SEQUOIA
voting systems

AVC Edge®

Operator's Manual

1 INTRODUCTION

Welcome to Direct Recording Electronic (DRE) voting. Sequoia is pleased to introduce you to the *AVC Edge®* (*Edge*), a system designed for the jurisdiction that demands an accurate and reliable electronic voting system. The *Edge* election system has been designed to be simple to operate and when used according to the procedures outlined in this guide, will ensure your elections are easier to conduct, more accurate, reliable and enjoyable for you, the election officers and the voters.

Direct Recording Electronic voting is a description assigned to a voting device that meets the following guidelines:

- Presents candidates and issues by using an electronic ballot.

- Displays a series of buttons/switches/images to be pressed for selecting a candidate or option. Indicators show that the selection has been made to the voter or operator.

- Prevents over voting of offices.

- Allows the voter to select and deselect a candidate position right up until the "Cast Vote" button is pressed.

- Allows for electronic write-in voting.

- Operates on AC/DC electronic power and incorporates a battery for backup protection.

- Provides for voting privacy.

- Electronically stores vote totals and a complete audit trail of voting activity.

- Prints results for each candidate when the polls are closed.

- Provides a method to transfer machine totals to a central tabulation center.

- Tamper resistant design using locks, seals and cryptography to provide maximum security.

The *Edge* meets or exceeds the DRE standards as set forth by the Federal Election Commission. The *Edge* was designed with certain criteria in mind, namely, to improve the voting process for the voter, the pollworker, the candidate and the Election Administrator.

1.1 IMPORTANT SAFETY INSTRUCTIONS

DO NOT DISCARD, READ BEFORE OPERATING
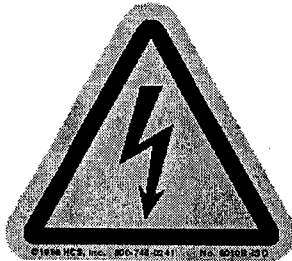
THIS IS THE ELECTRICAL HAZARD SYMBOL. IT INDICATES THAT THERE ARE DANGEROUS HIGH VOLTAGES PRESENT INSIDE THE ENCLOSURE OF THIS PRODUCT. TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT ATTEMPT TO OPEN THE ENCLOSURE OR GAIN ACCESS TO AREAS WHERE YOU ARE NOT INSTRUCTED TO DO SO. REFER SERVICING TO QUALIFIED SERVICE PERSONEL ONLY.
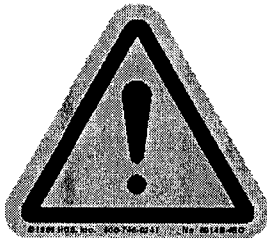
THIS IS THE USER CAUTION SYMBOL. IT INDICATES A CONDITION WHERE DAMAGE TO THE EQUIPMENT OR INJURY TO THE OPERATOR COULD OCCUR IF OPERATIONAL PROCEDURES ARE NOT FOLLOWED. TO REDUCE THE RISK OF DAMAGE OR INJURY, FOLLOW ALL STEPS OR PROCEDURES AS INSTRUCTED.

READ USER'S GUIDE – After installation, read the User's Guide carefully before operating. Follow all operating and other instructions carefully.

POWER SOURCES – This product should be operated only from the type of source indicated on the manufacturer's ID label.

WATER AND MOISTURE – Do not place containers with liquids such as coffee, water, sodas, etc. on this unit. Do not operate this equipment in a wet environment.

HEATING – Do not install this product near heat sources such as radiators, air ducts, areas subject to direct, intense sunlight, or other products that produce heat.

POWER CORD PROTECTION – The power supply cord for this product should be routed or installed in such a manner to protect it from being walked on or pinched.

SERVICING – Do not attempt to service this unit unless specifically instructed to do so. Do not attempt to gain access to areas of the unit where dangerous voltages are present. **Refer servicing to qualified service personnel.**

DAMAGE REQUIRING SERVICE – Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:

- When the power supply cord is damaged.
- If liquid has been spilled into the enclosure of the unit.
- If the product does not function normally by following the instructions in the User's Guide.
- Adjust only those controls that are covered by the operating instructions.
- If the product has been damaged in any way.

Battery Replacement Warning – CAUTION! Danger of explosion if battery is incorrectly replaced. Replace only with same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

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This Agreement is governed by the laws of the State of New York. In the event a provision of the Agreement shall be held unenforceable, it shall be deemed severable from the remaining provisions and shall in no way affect the validity of enforceability of this Agreement.

LICENSEE, BY AFFIXING IT'S SIGNATURE HERETO, ACKNOWLEDGES THAT IT HAS READ THIS AGREEMENT, UNDERSTANDS IT AND AGREES TO BE BOUND BY IT'S TERMS AND CONDITIONS. LICENSOR FURTHER AGREES THAT IT IS THE COMPLETE AND EXCLUSIVE STATEMENT OF THE AGREEMENT BETWEEN LICENSEE AND LICENSOR AND IT'S AUTHORIZED DEALER WHICH SUPERCEDES ANY PROPOSAL OR PRIOR AGREEMENT, ORAL OR WRITTEN, AND ANY OTHER COMMUNICATIONS RELATING TO THE SUBJECT MATTER OF THIS AGREEMENT.

Signature: _____

2.6 WARNING

This equipment has been certified to comply with the limits of Class B computing devices, pursuant to Subpart J of Part 15 of FCC Rules. No peripherals (computer input/output devices, terminals, printers, etc.) not certified to comply with the Class B limits nor approved by Sequoia Pacific Voting Equipment may be attached to this computer. Operation with non-certified peripherals is likely to result in interference to radio and television reception.

This equipment generates, uses, and can radiate radio frequency energy. If not installed and used in accordance with the manufacturer's instructions, it may cause interference with radio and television reception. Operating this equipment in a residential area can cause interference. Should this occur, the user will be required to take whatever measure may be necessary to eliminate the interference. In attempting to do so, the user should do the following:

  a) Reorient the receiving antenna.

  b) Relocate the computer with respect to the receiver with which it interferes.

  c) Plug the computer into a different AC receptacle so the computer and the receiver with which it interferes with are on different branch circuits.

If necessary, the user should consult their Sequoia Pacific representative or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful:

2.7 HOW TO IDENTIFY AND RESOLVE RADIO-TV INTERFERENCE PROBLEMS

This booklet is available from the United States Government Printing Office, Washington, DC 20402, Stock Number 004-000-00345-4.

2.8 PROTECT YOUR INVESTMENT

Static electricity is the shock you feel when you rub your feet on carpeting on a dry, winter day and touch a metal doorknob. Static is the enemy of any piece of electronic equipment.

The *Edge*, when fully assembled, is designed to withstand reasonably high levels of static discharge. When the *Edge* is disassembled, its components are more susceptible to static discharge. Static discharge that would not affect the *Edge* in normal use could destroy components when they are handled. Certain precautionary steps, however, can eliminate static and protect your investment.

When working on the *Edge*, follow these simple procedures:
   a) Wear rubber-soled shoes and do not handle other static generating materials such as Styrofoam or other synthetic material.
   b) Leave components in their anti-static packaging until installation time.
   c) When handling circuit boards, touch only non-conductive *Edge*s. With most circuit boards, that is the green board the chips and circuits are mounted on.
   d) When handling circuit boards and other components, never touch components metal leads or connector pins.

3 SYSTEM OVERVIEW

The *Edge* Voting System consists of two major components, the *AVC Edge* Electronic Voting Machine (*Edge*) and the Election Database Central System (WinEDS). The *Edge* is a Direct Recording Electronic voting device that incorporates a color LCD with an integral touchscreen. The WinEDS Central System ("WinEDS") is a computer software system, which contains application software developed specifically for election requirements.

3.1 *EDGE* DESCRIPTION

The *Edge* is a Direct Recording Electronic voting device that incorporates a color LCD with an integral touchscreen, a control panel for use by election poll workers, appropriate electronic circuitry and processing devices for performing specified system functions, internal memory for storing ballot data and voting records, a removable Results Cartridge with non-volatile memory, protective and public counters, and integrated voter privacy panels.

The *Edge* provides a large format Liquid Crystal Display and associated Touchscreen to present the ballot and allow the voter to make their selections. The presentation of the offices and issues can be set up in multiple formats allowing the election administrators maximum flexibility in the layout of ballots. This insures a presentation that is easy for the voter to read and comprehend.

The *Edge* is modular in design and is available with options that allow the customer to configure it to their specific needs. *Edge* is a stand-alone system, meaning it does not require any networking to a central system in order to function. All processing from loading the ballot to recording votes is done on individual units. Loading ballots and accumulating tally from the machines is transmitted via a Results Cartridge.

The Results Cartridge is designed so that it can be inserted into the voting machine, record voting results, be removed from the machine at the closing of the polls and be read by the WinEDS Central System. The Results Cartridge stores:

- an electronic representation of the ballot,
- ballot logic to enable the voter to make those selections to which he or she is lawfully entitled,
- the aggregated vote totals,
- a randomized record of all individual ballots cast, and
- a chronological log of significant machine operations, including error conditions.

3.2 WinEDS DESCRIPTION

The WinEDS Central System ("WinEDS") is a computer software system, which contains application software developed specifically for election requirements. The WinEDS System consists of the following subsystems:

- Security management, which allows WinEDS users the ability to accomplish tasks they are authorized to perform.

- <u>Profile management</u>, which allows the election office to maintain jurisdictional parameters such as political districts, precincts, polling places, offices, and parties.

- <u>Election setup</u>, which provides functions to initialize an election, defines the political parties, offices and party positions, political subdivisions, types of elections and other global election variables.

- <u>Candidate management</u>, which allows the election office to identify the contests and candidates for an election.

- <u>Ballot management</u>, which provides for the layout of the visual ballots and the generation of the ballots in electronic or paper form.

- <u>*Edge* management</u>, which provides functions that helps manage *Edge* testing, maintenance, and election preparation.

- <u>Election results management</u>, which provides the functions for election night tally of Results and Consolidation Cartridges and paper ballots (Absentee Ballots), the re-canvass of the election and the certification of all contests to the political parties and state election reporting agencies.

