	000
9	000	000	001	000	000	000
10	000	000	000	000	000	000
11	000	000	000	000	000	000
12	000	000	000	000	000	000
13	000	000	000	000	000	000
14	000	001	000	000	000	000
15	000	000	000	000	000	000
16	000	000	000	000	000	000
17	000	000	000	000	000	000
18	000	000	000	000	000	000
19	000	000	000	000	000	000
20	000	000	000	000	000	000
21	000	000	001	000	000	000
22	000	000	000	000	000	000
23	000	000	000	000	000	000
24	001	000	000	000	000	000
25	000	000	000	000	000	000
26	000	000	000	000	000	000
27	000	000	000	000	000	000
28	000	000	000	000	000	000
29	000	000	000	000	000	000

Note: The oval threshold setting determines whether the scanner can read a mark.

5. Select **GRAPHICS PRINT** from the **BALLOT DIAGNOSTICS** menu to print a graphic display of what the scanner reads within each “cell” window. Each black dot on the printout represents a marked dot on the ballot with a dashed line dividing each row and cell.

Graphics Print Table

■							
■	■					○	
■	■	○		●		○	●
■		○		○		●	○
■		●	○		○		○
■	■	○	●		●		

6. Press **PREVIOUS** to navigate backward through Model 100 menus until you reach the **DIAGNOSTIC** menu. From the **DIAGNOSTIC** menu, select **SYSTEM REPORTS**. Use the **SYSTEM REPORTS** options check the status of the scanner and identify system problems. The three system reports available are: **DEBUG REPORT**, **CONFIG REPORT**, and **SYSTEM REPORT**. See Appendix B, “Understanding Reports” for explanations and examples of Model 100 system reports.

Diagnostic Report Menu

S-MODE	DIAGNOSTIC REPORT		
DEBUG REPORT	CONFIG REPORT	SYSTEM REPORT	PREVIOUS MENU

The System Settings Menu

Use **SYSTEM SETTINGS** options to calibrate the scanner and set the system clock. You must install your election definition PC Card before you activate the scanner to alter scanning options.

System Settings Menu

S-MODE	SYSTEM SETTINGS		
THRHLDS	DATE TIME	CALIBRATE DACS	PREVIOUS MENU

1. Select **THRHLDS** to access the **MULTI SHEET** option, which you can use to test the scanner's multi-sheet sensor.

Note: The multi-sheet sensor prevents the scanner from accepting two ballots at the same time. For more information about testing the multi-sheet sensor, see Chapter 4.

2. Select **DATE TIME** and select from the following options to adjust the system time, date, and time zone.
 - **Set Date:** sets the current date according to the current time zone.
 - **Set Time:** sets the current time according to the current time zone.
 - **Set Time Zone:** sets the time zone for the polling site.

Date/Time Menu

S-MODE	DATE TIME		
SET DATE	SET TIME	SET ZONE	PREVIOUS MENU

3. Only qualified, ES&S technical support staff should select the **CALIBRATE DACS** option.

The Election Test Menu

Use options from the **ELECTION TEST** menu to verify the election definition and check the system counting logic. The Model 100 does not store results for any of the ballots scanned during the election test and the scanner clears any existing election totals when you enter the **ELECTION TEST** menu. The scanner restores any existing, official results to the PC Card after you exit the **ELECTION TEST** menu. The three options available in the **ELECTION TEST** menu are **TEST BALLOT**, **REPORTS**, and **ZERO TOTALS**.

Election Test Menu

S-MODE	ELECTION TEST MENU		
TEST	ZERO	PREVIOUS	
BALLOT	REPORTS	TOTALS	MENU

1. From the **ELECTION TEST** menu, select **TEST BALLOTS** to open the **BALLOT TEST** menu. From the **BALLOT TEST** menu, select **FEED BALLOTS**, and then insert test ballots into the scanner as you would for a normal election.

Election Test Insert Ballot

S-MODE	ELECTION TEST INSERT BALLOT
NUMBER OF VOTERS: 0	
PREVIOUS	

2. After you finish scanning test ballots, select **PREVIOUS** to navigate backwards through Model 100 menus until you return to the **ELECTION TEST** menu. From the **ELECTION TEST** menu, select **REPORTS** to open the **ELECTION REPORTS** menu. Use the three options available from the **ELECTION REPORTS** menu (**SEND RESULTS**, **REPORTS**, and **PAPER FEED**) to generate test reports from the Model 100.

Note: For more information about using the **PAPER FEED** command, see Appendix A, “Maintaining the Counter.” For information about transferring election results over a network, see Chapter 5, “Election Day Tasks.”

Election Reports Menu

S-MODE	ELECTION REPORTS		
SEND RESULTS	REPORTS	PAPER FEED	PREVIOUS MENU

- From the **ELECTION REPORTS** menu, select **REPORTS** to open the **PRINT REPORTS** menu. From the **PRINT REPORTS** menu, you can generate a Poll Report, a Precinct Report or a Status Report. For samples and descriptions of the available reports, see Appendix B, “Understanding Reports.”

Print Reports Menu

S-MODE	PRINT REPORTS		
POLL REPORT	PRECINCT REPORT	STATUS REPORT	PREVIOUS MENU

- From the **ELECTION TEST** menu, select **ZERO TOTALS** to set the test totals stored in system memory to zero.

Using the Ballot Auto-read Option

Use the Model 100 auto-read option for diagnostic purposes to select the number of times the scanner reads a single ballot. You can run a series of ballots and change the number of times the scanner processes each ballot.

To activate the auto-read option

- From the **DIAGNOSTIC-TEST** menu, select **ELECTION TEST** to open the **ELECTION TEST** menu.
- From the **ELECTION TEST** menu, select **TEST BALLOT** to open the **BALLOT TEST** menu.
- From the **BALLOT TEST** menu, select **AUTOREAD SETTINGS** to open the **AUTOREAD SETTINGS** menu. Use **AUTOREAD SETTINGS**

options to set the number of times the Model 100 automatically scans the next inserted ballot. You can also configure the scanner to process ballots multiple times based on ballot style. For example, you can select a ballot style and enter a number to direct the scanner to process the next ballot it detects that falls within the specified style the number of times that you specify.

4. Press **SELECT DIGIT** to specify the number of times the Model 100 will scan the selected ballot. Press **PLUS** or **MINUS** to increase or decrease the number.
5. Press **PREVIOUS MENU** to navigate back to the **TEST BALLOT** menu and press **FEED BALLOTS** to open the **AUTOREAD** menu.
6. Insert the ballot that you want to scan. The Model 100 automatically scans the ballot the number of times that you specified in the **AUTOREAD SETTINGS** menu.
7. Press **STOP** to cancel ballot processing. Re-insert the ballot to restart the scanning process. Press **RESET** to clear the **CURRENT COUNT**. Press **PREVIOUS** to return to the **BALLOT TEST MENU** when you finish processing ballots.

Note: From the **BALLOT TEST MENU**, press **AUTOREAD SETTINGS** to change the number of scan cycles for each ballot that you want to scan.

Polls Open Mode

Open the polls to begin scanning official ballots on Election Day.

To open the polls

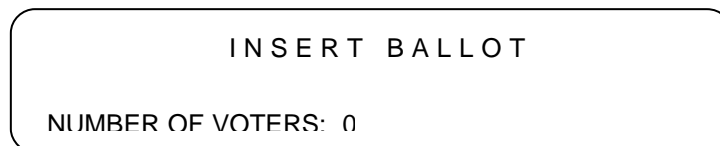
Press **PREVIOUS** to navigate backwards through Model 100 menus until you see the message “ELECTION CARD INSERTED OPEN POLLS NOW?” on the display screen. Press **YES** and turn the key to **VOTE** to open the polls.

The scanner performs a series of internal system checks and displays the results. If any of the checks fail, the scanner rejects the loaded election definition and defaults to the main menu.

If the system checks out, the Model 100 automatically sets election totals to zero and prints a Status Report and then a Zero Totals report. The Zero Report lists all active races, and shows the current vote count for all of the contests and issues included on the ballot. The scanner automatically shuts down if it fails to properly clear votes from system memory. If necessary, you can generate multiple zero reports with certification statements.

After the scanner completes its automatic checks and prints initial reports, the message, “INSERT BALLOT” appears on the display screen. Voters can now insert ballots into the scanner and the Model 100 saves the results to the inserted PC Card.

Insert Ballot Screen



To print an audit log report with the polls open

1. To print a log report without closing the scanner, open the Key Access Panel and turn the control key to the OPEN/CLOSE POLL position. The **AUDIT LOG-REPORT** option appears next to the **CLOSE POLLS** option.
2. Select **AUDIT-LOG REPORT** to print the log.
3. Turn the key back to the **VOTE** position after the report prints to enable voting.

To enable additional precincts with the polls open

1. To enable additional precincts without closing the scanner, open the Key Access Panel and turn the key to the OPEN/CLOSE POLL position. The **AUDIT LOG-REPORT** option appears next to the **CLOSE POLLS** option.
2. Press the far left button on the control panel (it does not have a label) to open the **ENABLE PRECINCTS** menu.
3. Select **NXT-PREC** to advance through a list of available precincts.
4. Select **ENABLE** for each precinct that you want to activate. After you enable a precinct, the precinct remains active for the duration of the election or ballot test. If you activate a precinct for testing, the scanner reverts to the previous settings after you exit the test menu.
5. Select **PREVIOUS** navigate backwards through Model 100 menus until you reach the **CLOSE POLL** option, and then turn the key to the VOTE position to activate the scanner for voting.