3.3 TERMINOLOGY

Top Cover including Power Cord

Top Cover Latches

Curtain

Privacy Panels

Touchscreen or LCD (Liquid Crystal Display)

Activation Slot
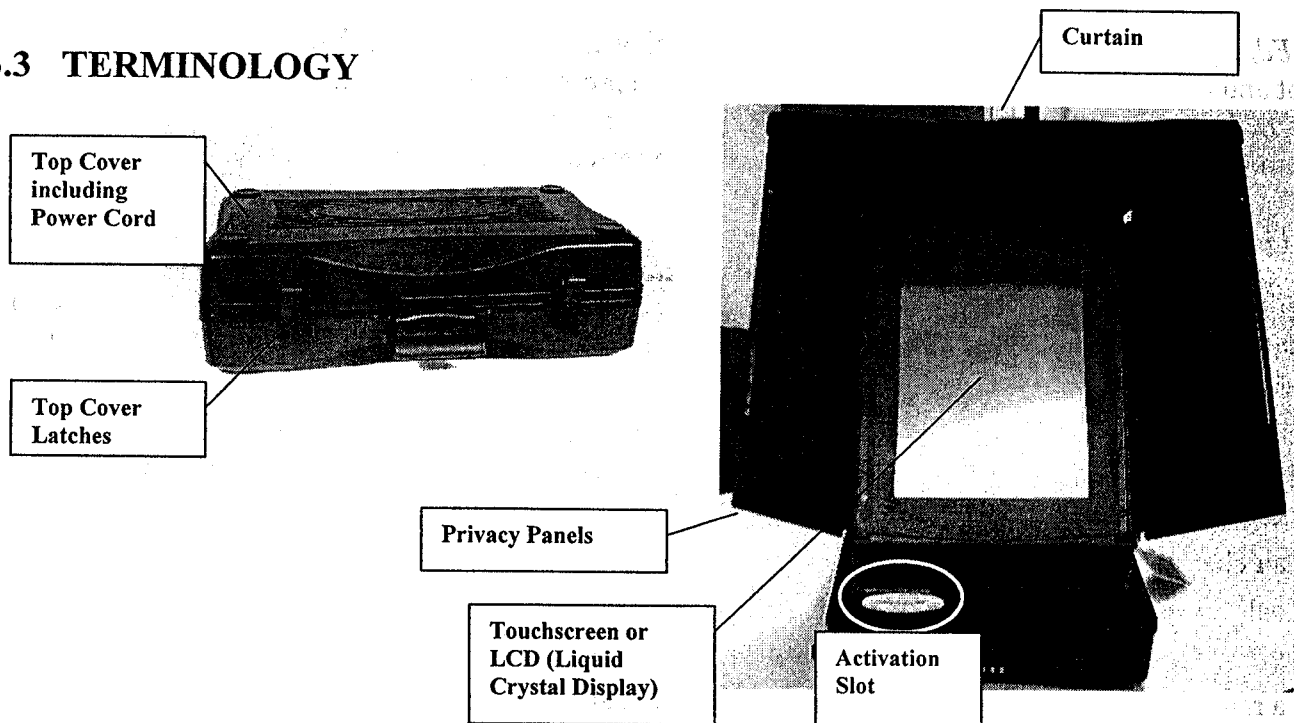
Storage Area (or Printer Well)
Contains: Printer (optional)
            Two Serial Ports (A & B)
            Parallel Printer Port
            Printer Power Cable Port
            AA Battery Compartment
            (Backup batteries to support
            real-time clock)
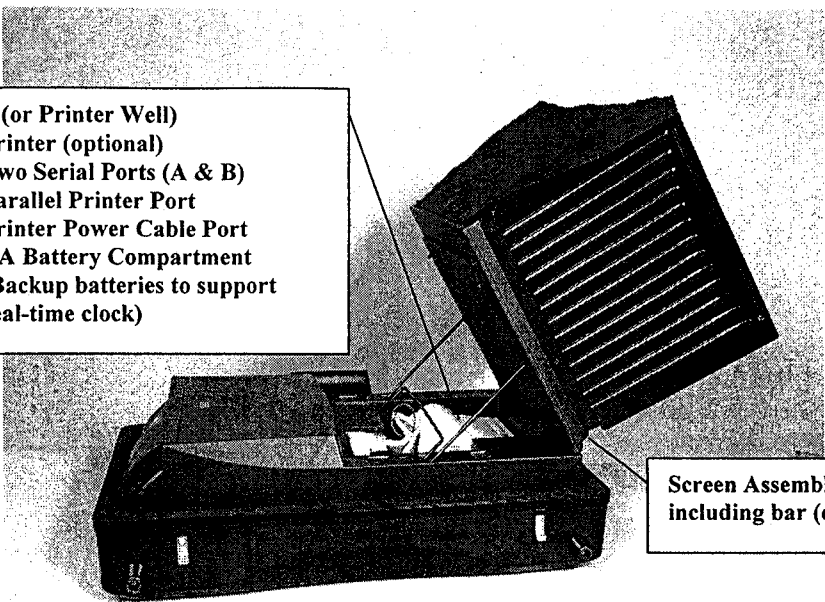
Screen Assembly,
including bar (or bracket)

Results Port

Auxiliary Port
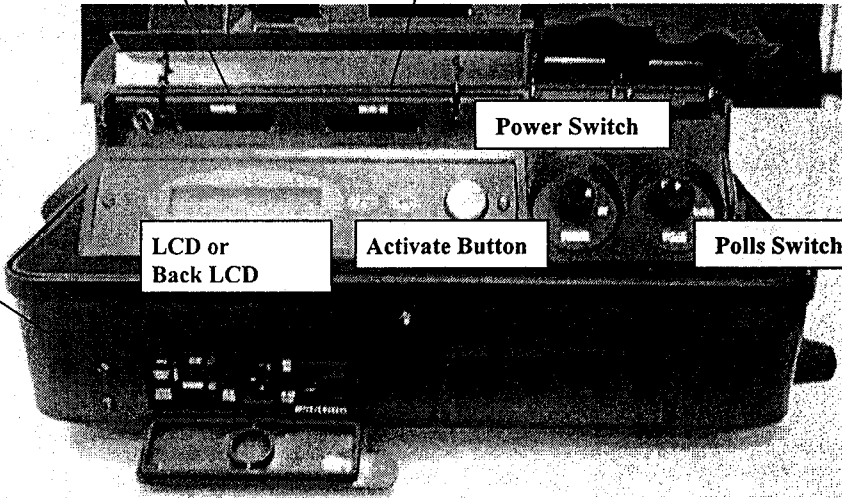
Power Switch

LCD or
Back LCD

Activate Button

Polls Switch

Power Receptacle
Contains: 115V AC IN
            115V AC Out
            Circuit Breaker
            AC On Light
            Charging Light

Leg Assembly Storage
Compartment

Back Cover

Power Cord Storage
(alternative)
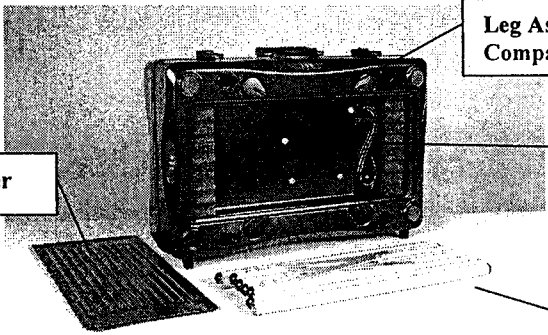
Leg Assembly

3.4 ASSEMBLY & SYSTEM POWER UP

STEP 1   Place the unit face down on a table, ensuring that bottom storage side of the unit is facing up.

**STEP 2**   Turn the four knobs to a 45-degree angle.

STEP 3   Remove the bottom storage cover.

STEP 4   Remove the legs.

STEP 5   Replace the bottom storage cover, securing the knobs to the original locking position.

STEP 6   Assemble the legs:

- Turn each inside leg 90 degrees to make 2 "X's".
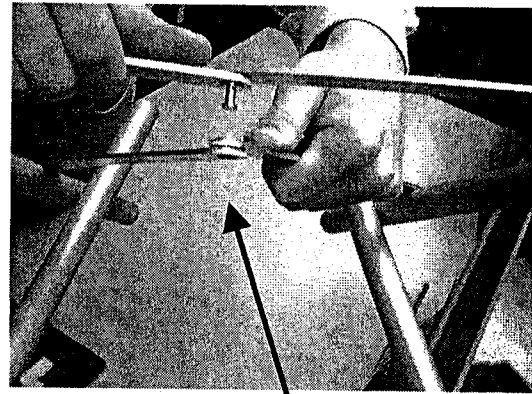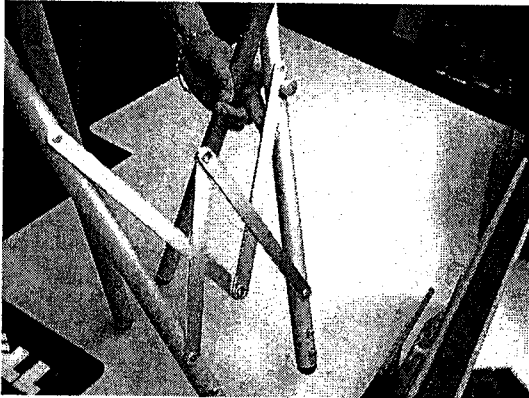
- Secure the leg brace by connecting the upper and lower portions in the center.

- Insert the four black button ends into the holes on the bottom storage case by pressing the leg retention pins. Make sure the leg brace assembly is at the rear of the unit.
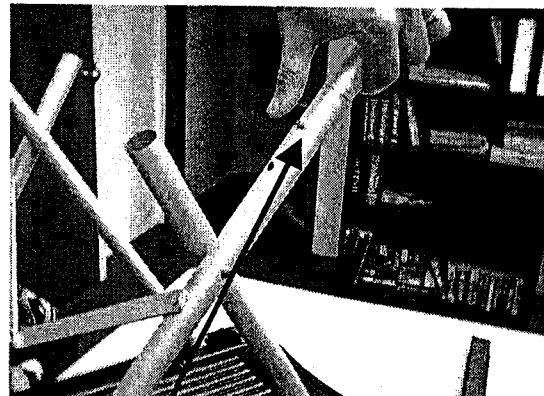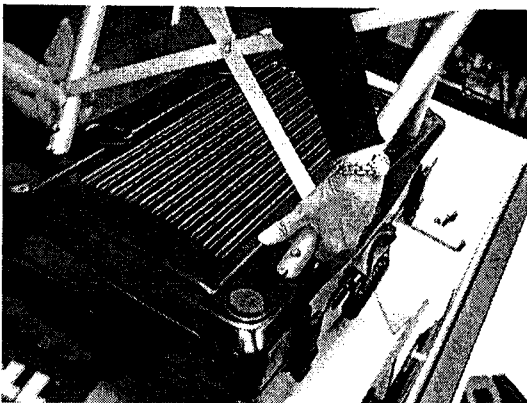
- Insert bottom legs and turn until the silver button snaps into place, securing the leg assembly.

STEP 7   Lift the machine, turn it right side up and set on the floor.
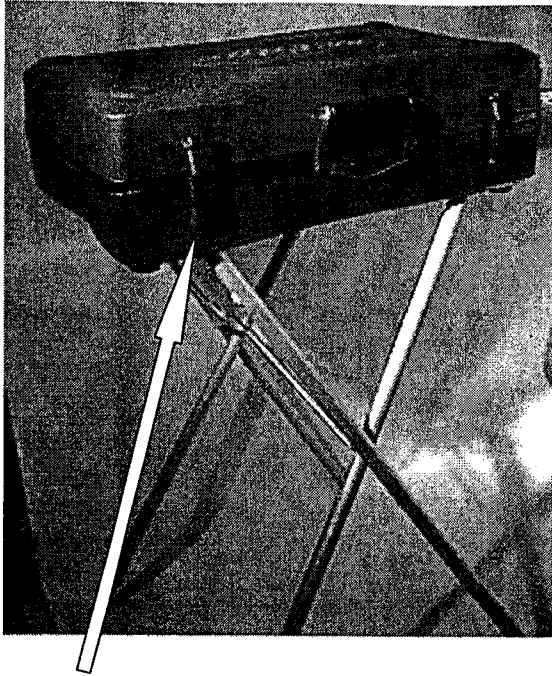
**STEP 8**   Unlock the four latches and remove top cover. Remove the power cord from the top cover.