To close the polls

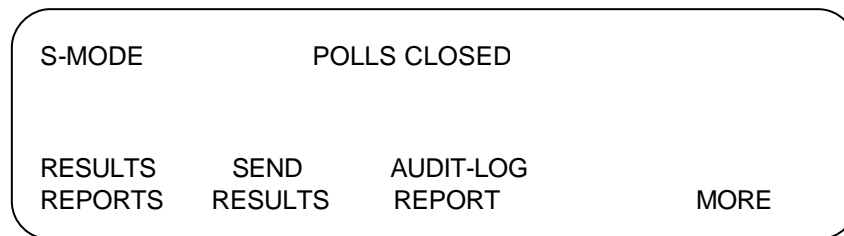
1. At your jurisdiction's assigned closing time, turn the scanner control key to OPEN/CLOSE POLL position to access the **CLOSE POLLS** option.
2. Press **CLOSE POLLS** to close the Model 100 for voting. The scanner does not save any ballot totals to the PC Card after you close the polls.

Note: Depending on how you configured your election definition, the scanner may automatically print a results report and a certification report after you close the polls. Press **CANCEL** to abort the printing. You can print additional copies of any automatic reports from Polls Closed mode.

Polls Closed Mode

Activate POLLS CLOSED mode to generate results reports, print the system audit log and to transfer election results to your reporting software.

Polls Closed Menu



1. Open the key access panel and turn the control key to the OPEN/CLOSE POLL position to access the **POLLS CLOSED** menu.
2. The options available from the **POLLS CLOSED** menu include: **RESULTS REPORT**, **SEND RESULTS**, **AUDIT-LOG REPORT** and **MORE**. For more information about all of the commands available on this menu, except the **MORE** option, see “The Election Test Menu” earlier in this appendix.

Note: For more information about the **SEND RESULTS** option see “Closing the Polls” in Chapter 5. Use the **SEND RESULTS** option to transfer results over a network to a computer running election reporting software at your election headquarters.

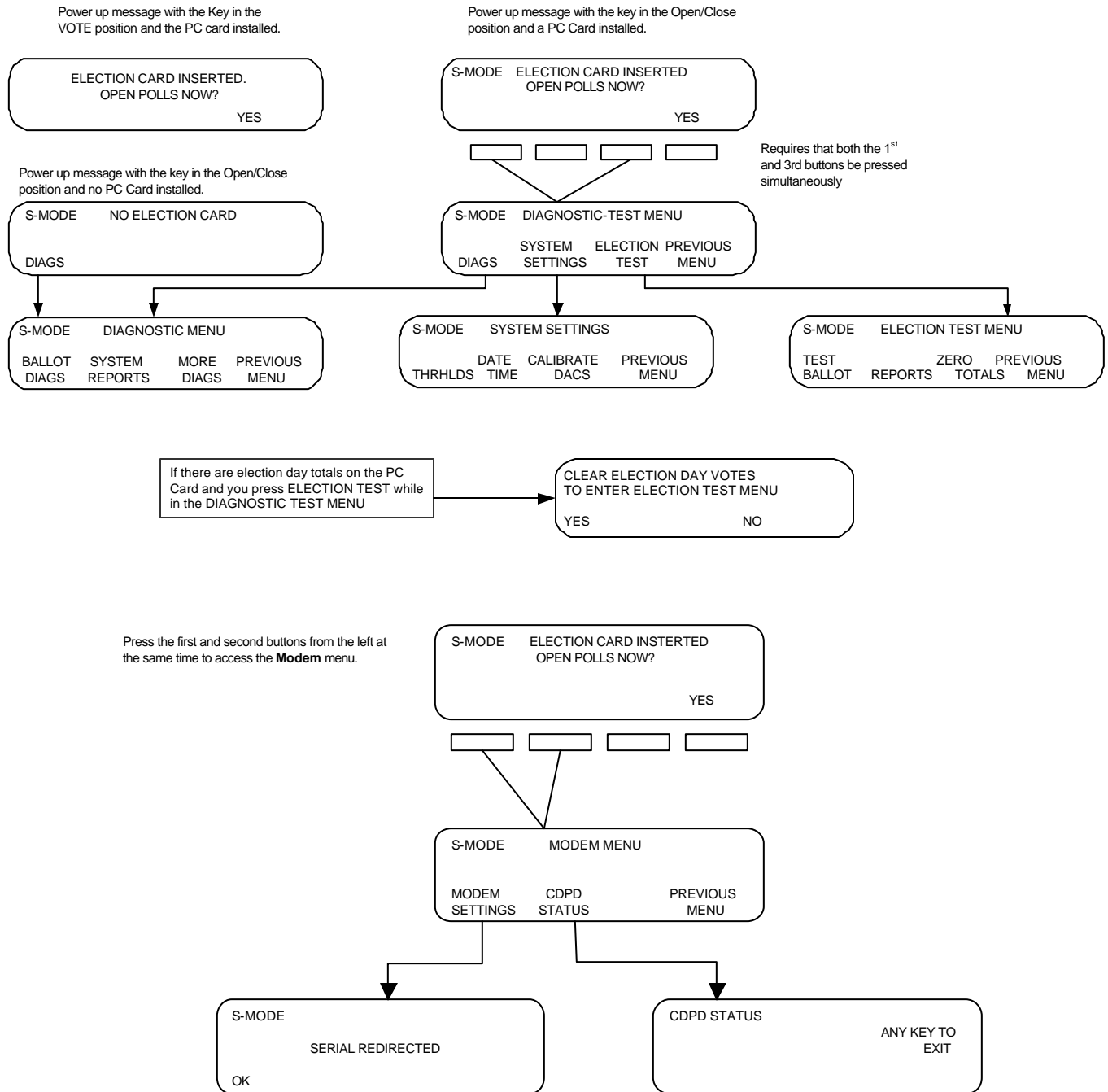
3. Select **MORE** to open the **MORE SELECTIONS** menu. Options available from the **MORE SELECTIONS** menu include: **RE-OPEN POLLS**, **MORE REPORTS** and **PAPER FEED**. Select **PAPER FEED** to advance the printer paper by one line. For more information about the **RE-OPEN POLLS** option, see Chapter 5, “Election Day Tasks.”

4. Select **MORE REPORTS** and enter a password (if necessary) to open the **MORE REPORTS** menu. The three options available in the **MORE REPORTS** menu include: **CHANGE TYPE**, **PRECINCT REPORTS** and **POLL REPORT**.
5. Select **CHANGE TYPE** to select either media or summary as the report type. See Appendix B, “Understanding Reports,” for more information about report types.
6. Select **PRECINCT REPORTS** to print a ‘precinct by precinct report.’ For more information and examples of report types, see Appendix B, “Understanding the Reports.”
7. Select **POLL REPORT** to print an election poll report. For more information and examples of report types, see Appendix B, “Understanding the Reports.”

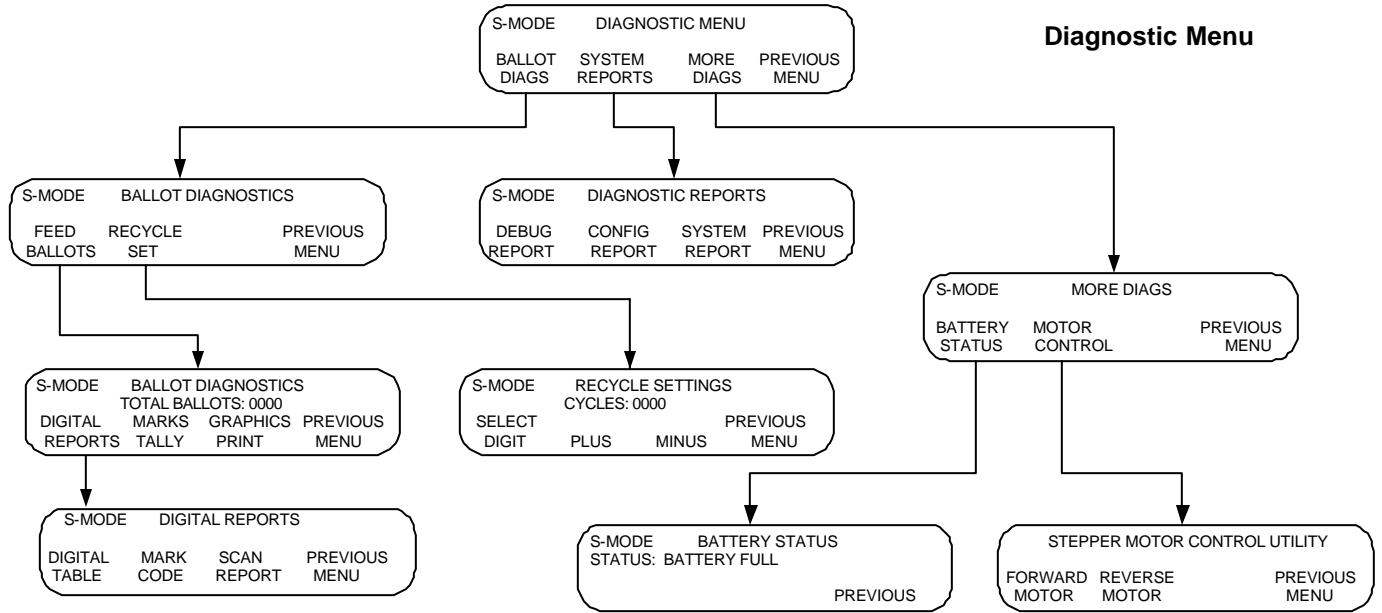