STEP 9   Stand in the front of the unit. Place your hands on each side of the screen. Gently raise the screen assembly. The black bar behind the screen will automatically slide into the first groove. You may adjust the screen to any of 5 positions by repositioning the bar.
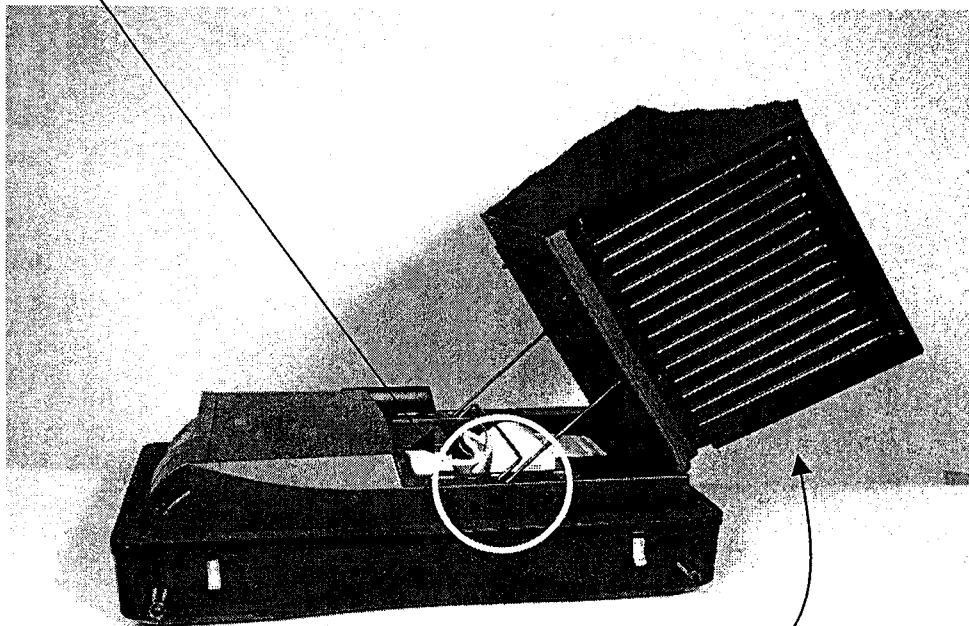
STEP 10   Open the privacy panels.

STEP 11   Go to the back of the unit and gently pull on the tab. This will reveal the AC power receptacle.

STEP 12   Plug the power cord into the *Edge* power receptacle and an outlet.
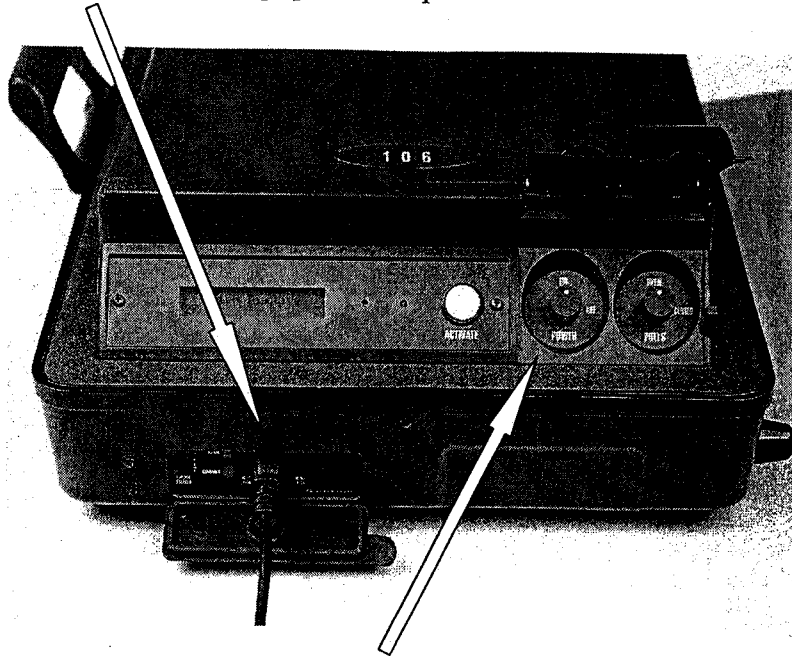
⚡ **POWER CORD PROTECTION** – The power supply cord for this product should be routed or installed in such a manner to protect it from being walked on or pinched. The unit should be powered down completely before connecting or disconnecting the power cable. The power cord should be removed before moving the unit. **The power cord must be placed near an easily accessible unobstructed socket outlet.**

**STEP 13**   Raise the cover on the main power on/off unit.

STEP 14   Turn the **"Power "** switch to the **"ON"** position. Close the cover.
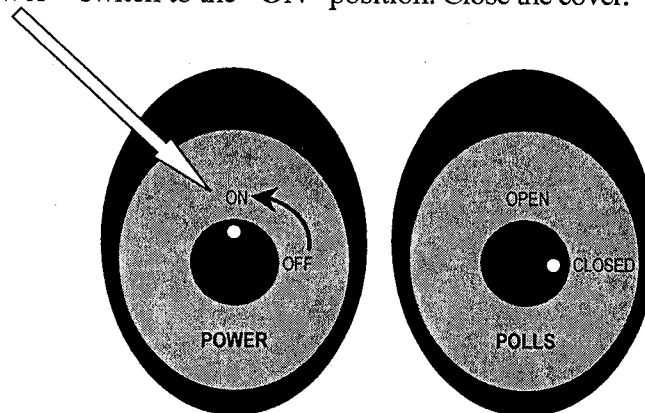
The Sequoia logo appears on the screen within a few seconds of turning the power on. The initial screen will display the first of four operating modes: Maintenance Diagnostics.

3.5 OPERATING MODES

The *Edge* has five operating modes:

Maintenance Diagnostics: This is the mode when no ballot is loaded on the system. It allows the technician to perform diagnostics.

Pre Election Logic and Accuracy Test: Also called Pre-LAT. The *Edge* enters this mode when a ballot is loaded. It allows the ballot and system to be test voted prior to the election.

Early Voting: This is an optional mode that allows for voting over several "sessions", with a secure lock mode in between. Vote data can be stored either overall, or by session.

Official Election: This is the mode the *Edge* operates in on Election Day or early voting.

Post Election Logic and Accuracy Test: Also called Post-LAT. The *Edge* is optionally placed in this mode after completion of the election. It allows the machine to be once again test voted, to verify continued correct functioning.
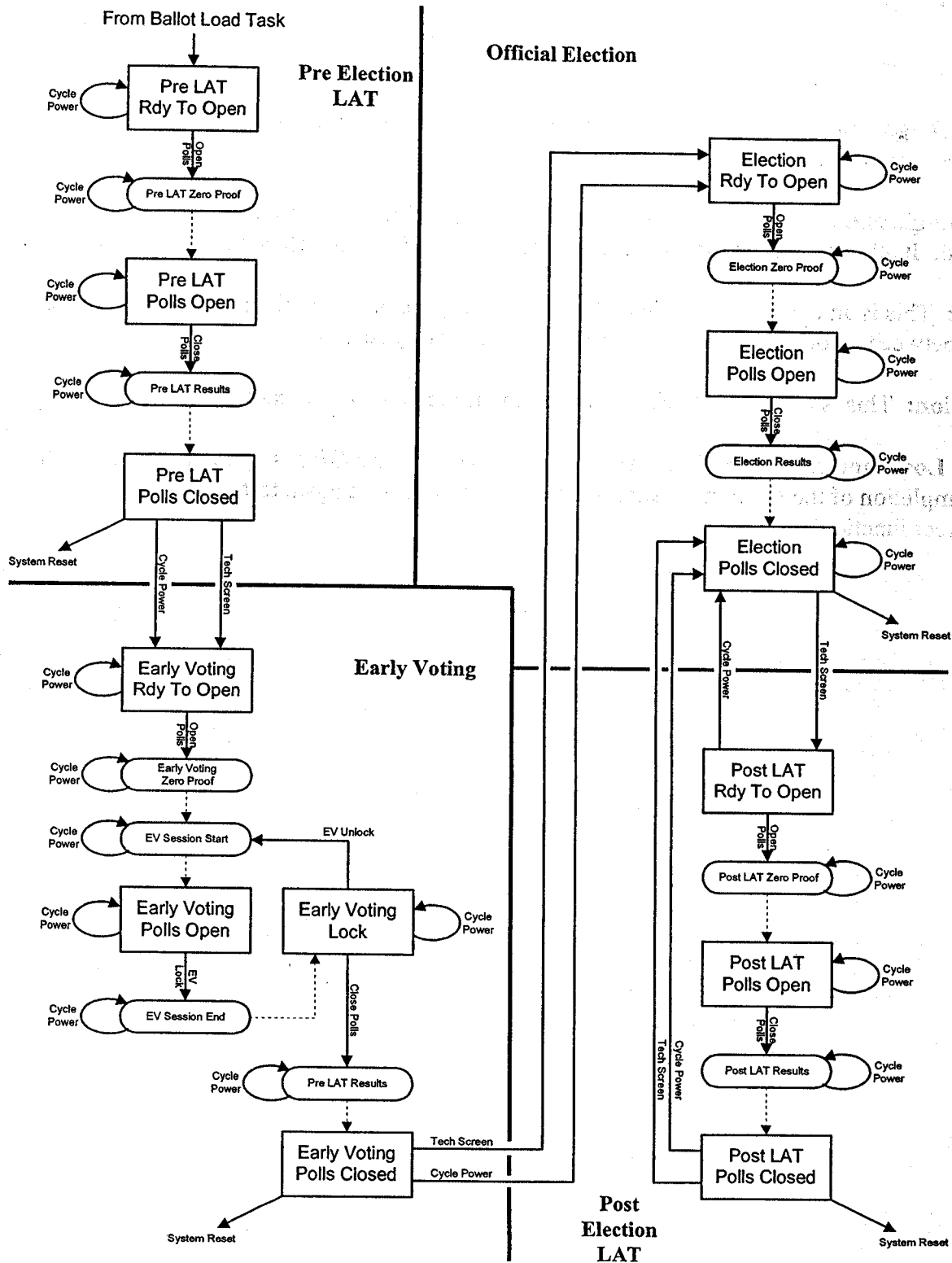
3.6 MAINTENANCE DIAGNOSTICS

Maintenance Diagnostics is the state the *Edge* is in when no ballot has been loaded. The Maintenance Diagnostics screen shows 6 buttons. They perform the following functions:

FUNCTION 1:   LCD
FUNCTION 2:   Report Setup
FUNCTION 3:   Set Date & Time
FUNCTION 4:   System Reset
FUNCTION 5:   Event Log Report
FUNCTION 6:   Aux Cartridge Reports
FUNCTION 2:   Report Setup

```
┌──────────────────────────────────────────────────────────┐
│  ┌─────────┐        Maintenance Diagnostics  ┌──────────┐ │
│  │   LCD   │                                 │Report    │ │
│  └─────────┘                                 │ Setup    │ │
│                                              └──────────┘ │
│                                                          │
│                                  ┌───────────┐           │
│                                  │ Set Date  │           │
│                                  │ and Time  │           │
│                                  └───────────┘           │
│                                                          │
│              ┌───────────┐                               │
│              │ Event Log │                               │
│              │  Report   │                               │
│              └───────────┘                               │
│                                                          │
│          ┌─────────────────┐                             │
│          │Aux Cartridge    │                             │
│          │   Reports       │                             │
│          └─────────────────┘                             │
│                                                          │
│              ┌───────────┐                               │
│              │  System   │                               │
│              │  Reset    │                               │
│              └───────────┘                               │
│                                                          │
│ Protective Counter 1500   S/N: 1090   V. 3.0   July 4, 2000  7:00 PM │
└──────────────────────────────────────────────────────────┘
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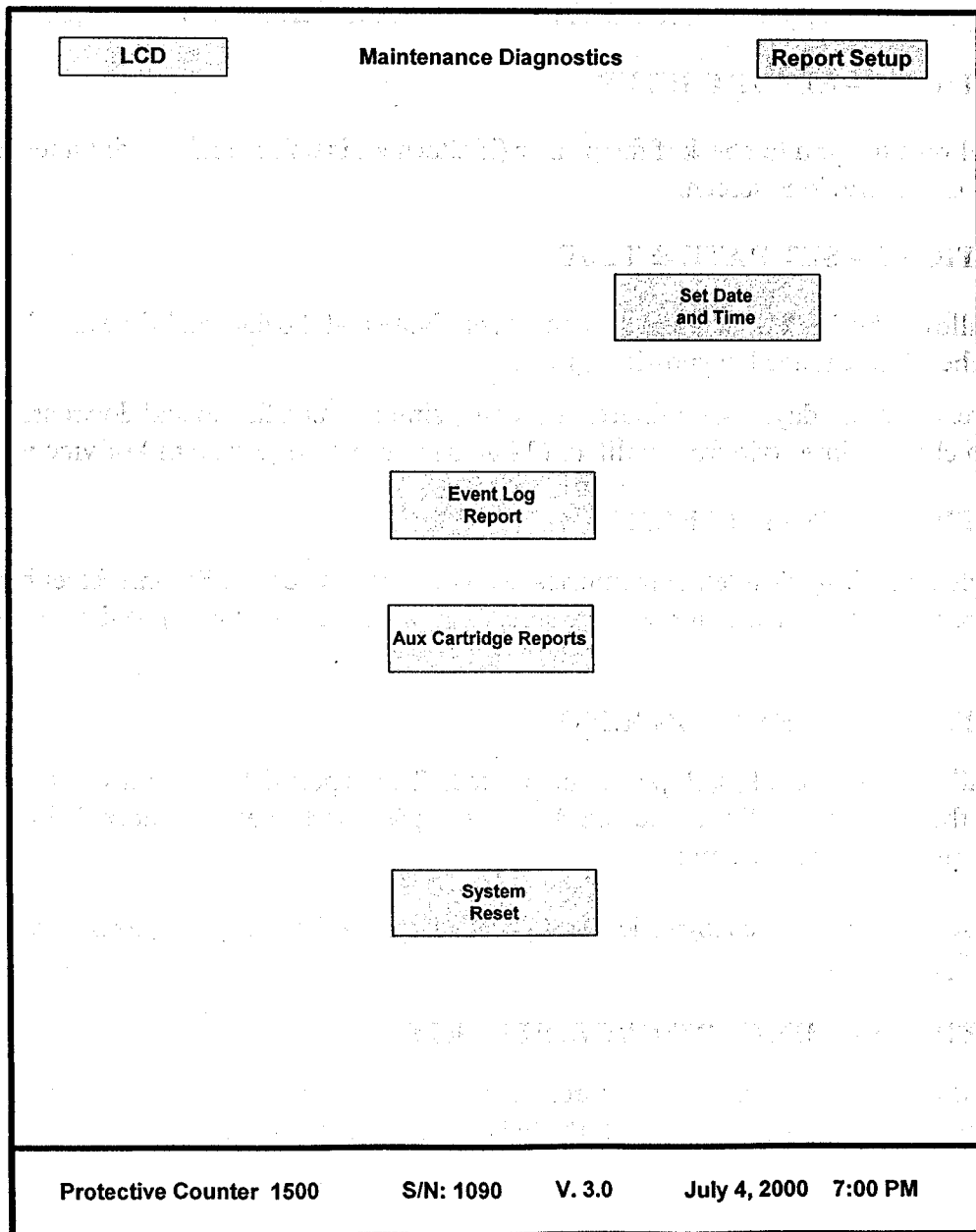
3.6.1 FUNCTION 1 – LCD

This function allows the contrast of the main screen to be adjusted, and the touchscreen to be calibrated. The LCD contrast is adjusted by touching the "left" and "right" arrows. As they are touched, the screen will get lighter or darker. When the LCD contrast is good, touch the OK button to return to Maintenance Diagnostics.

To calibrate the touchscreen, touch the Calibrate LCD button from the contrast adjust screen. Touch each of the 3 "targets" as prompted. Notes:

1. If the coordinates of the 3 touches are inconsistent, the *Edge* will continue to supply targets to touch. This is to prevent intentional miscalibration.

2. If the touchscreen calibration is already bad, it may not be possible to touch the Calibrate LCD button. In this case, you can press the Activate Switch to start the calibration process.

3.6.2 FUNCTION 2 – REPORT SETUP

This function allows the you to check if the printer (if attached) is online and to print a test page. Touch "OK" to return to the previous screen.

3.6.3 FUNCTION 3 – SET DATE & TIME

This function allows the *Edge*'s date and time to be set. Note that the date and time are shown in the lower right of the Maintenance Diagnostics screen.

To adjust the year, month, day, hour, minute, or second, simply touch the up and down arrows. There is also a button to change time style from military (24 hour) to standard (a.m./p.m.) or vice versa.

3.6.4 FUNCTION 4 – SYSTEM RESET

This function clears the *Edge*'s internal memories and counters. When the System Reset button is touched, you are prompted for whether you are sure. Touch Cancel to return to Maintenance Diagnostics.

3.6.5 FUNCTION 5 – EVENT LOG REPORT

This function allows the Event Log Report to be printed. This report lists all significant machine operations and their date/time. See Appendix A for a sample report. See Appendix B for a listing of all possible log entries and their meaning.

NOTE: Depending on the configuration setting of the *Edge*, the Event Log can be reset by performing a System Reset.

3.6.6 FUNCTION 6 – AUX CARTRIDGE REPORTS

This function allows you to generate reports from cartridges inserted in the Auxiliary Port . If this option is chosen, you will be prompted to insert a cartridge into the Auxiliary Port.

4 THE ELECTION PROCESS

4.1 ELECTION SETUP - PROCEDURAL OVERVIEW

The election setup process is a series of events designed to efficiently and securely prepare voting machines for Election Day. Outlined below are the suggested steps for preparing the *Edge* for voting:

1. Create Results Cartridge and label cartridge with appropriate precinct/polling place label
2. Create Vote Simulation Cartridges (requires the creation of a pre-determined simulation script)
3. Unload *Edges* from the Precinct carts
4. Check leg assembly and all external parts
5. Identify the polling place, precinct, machine number, and delivery address with a paper insert.
6. Remove the power cord and plug-in machine
7. Ensure that the machine has been fully charged
8. Power-up machines - check date and time
9. Adjust screen contrast, if necessary
10. Calibrate machine
11. Load the ballot by inserting the Results Cartridge in the results port
12. Open Polls in Pre-LAT
13. Verify the ballot and vote the ballot manually
14. Perform Vote Simulation using the Simulation Cartridges
15. Close polls in Pre-LAT
16. Power the machine off
17. Remove the Results Cartridge
18. Read cartridges into WinEDS Pre-LAT Tally (at least one cartridge per ballot style per rotation)
19. Place Results Cartridges back into the machines
20. Power the machine on, and ensure that it boots up into Official Election mode
21. Power the machine off
22. Seal Polls Door and Cartridge Door
23. Clean Touchscreen
24. Unplug cord and place in the receptacle
25. Replace the top cover, and return to precinct carts

4.2 LOADING THE BALLOT

Before a ballot can be loaded onto the *Edge*, a Results Cartridge must be programmed with the ballot definition data. This is a function that is performed by the WinEDS Central System. To begin, the *Edge* must be powered up and at the Maintenance Diagnostics display. Then insert the Results Cartridge in the Results Port.

Important: All *Edge* Cartridges have a label on one side. This is the "up" side. If the force required to insert a cartridge seems excessive, this is likely a sign that the cartridge is upside-down.

Once the Results Cartridge has been inserted, the following messages appear:

PLEASE WAIT, VALIDATING THE RESULTS CARTRIGE

PLEASE WAIT, COPYING RESULTS CARTRIDGE TO THE AUDIT TRAIL

After those messages appear, the screen will briefly display the election information for the election that was just loaded.

Finally, the following screen appears:

Ready to Open PRE LAT Polls
To begin voting move the polls switch to OPEN

At this point, the *Edge* has entered its election program. Note that if the unit is powered down/up, it will return to the same place, rather than return to Maintenance Diagnostics.

The next step is to turn the Polls Switch to Open

Depending on the configuration parameters, the *Edge* will now generate a Zero Proof Report in one of three ways:

> On the printer.
> To a file on the Results Cartridge.
> To the screen.

See section 8.1, Report Options, for more information.

Once the Zero Proof *Report* is completed, the *Edge* will advance to the "Pre-Election LAT Voter Inactive" state and display the following screen:

Waiting for First Voter

Start Vote
Simulation

Zero Proof
Report

View Election
Information

Start Voting ⟶

Protective Counter 1500   S/N: 1090   V. 3.0   July 4, 2000   7:00 PM
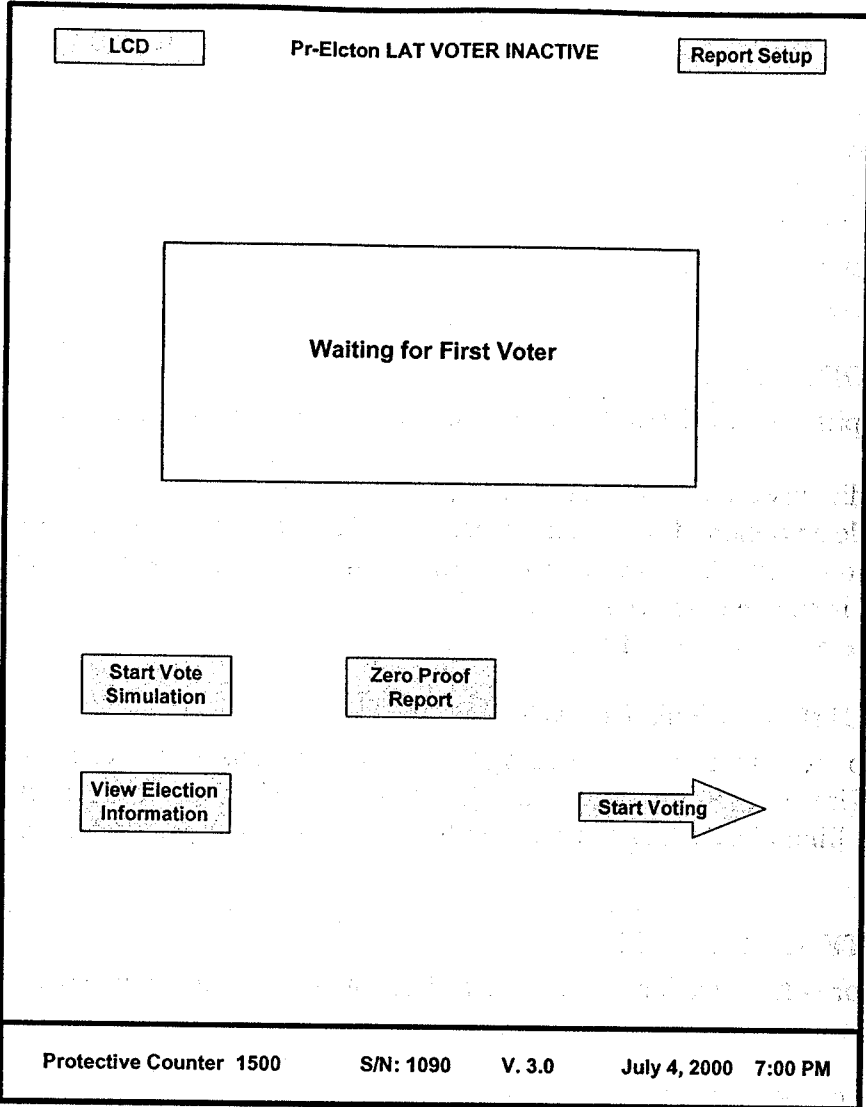
4.3 PRE LAT (LOGIC AND ACCURACY) VOTING

Now that the ballot is loaded and the polls opened, it is time to vote. The Voter Inactive screen shows the following buttons:
- Zero Proof Report
- Start Vote Simulation
- View Election Information
- Start Voting

4.3.1 ZERO PROOF REPORT

Touch this button to print another Zero Proof Report. Depending on how the ballot is configured, this will do one of:
- (a) Print directly on the optional built-in printer.
- (b) Provide an option of writing the report to a file on the cartridge, OR printing on a printer.
- (c) Print to screen. A hard copy can be generated by pressing the "Print" button once the report is shown on-screen.

As many copies of the report as desired can be generated.

4.3.2 VIEW ELECTION INFORMATION

This feature allows to view information regarding the current election. The information contained in this screen is: Date and Time (when ballot was loaded), Machine Serial Number, Protective Counter, Public Counter, Poll Site, Polling Place ID, Ballot Version (or Style), and the Election Name. Press DONE to exit.

4.3.3 START VOTE SIMULATION

This feature allows for volume testing of the *Edge* and ballot, to verify that both are correct. It uses a special simulation script that is created by WinEDS.

When you select this function, the following message appears:

Please insert a Vote Simulation Cartridge into the Aux Port

At this point, insert a Vote Simulation Cartridge, which contains the simulation script file, into the Auxiliary Port located at the rear of the machine. Once the Simulation Cartridge has been recognized, another screen appears with instructions on how to abort the running of the script.

To abort a running simulation, press on the screen for several seconds, until you hear a beep. Then release. The *Edge* will then ask whether you really want to abort. Note that if you continue to press the screen for more than 1 second after the beep sounds, the simulation will resume. This is so that accidental screen presses (i.e. a coffee mug in the wrong place) do not abort a simulation.

Touch the "Run Simulation" button to start the simulation. Note that as the simulation is run, the *Edge* responds as if a person were operating it.

4.3.4 START VOTING

Touch the "Start Voting" button to begin manual voting. The *Edge* will now show one of the following displays, depending on the ballot definition and whether Auto Activation is enabled (Enabling or disabling Auto Activation is parameter setting chosen in WinEDS before cartridges are created):

Auto Activation:
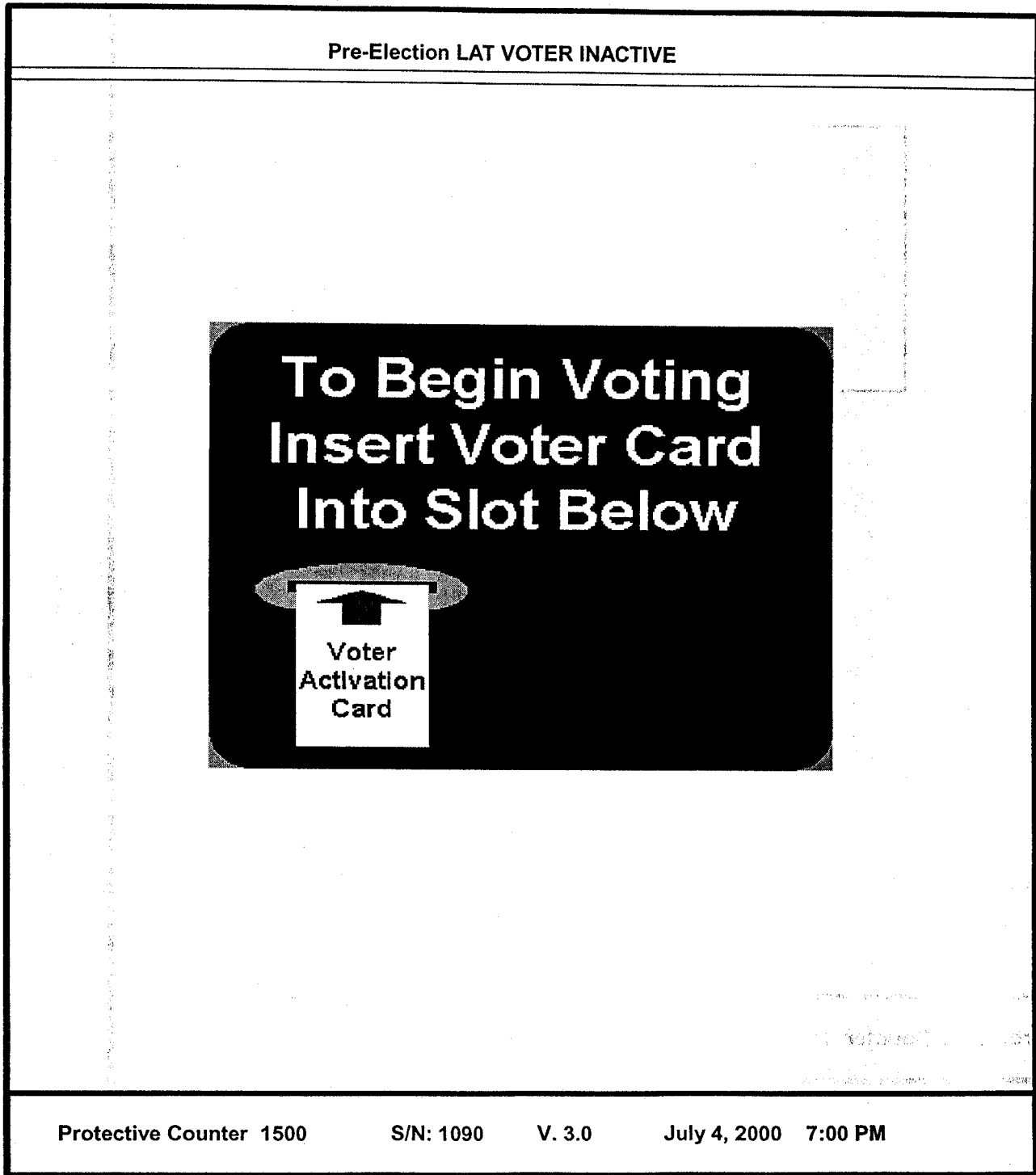
Manual Activation, with a single ballot style for all voters:

Pre-Election LAT VOTER INACTIVE
Waiting for First Voter
Protective Counter 1500   S/N: 1090   V. 3.0   July 4, 2000   7:00 PM
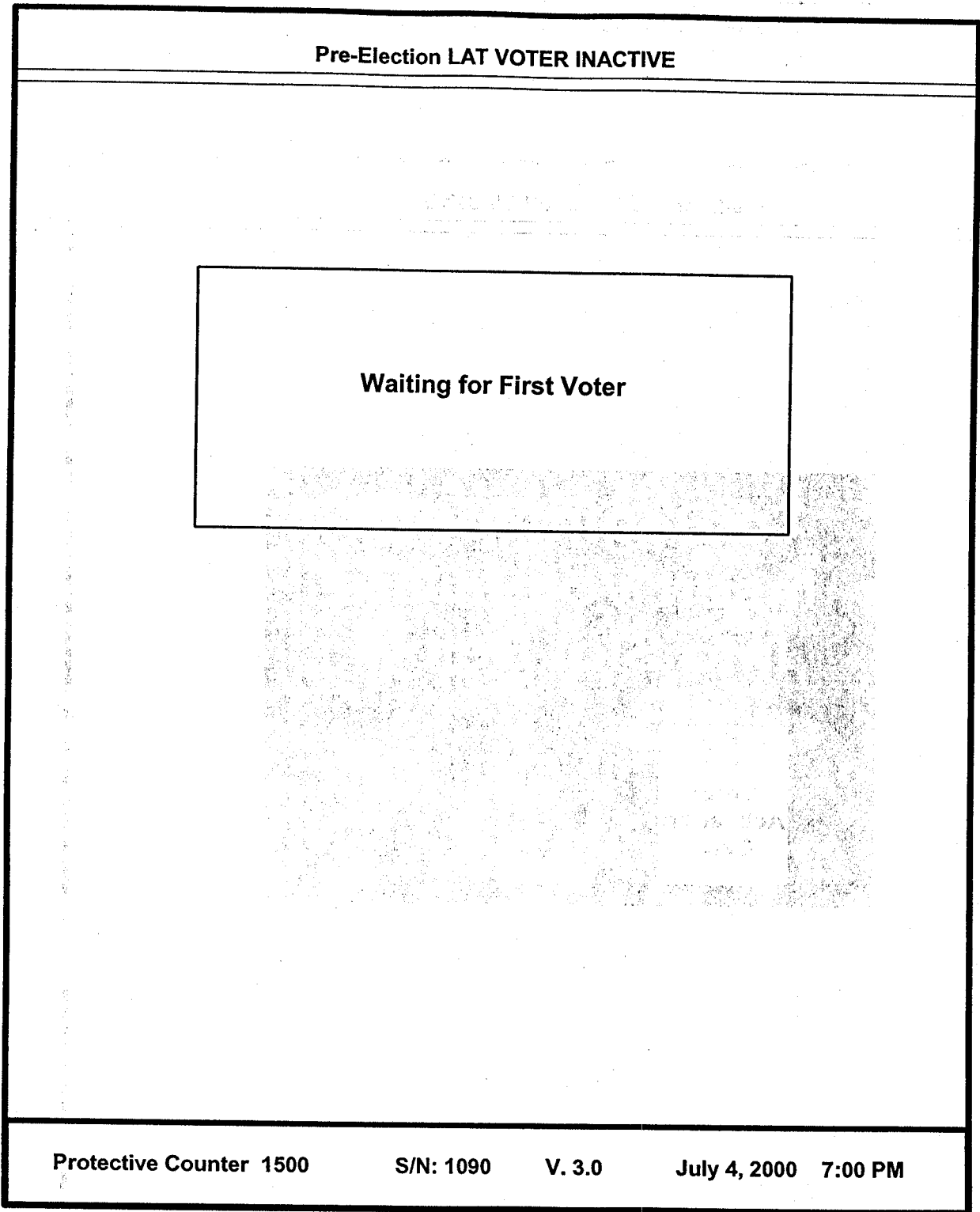
Manual activation, with up to 12 ballot styles or precincts on one machine:

## Pre-Election LAT Voter Inactive

Selection Code 1	Selection Code 7
Selection Code 2	Selection Code 8
Selection Code 3	Selection Code 9
Selection Code 4	Selection Code 10
Selection Code 5	Selection Code 11
Selection Code 6	Selection Code 12

Protective Counter 12345678   S/N: 87654321   V. 1.00   Nov 18, 1996 13:40

In this case, press the button for the Selection Code (ballot style or precinct) that is desired, and then press the yellow Activate button on the rear of the unit.

Manual activation, with more than 12 ballot styles or precincts on one machine:

```
┌─────────────────────────────────────────────────────┐
│              Pre-Election LAT Voter Inactive          │
├─────────────────────────────────────────────────────┤
│                                                       │
│              Enter Your Ballot Code Below:            │
│                                                       │
│                 ┌─────────────────┐                   │
│                 │   Precinct 123  │                   │
│                 └─────────────────┘                   │
│                                                       │
│                 ┌─────────────────┐                   │
│                 │       123       │                   │
│                 └─────────────────┘                   │
│                                                       │
│        ┌────────┐   ┌────────┐   ┌────────┐           │
│        │   1    │   │   2    │   │   3    │           │
│        └────────┘   └────────┘   └────────┘           │
│        ┌────────┐   ┌────────┐   ┌────────┐           │
│        │   4    │   │   5    │   │   6    │           │
│        └────────┘   └────────┘   └────────┘           │
│        ┌────────┐   ┌────────┐   ┌────────┐           │
│        │   7    │   │   8    │   │   9    │           │
│        └────────┘   └────────┘   └────────┘           │
│        ┌────────┐   ┌────────┐   ┌────────┐           │
│        │ Clear  │   │   0    │   │   <──  │           │
│        └────────┘   └────────┘   └────────┘           │
│                                                       │
├─────────────────────────────────────────────────────┤
│ Protective Counter 12345678   S/N: 87654321  V 1.00  Nov 18, 1996 13:40 │
└─────────────────────────────────────────────────────┘
```

In this case, type in the selection code number. The *Edge* will indicate the name associated with the code; press the yellow Activate button on the rear of the *Edge* when the correct code has been entered.

NOTE: Whether manual or auto activate, to return to the "Start Voting" screen you must press the Activate button (on the rear of the *Edge*) and keep it pressed for about 3 seconds. Once the "Start Voting" screen appears, release the button.

4.3.5   ACTIVATING THE *EDGE* FOR A VOTER

The *Edge* is activated for voters two ways, depending on the ballot design.

1.   Auto Activation. This is the primary method of activating the *Edge*, where each voter, upon signing in at the polling place, is given an Activation Card programmed with the correct precinct. In this case, the Activation Card is inserted into the slot on the left front of the *Edge*; the machine is automatically activated.

2.   Manual Activate. This is an alternative method of activating the *Edge*. The main screen will display "Waiting for First (Next) Voter". Pressing the Activate button on the back of the unit will activate the *Edge* for voting, if there is only one ballot style and no parties.

   NOTE: If there are multiple ballot styles or precincts on the unit, the *Edge's* main screen will display a keyboard. The selection (ballot) code is entered on screen, and the machine will display the selection name (e.g. Democrat Precinct A). After the correct name is displayed, press the Activate button on the back of the unit.

There are three situations that requires Pollworker intervention after the machine is activated:

1.   Invalid Voter Card: If a voter attempts to reinsert a voter card after casting his/her ballot, or if the voter inserts a card, which has expired, a red message will appear on the screen stating the card is invalid. To remove the card, go to the back of the machine and press the yellow "Activate" button.

2.   If the machine was activated with the wrong selection code (party, precinct, ballot style, etc.) or the voter leaves the machine without making any selection: The *Edge* can be returned to the Voter Inactive state by pressing the Activate button (on the rear of the *Edge*) until the "Blank Ballot?" screen appears (about 3 seconds).
   Three options appear on the screen:

   Return to Voting   Cast Ballot

   Cancel Activation

   Touch the appropriate choice to move forward.

3.   If the voter leaves the machine after making a selection: The *Edge* can be returned to the Voter Inactive state by pressing the Activate button (on the rear of the *Edge*) until the "Voter Fled?" screen appears (about 3 seconds).
   Three options appear on the screen:

   Return to Voting   Cast Ballot

   Touch the appropriate choice to move forward.

4.3.6 THE VOTING PROCESS

STEP 1

To Begin Voting
Insert Voter Card
Into Slot Below

Voter
Activation
Card
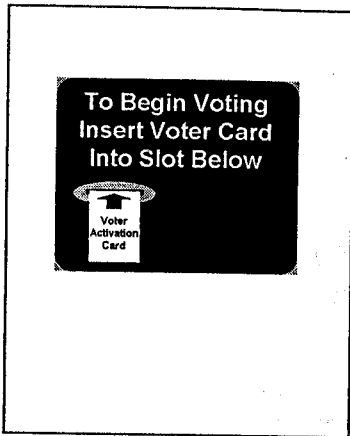
The voter inserts the card into the
Yellow in the front of the machine.

STEP 2
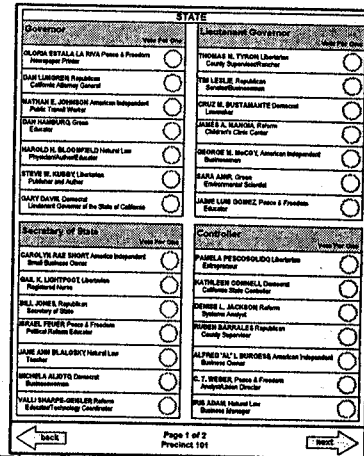
The first page of voters ballot will
Appear on screen.

STEP 3
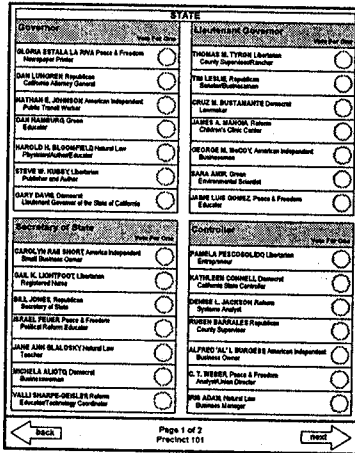
The voter makes a selection by pressing the circle to the right
of his/her choice. A green checkmark will appear in the circle.
(To change a selection, the voter presses the checkmark. The
checkmark will disappear and a new choice can be made.)

After the voter has finished making and reviewing all of the
choices, the voter presses the "DONE" arrow in the lower right
corner of the screen.

STEP 4

Press Here
To Cast
Your Ballot
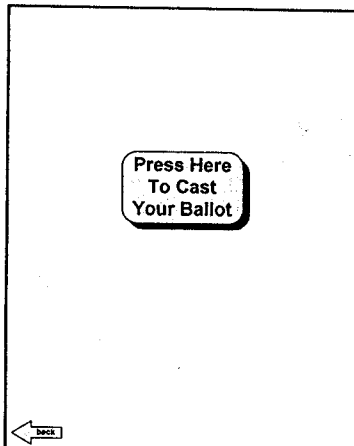
After pressing the "DONE" arrow,
The "CAST BALLOT" screen appears.
The Voter presses "CAST VOTE"
to finish voting.

STEP 5

Vote Recorded,
Thank You

Please Remove
the Vote Card
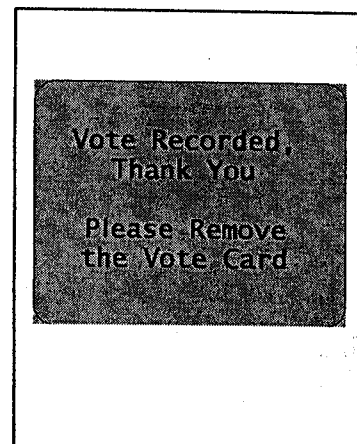
The voter card will pop out and the
screen above will appear. The
voter should remove the card and
return it to a pollworker.

4.3.7   CASTING WRITE-IN VOTES

STEP 1   Press the "Write-In" button.

STEP 2   An on-screen keyboard appears. Type the name by pressing the buttons on the keyboard.