Model 100 Menu Flow Charts

Start-up Menu

Model 100 Start-up Menu

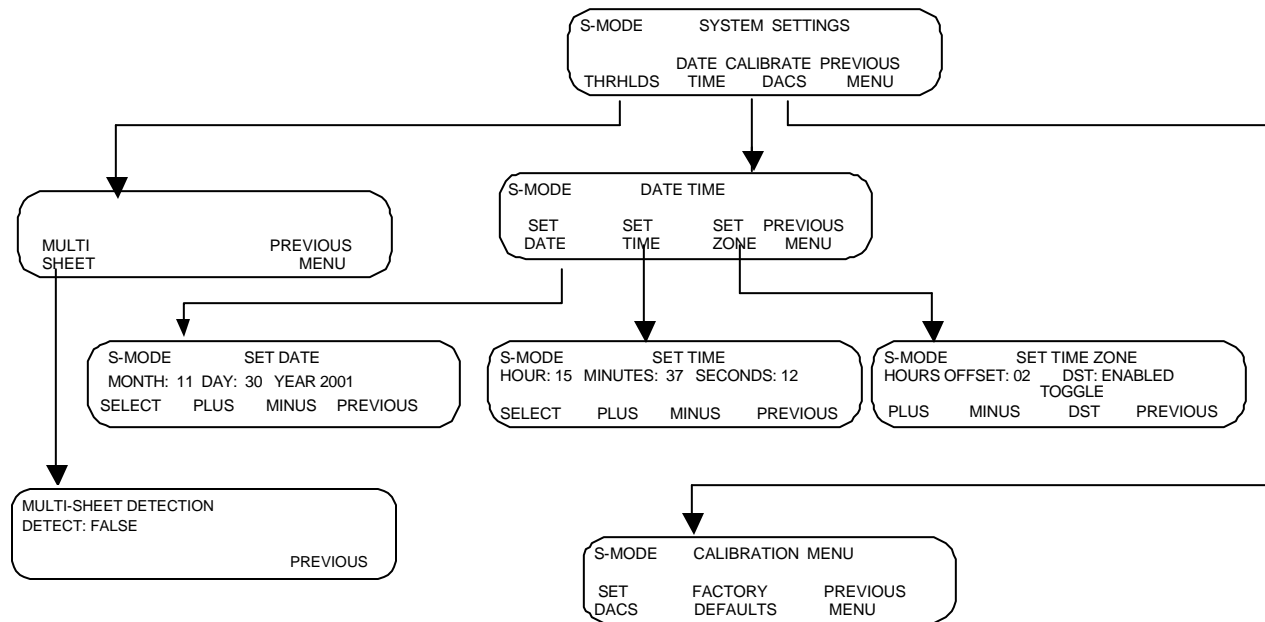


Diagnostic Menu



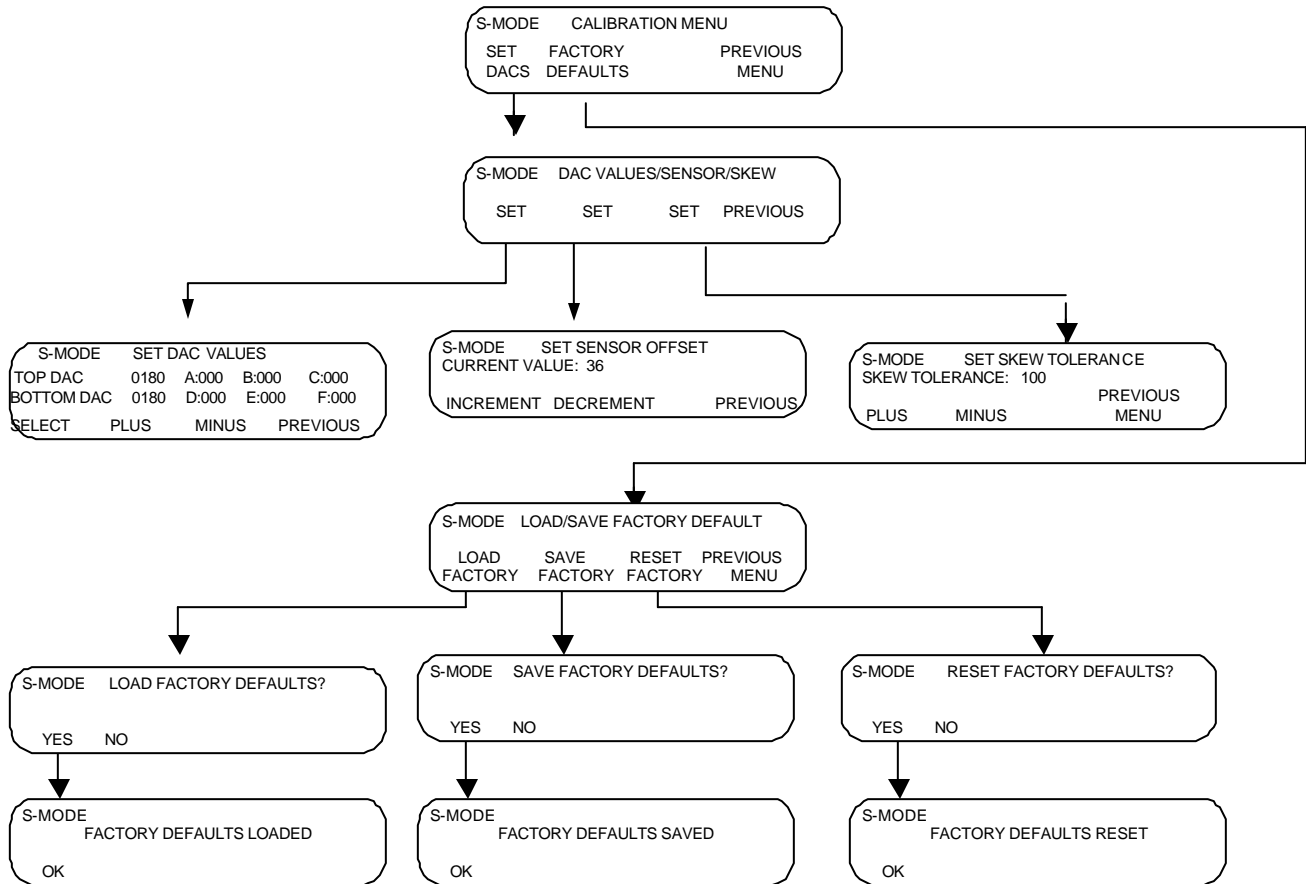
System Settings

System Settings



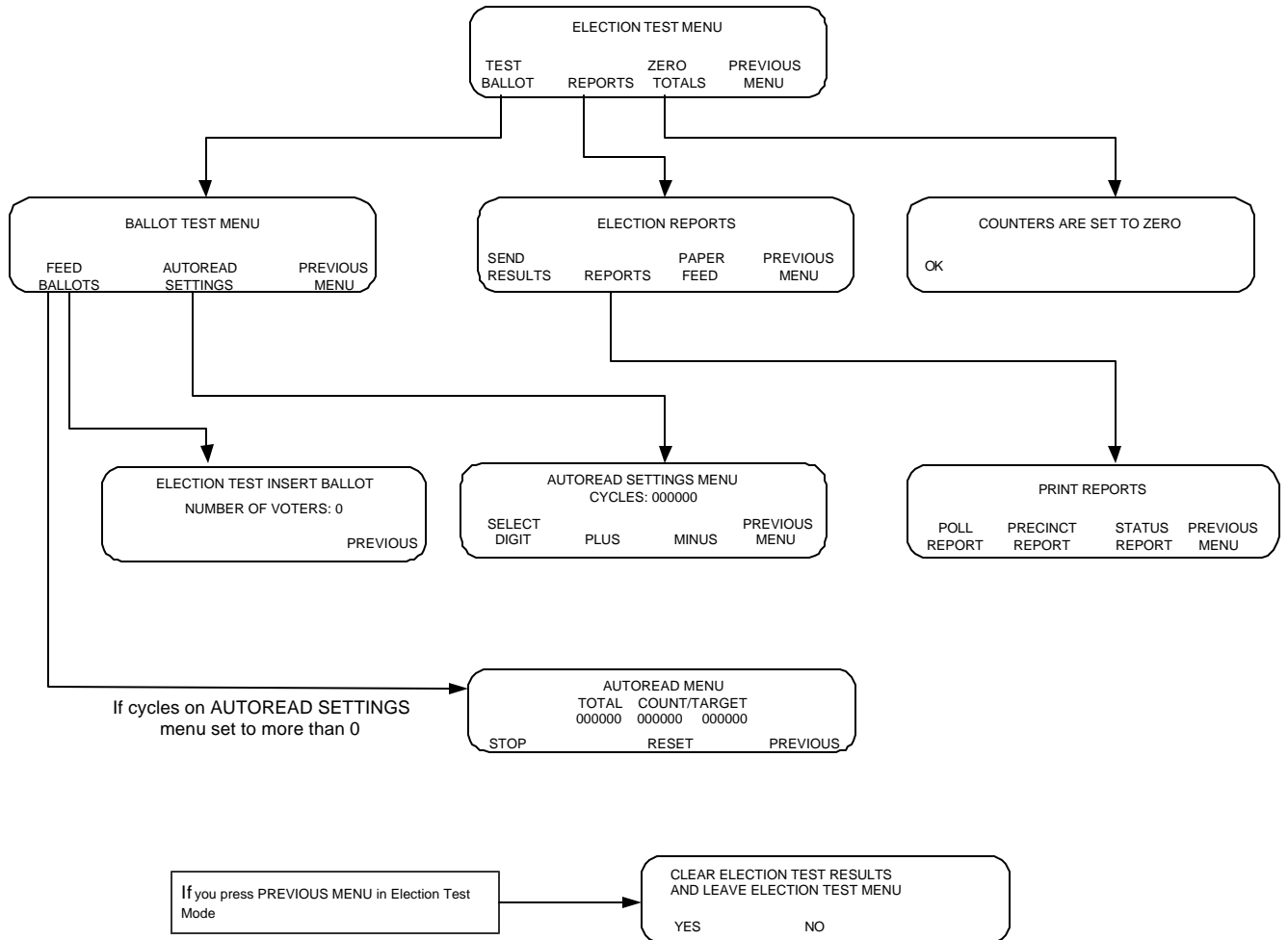
Calibration Menu

Calibration Menu



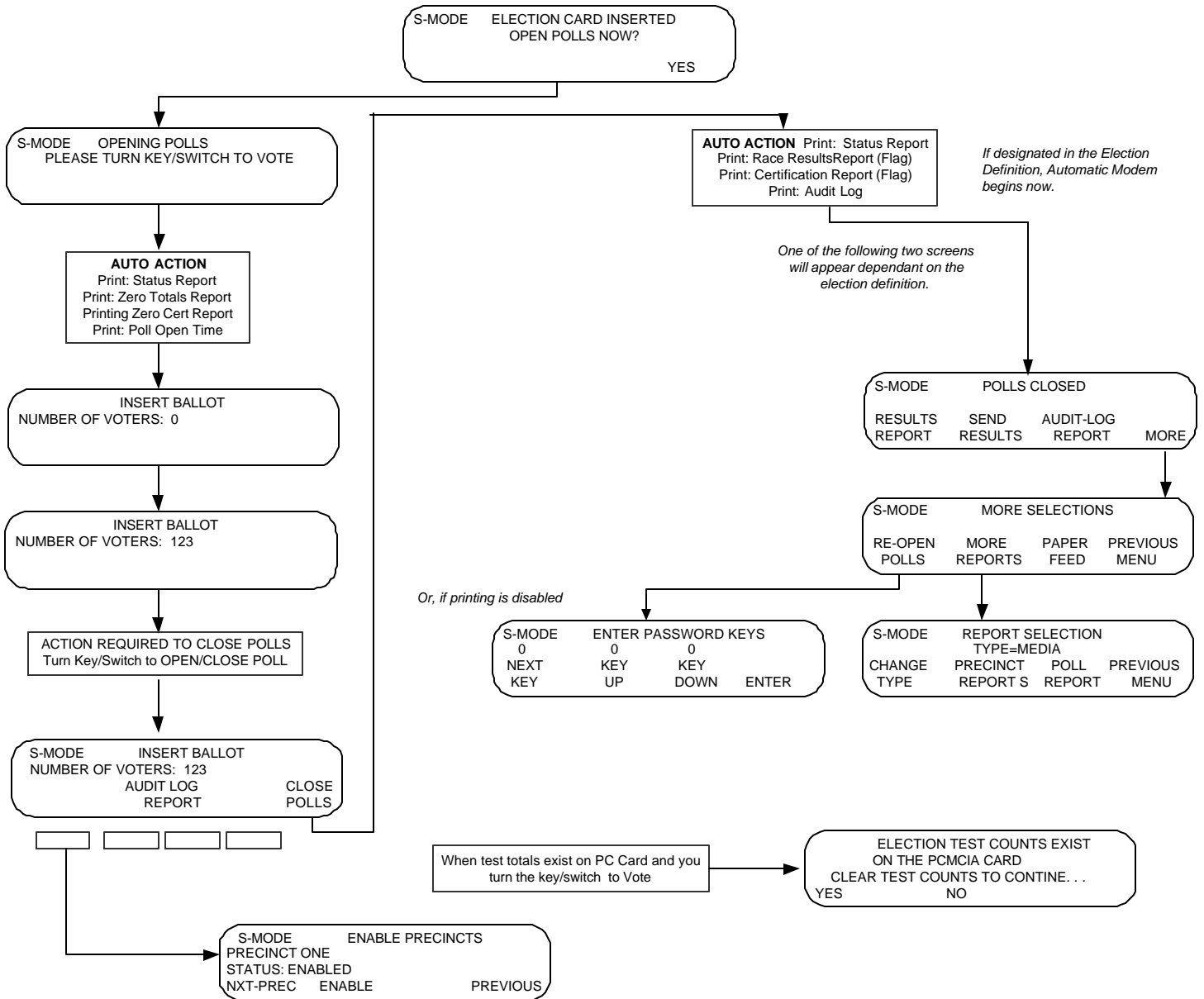
Election Test Menu

Election Test Menu



Opening and Closing Polls Menu

Opening and Closing Polls



Appendix E: Troubleshooting

Use the following procedures if there is a power outage or scanner failure.

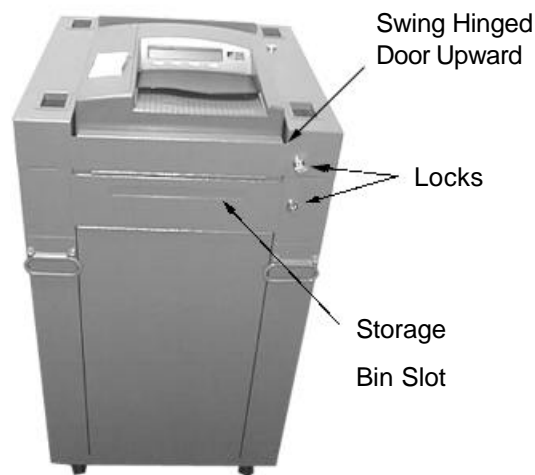
Using the Temporary Ballot Storage Bin

If the Model 100 fails during an election, use the following procedure to store ballots in the temporary bin until you can repair or replace the scanner.

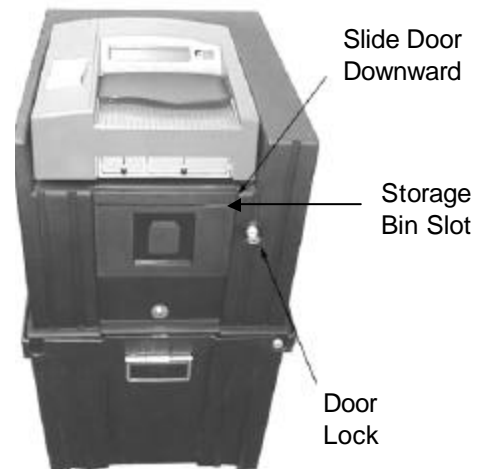
To store ballots in the temporary bin

1. Unlock the sliding door on the front panel of the ballot box.
2. If your jurisdiction uses nested ballot boxes, slide the door down until it no longer holds the scanner in place. Lock the sliding door open.
3. If your jurisdiction uses metal ballot boxes, open the door to the emergency bin and lock the top hinged panel on the front of the ballot box in the raised position. Open the lower hinged panel and rotate the inside cover on the lower hinged panel to gain access to the storage bin slot. Swing the panel back up and lock in place.

The Metal Ballot Box



The Nested Ballot Box



4. Voters may now insert ballots into the newly exposed slot for temporary storage. Store uncounted ballots in the emergency bin until you can repair or replace the scanner.

Recovering or Replacing the Scanner

If one of your scanners fails and must be replaced, turn the malfunctioning scanner off and remove the election definition PC Card from the slot. Insert the PC card into a replacement scanner and turn the replacement scanner on. The new scanner automatically recovers the vote totals and election information from the previous scanner. .

For more information about resuming scanner operations after a single recovery, see, "Re-Opening the Polls" in Chapter 5.

Appendix F – Loading New Firmware Onto The M100

To install new firmware on the M100, obtain an official PCMCIA firmware card from Election Systems & Software. Begin loading the firmware card onto the M100 machine.

To load the M100 firmware card onto the M100 machine

1. Remove any cards currently in the machine before inserting the PCMCIA card.
2. Turn on the M100 machine.
3. The screen displays the card version number.
4. A message appears saying, “Reprogram flash memory. Load flash?” Press **Yes** to load the flash. Press **No** to not load the flash.

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

5. After you have successfully loaded the firmware, you will receive a confirmation message. Turn off the machine and remove the card.



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