```
                    WRITE-IN KEYBOARD

  ┌─────────────────────────────────────────────────────┐
  │                                                       │
  └─────────────────────────────────────────────────────┘

   1   2   3   4   5   6   7   8   9   0   -   ←

     Q   W   E   R   T   Y   U   I   O   P   /

       A   S   D   F   G   H   J   K   L   '

         Z   X   C   V   B   N   M   ,   .

               [        SPACE        ]

   ( Cancel )                          ( OK )
```
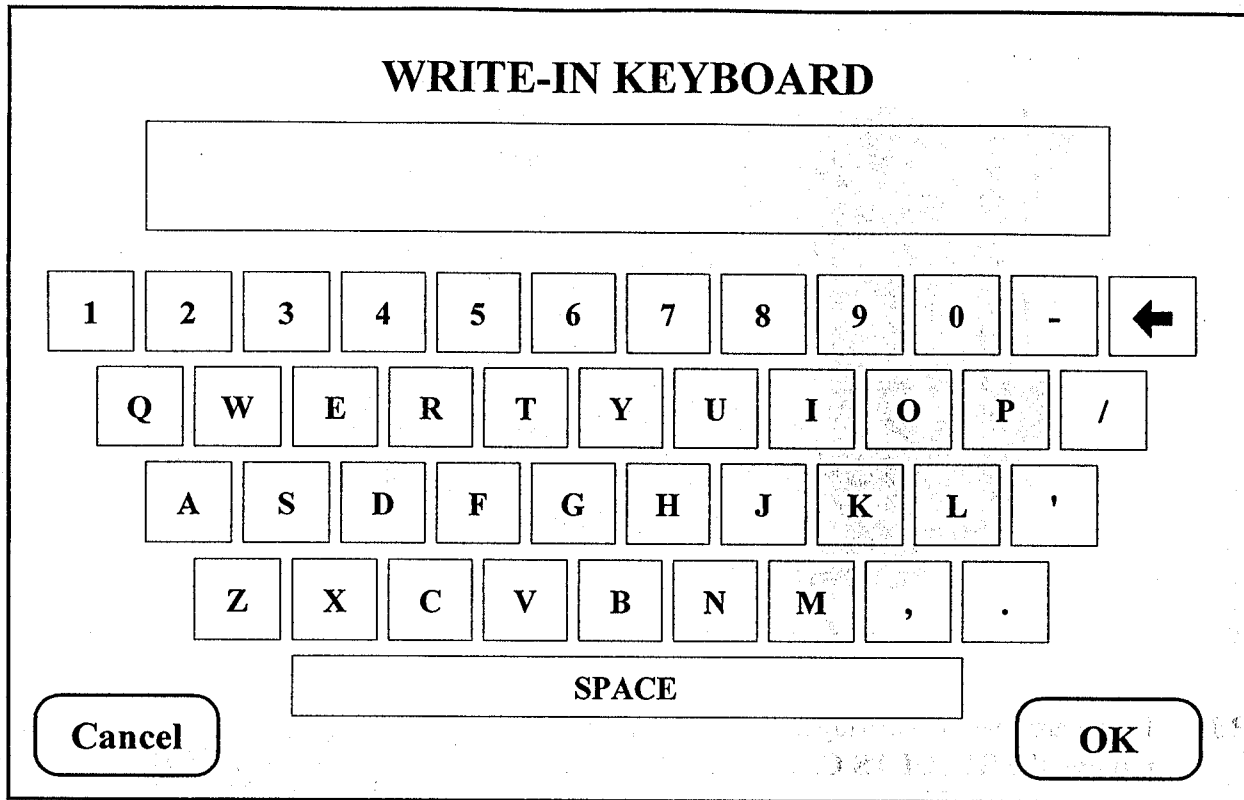
STEP 3   When you are finished, press the OK button. After pressing OK, you are automatically
             returned to the ballot. To cancel the Write-In, simply press the checkmark, the checkmark
             will disappear and a new choice can be made.

4.3.8   THE POLLWORKER DISPLAY

There is a 2-line display on the back of the unit, the Pollworker Display. During both the Voter Inactive
and Voter Active states, it displays the current public and protective counter values:

```
        Voter Inactive
        1678            8
```

The top line indicates whether the *Edge* is at voter active or voter inactive. The second line of this
display shows, on the left, the protective counter, and on the right, the public counter.

4.3.9   CLOSING THE POLLS

STEP 1   Lift POLLS cover up. Turn the **"POLLS"** switch to the **"CLOSED"** position.

STEP 2   Go to the front of the machine. When the screen displays an image stating the total number of voters (*TOTAL VOTERS = X*), go to the back of the machine and lift the RESULTS CARTRIDGE door.
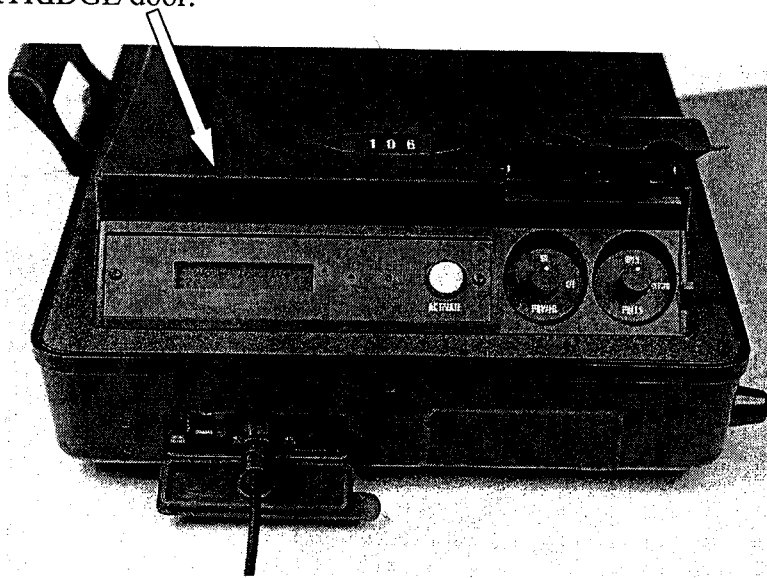
STEP 3   If you are reading cartridges into Pre-LAT tally, remove the **RESULTS CARTRIDGE** from the back of the machine.

STEP 4   Tally cartridge into the WinEDS system.

STEP 5   Return the cartridge to the corresponding machine, and seal cartridge door.

STEP 6   Seal Polls door.

STEP 7   Record seal numbers.

Sequoia Pacific

Voting Equipment

RESULTS
CARTRIDGE

PULL
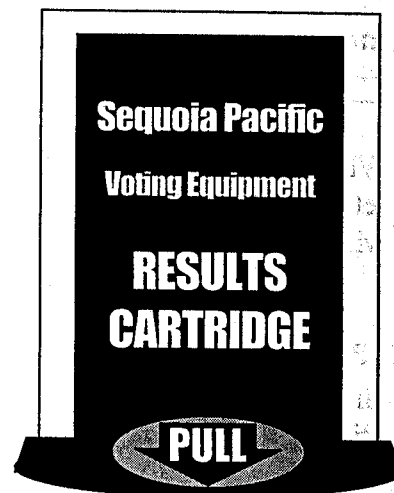
4.3.10 T ECHNICIAN FUNCTIONS

Additional Polls Closed functions are available on a special "Technician Functions" screen. To access this screen, perform the following:

1) Press the Activate button and hold it pressed for 3 seconds.

2) When the *Edge* beeps, release the button.

3) Within 1 second of step #2, press the Activate button again, also holding it in for 3 seconds.

4) The *Edge* will beep again and the Technician Functions screen will appear

The functions available for this screen are:

> Ballot Image Detail Report
> Full Ballot Image Report
> Audit Trail Report
> Event Log Report
> Audit*Trail Transfer
> Back (to the Polls Closed screen)
> System Reset
> To Election ("Election" text may change depending on where in election cycle you are.)

Ballot Image Detail Report

This function prints the machine's information, counter ballot version, poll site, ballot version, and a randomized detailed audit trail record of the votes cast on the machine.

Full Ballot Image Report

This function prints the machine's information, counter ballot version, poll site, ballot version, a randomized detailed audit trail record of the votes cast on the machine, and a Summary Report, where the summary totals are from a recount of the ballot images.

Audit Trail Report

The Audit Trail Report is a compilation of the standard Results Report and the "Full Ballot Image Report".

Event Log Report

This function allows the Event Log Report to be printed. This report lists all significant machine operations and their date/time since the last system reset. A sample report is shown below:

For each event in the log, the first line shows the event name (24 characters maximum), and an interpretation of the optional data value, if appropriate. For example, the "System Power Down" event does not use this data value, while the "AC Power Status" event interprets the value as "On" or "Off".

The second line shows the date/time of the event, and the machine's Protective Counter value at the time of the event.

Audit*Trail Transfer

The Audit Trail transfer function is a special Polls Closed function that allows making a copy of the Audit Trail of an *Edge*. This function makes a copy of the *Edge*'s internal Audit Trail memory onto a special Audit*Trail Transfer Cartridge.

The primary reason for using this function is in the case that on election night, a Results Cartridge is misplaced or in some way damaged or unreadable by WinEDS.

Note: ***The Audit Trail can only be transferred onto an Audit*Trail Transfer Cartridge.***

To perform the Audit*Trail Transfer, the *Edge* must first be at the Polls Closed state.

1. Touch the "Audit*Trail Transfer" button.

2. The *Edge* will prompt "Are You Sure". Touch "Yes" to continue, or "Cancel" to return to the Technician Functions screen.

3. The *Edge* will prompt for an Audit Trail Transfer Cartridge to be inserted in the Auxiliary Port. Insert the cartridge.

4. If the Audit*Trail Transfer Cartridge is not blank, there will be a prompt asking whether to erase the cartridge. Answer "Yes" to erase & continue, "Cancel" to return to the Technician Functions screen.

5. The Audit Trail files will now be copied to the cartridge, and verified. This may take several seconds.

6. Finally, a "Transfer Successful" message will be shown. At this time, remove the Audit*Trail Transfer Cartridge. The *Edge* will return to the Technician Functions screen.

To Election

This button advances the *Edge* to the Official Election mode.

Back

This button returns to the Polls Closed screen.

System Reset

System Reset erases the ballot from the *Edge*, and returns it to the Maintenance Diagnostics mode. **This step is not reversible, so be sure!**

If you are following this section as a tutorial on machine operation, go ahead and press System Reset and answer affirmative to the "Are you sure?" prompt.

If you are preparing a machine for use in an election, press the "To Election" button to bring it to Official Election.

5 ELECTION DAY PREPARATION

Preparing the *Edge* for an election involves five basic steps:

1. Check the Machine's Health
2. Load the Ballot
3. Conduct Pre-LAT Testing
4. Advance to Official Election
5. Seal & Close up the Machine

Check the Machine's Health

Turn the *Edge* on. If it is not in Maintenance Diagnostics, perform the System Reset procedure to clear out the previous ballot.

Once the *Edge* is showing the Maintenance Diagnostics screen, do the following:

1. Verify that the LCD Contrast is set to the best value for viewing. Press the "LCD" button at the top of the screen to access the adjustment screen.

2. From the LCD contrast adjust screen, press the "Calibrate Touchscreen" button to validate the touchscreen calibration settings. Follow the on-screen directions.

3. Verify that the time and date are set correctly. These are shown in the footer bar at the bottom of the screen. Press the "Set Time/Date" button to make changes.

4. If your machine includes the optional printer, test the printer by pressing the "Report Setup" button and printing a test page.

5. Make sure that the batteries on each machine are fully charged. The simplest way to do this is to plug each machine into AC power for at least 48 hours.

Load the Ballot

The WinEDS election management system is used to define the ballot and program each Results Cartridge.

Loading the ballot onto the *Edge* is a simple procedure:

1. With the *Edge* showing the Maintenance Diagnostics screen, insert the programmed Results Cartridge in the Results Port.

2. The *Edge* will automatically validate the ballot definition on the Results Cartridge, and if it passes all tests, copy it to the internal Audit Trail memory and proceed to the Pre-Election Logic and Accuracy Test.

Conduct Pre-LAT Testing

Pre-LAT testing allows for verification of both the visual ballot presentation, and the voting logic (such as vote-for numbers, straight party, etc.).

While it is not necessary to extensively test each *Edge*, it is strongly recommended that a large volume of votes be cast on at least one machine from each ballot type being used. To assist with the volume vote testing, use the Vote Simulation feature. WinEDS provides tools for creating simulation scripts that match the ballot.

A suggested Pre-LAT procedure is:

1. Open polls.

2. Activate for voting.

3. Step through each ballot page to make sure that the layouts are reasonable - no clipped text, overlapping candidates, etc.

4. After viewing each ballot page, rather than casting a ballot, press and hold the Activate button for 3 seconds to return to the Voter Inactive state.

5. Repeat the above steps for each ballot style that is defined for the machine.

6. Run Vote Simulation.

7. Close polls and compare the actual results to the results predicted when the script was created.

Advance to Official Election

There are two ways to advance the *Edge* to the Official Election mode once at the Pre-LAT Polls Closed state:

1. Turn the *Edge* off and back on. It will power up to the Official Election Ready to Open Polls state.

2. Go to the Technician Functions screen and press the "To Election" button. To access the Technician Functions screen, do the following:
    - Press the Activate button for 3 seconds.
    - When the *Edge* beeps, release the button.
    - Immediately press Activate for 3 seconds, again.

Seal & Close up the Machine

The final step of preparing the *Edge* is to apply security seals and close it up for transport.

1. Seal the Results Cartridge in place with a numbered seal and record the seal number.

2. Seal the Polls Switch door cover with a numbered seal and record the seal number.

3. Turn the *Edge* off.

4. Disassemble the legs and close up the unit. Note that the AC power cord can be stored either in the machine's cover, or in a compartment at the bottom of the leg storage area.

6 ELECTION DAY

6.1 Set Up the Machines

Follow the steps in section 3.4 to unpack and set up the *Edge*. **Please note that the *Edge* is heavy; Sequoia recommends that two people lift each machine into position.**

6.2 Opening Polls

Once the *Edge* is powered up, it will display the following message:
<div align="center">

Ready to Open PRE LAT Polls
To begin voting move the polls switch to OPEN
</div>

1. Cut the seal on the Polls Switch Cover and raise the cover. Turn polls switch to "Open". The Official Election Zero Proof Report will be generated. Depending on the ballot configuration, this report will be (a) printed on the optional printer, (b) displayed on the screen, or (c) sent directly to a file on the Results Cartridge.
2. Review the "Official Zero Proof Report". Check to ensure that each candidate is at zero votes. For an on-screen report, press the "Done" button when you are satisfied. For a hard copy report, the polling place officials must sign the bottom of the report.
3. Close the Polls Switch Cover and seal the cover.

6.3 Voter Activation Card Programmer

Each polling place will be given a Voter Activation Card Programmer and a number of Voter Activation Cards in their supplies. The Voter Activation Cards are used to activate the machine for the voter. To set-up the Voter Activation Programmer:
*   Plug the Programmer into an AC outlet.
*   Turn the Power Switch on.
*   The programmer will be ready for inserting a Voter Activation Card.

6.4 Demonstrating the Voting Procedures

When the voter enters the Polling Place, a poll worker, using a sample ballot, should demonstrate the voting procedure by doing the following:
1. Explain to each voter how to insert the voter activation card.
2. Show each voter what the screen will look like by using the sample ballot.
3. Explain to the voter how the green checkmark to the right of the candidate's name is displayed when a selection is made.
4. Point out to the voter that a selected candidate may be canceled by pressing the checkmark again. The green checkmark turns off.
5. Point out the "Next" and "Back" arrows on the screen, explaining to the voter that pressing these arrows will allow the voter to move to the next screen or back to the previous screen (to review prior selections).

6. Familiarize the voter with the "Cast Vote" display (the last screen) and explain that their vote is electronically recorded when the "cast vote" button is pressed. Instruct voters not to press the cast vote button until all their selections are made.

6.5 Activating the Voting Machine

After the voter's name is checked off the list of voters, do the following:
1. Insert a Voter Activation Card into the Programmer.
2. (If this is Early Voting) Enter the Ballot Code (e.g. ballot style number, precinct number) then press OK.
3. (If this is Early Voting) The ballot code name will appear.
4. Press Activate if correct.
5. The card will eject automatically after programming. Remove and hand to the voter.
6. Instruct the voter to proceed to an available machine and insert the Voter Card into the slot in the lower left side of the unit.
7. After the voter inserts the card, the machine will immediately activate for the voter.
8. After the voter presses "Cast Vote," the Card will automatically eject. The voter then returns the card to the poll worker. To avoid the possibility of a voter attempting to vote twice, used Voter Activation Cards are rendered incapable of activating a machine until a poll worker reprograms the card.

6.6 Closing the Polls

After the last voter has exited the polling place, the polls may be closed by performing the following procedure:
1. Go to the back of the machine and cut the seal on the Polls Switch Cover.
2. Lift the cover and close the polls by turning the Polls Switch to CLOSED.
3. If the *Edge* is equipped with a printer, it will begin printing the Official Results Report. Press the Results Report button (on the front screen) for any additional copies.
4. If the *Edge* does not have a printer, the report will be displayed on screen. Press the "Done" button when the report has been reviewed.
5. (If the *Edge* is equipped with a printer) When the printer stops, tear off the tape. The poll workers must sign at the bottom of the Official Election Results Report on the lines provided at the end of the printout. Place this printout in the official results envelope.
6. Cut the seal on the cartridge door and remove the Results Cartridges. Place it in the cartridge envelope.
7. If you are using the Vote Consolidation feature, proceed as follows:
   i. Start the Vote Consolidation process by inserting a Vote Consolidation Cartridge into the Auxiliary Port.
   ii. The *Edge* will show a window that says "Start Vote Consolidation?" with "Yes" and "Cancel" buttons. Press "Cancel" to abort or "Yes" to continue.
   iii. After pressing "Yes", the ballot definition data from this machine's Audit Trail memory is copied to the Vote Consolidation Cartridge.
   iv. When copying is complete, press the "Done" on the machine screen.

v. Remove the Vote Consolidation Cartridge when you are instructed to do so on the screen (do not remove until the message is shown), and place it in the cartridge envelope.

vi. Proceed to the next machine and follow the steps i – v above.

vii. After you have pressed "Done" and removed the cartridge (step iv and v) on the last machine, press "Consolidated Results Report" on the screen for a Consolidation Report. Sign the bottom of the report and place in the official results envelope.

8. Raise the power on/off cover and turn the Power Switch to "Off."

9. Unplug the power cord and remove it from the back of the machine. Close the flap over the AC power receptacle.

10. Lift the black bar in back of the screen and gently lower the screen down.

11. Close privacy panels. Place the top cover back on the machine and secure the four latches on the sides.

12. Turn the machine upside down and disassemble the legs.

13. Remove the bottom storage cover, and place the power cord and legs back into the machine. Replace the bottom storage cover.

14. Poll workers return the Supply Bag, Printout Bag, Signs, Official Results Envelope, and Cartridge Envelope to the elections official on Election Night.

7 TROUBLESHOOTING

Listed below are issues and resolutions that may occur during Official Election mode (Early Voting and Election Day):

ISSUE	RESOLUTION
Polls are closed prematurely	The *Edge* system can be set to not allow a pollworker to close the polls until a predetermined amount of time has past from polls being opened. If polls are closed after that period of time, the machine can no longer be used in that election.
Results Cartridge is removed	Power down the machine. Place the Results Cartridge back. Power the machine up. If this occurs after the polls are open, make sure the polls remain open and are not closed when the machine is powered up.
Low Battery message	Ensure that the machine is plugged into a good wall outlet. When the machine is receiving AC power, the green AC power light on the back of the machine is lit.
The LCD is totally unreadable on power up	- Power down. - Power up, while holding the Activate button pressed. - After a few seconds, the Pollworker LCD will say "Entering LCD Contrast, Release Activate," and the machine will beep. - Release the Activate button when this occurs. - The contrast adjust function will start, and will automatically sweep through all possible settings. - Touch the screen when a good setting is reached.
Onscreen Buttons do not seem to be responding on power-up	In the unlikely event that the Touchscreen calibration is also totally off, it is possible that no on-screen buttons will respond. In this case, from the LCD contrast screen, press the Activate button to enter the touchscreen calibration function.
Screen Contrast and Calibration are "off"	- Hold the activate button until the screen changes - Press the LCD button - Adjust contrast and calibration accordingly
Fingerprints on the screen	Use ONLY screen wipes provided in the supply kit.

Most Election Day issues can be handled over the phone and rarely require a technician to be deployed. However, if this should occur, the technician should be equipped with a communication device and toolkit to handle problems.

8 EARLY VOTING ON THE EDGE

Early Voting allows the *Edge* to be used in multiple voting "sessions", with a secure "voting lock" mode in between sessions. Early Voting ballots can be configured so that the vote data for each session is stored separately, or as one conglomeration.

Early Voting requires the use of the smart card hardware; a specially coded smart card is used to authorize going to and from the "voting lock" mode. It does not require that the ballot have Auto Activate enabled, though.

The *Edge* can be configured as to whether Early Voting Lock is entered via a smart card or via an on-screen button. The smart card is always required to unlock the *Edge* for a new session.

Early Voting adds an additional hierarchy of states within the Polls Open state:
* Set Up Early Voting Session
* Printing Early Voting Session Start Report.
* The normal voting process
* Printing Session End Report
* Early Voting data storage
* Early Voting lock state
* Unlocking for a voting session

Polls can only be closed from within the Early Voting Lock state, and when polls are closed, an Early Voting Summary Report is printed instead of the Results Report.

8.1 Opening the First Session

No special operations are required to open the first Early Voting session. The Early Voting Session Start Report is printed immediately after the Zero Proof *Report* when the polls switch is moved to OPEN.

8.2 Closing a Session

To enter lock mode, do the following:
1. From the "Waiting for Voter" state, press the yellow Activate button for 3 seconds.
2. The "Voter Inactive" screen will appear.
3. If the *Edge* is configured to use a button to enter Lock mode, that button, "Lock Polls" will appear now. Press it.
4. If the *Edge* is configured to enter Lock mode with an Early Voting Lock smart card, insert that card into the Auto Activate slot.
5. Answer "Yes" to the prompt asking if you want to end this early voting session.
6. If the option to have totals for each voting session has been selected, the *Edge* prints/displays the Session End *Report*.
7. The *Edge* displays the Early Voting Lock display.

```
┌─────────────────────────────────────────────────────────────────┐
│  ┌─────────┐                                        ┌───────────┐ │
│  │   LCD   │         Early Voting Lock              │Report Setup│ │
│  └─────────┘                                        └───────────┘ │
│ ───────────────────────────────────────────────────────────────  │
│        ┌──────────────────────────────────────────────┐          │
│        │                                                │          │
│        │   Early Voting Session Number:  5              │          │
│        │                                                │          │
│        │   Total Voters In Last Session = 12345678      │          │
│        │                                                │          │
│        │   Total Voters In All Sessions = 12345678      │          │
│        │                                                │          │
│        └──────────────────────────────────────────────┘          │
│                                                                    │
│   ┌─────────────┐                                                  │
│   │ Session End │                                                  │
│   │   Report    │                                                  │
│   └─────────────┘                                                  │
│                                                                    │
│ ───────────────────────────────────────────────────────────────  │
│ Protective Counter  12345678     S/N: 87654321    V: 1.00    Nov 18, 1996 13:40 │
└─────────────────────────────────────────────────────────────────┘
```
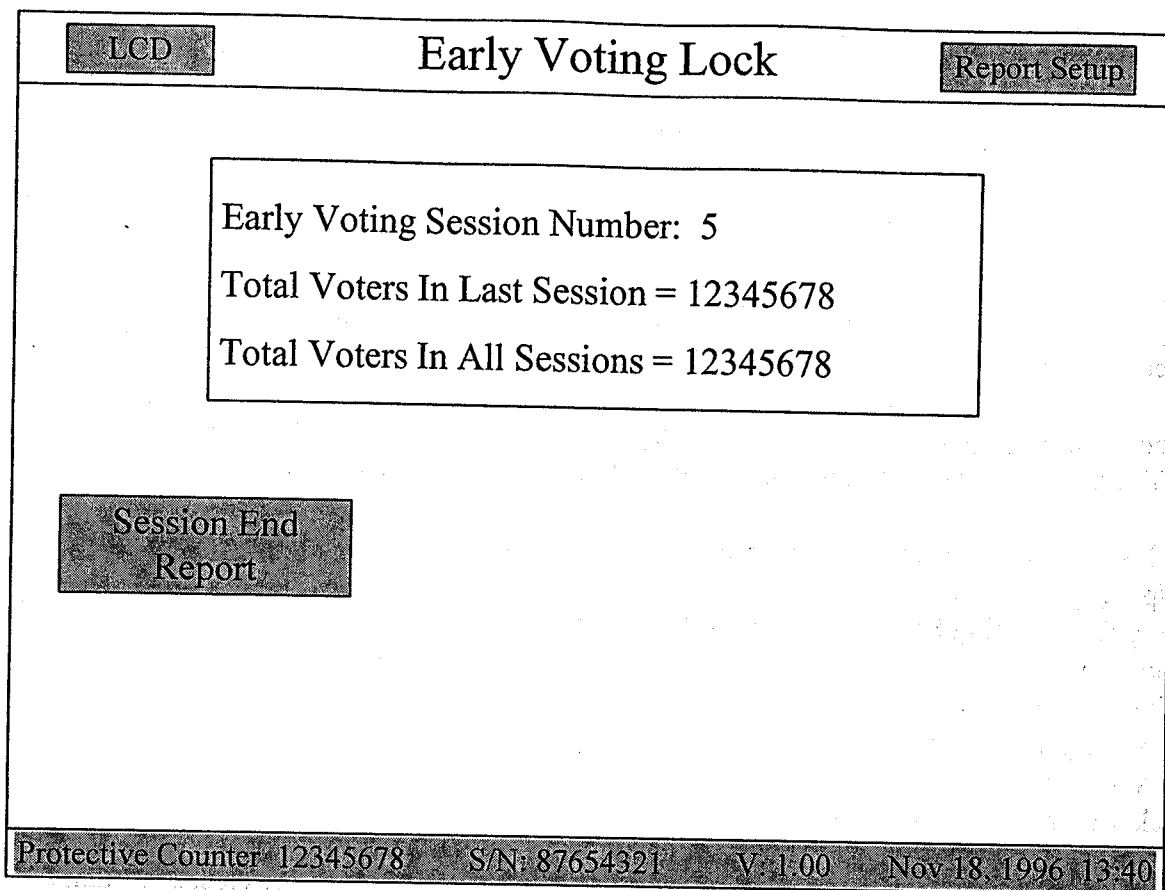
8.3 Unlocking For a Session

From the Lock state, opening an Early Voting session is initiated by inserting a special Early Voting unlock smart card into the Auto Activate port. If the card is valid, a pop-up window with the following prompt will be shown: "Resume Voting?". This window will have "Yes" and "Cancel" buttons. Pressing "Cancel" prompts to remove the smart card and then returns to the Lock state. Pressing "Yes" proceeds.

The Audit Trail and Results Cartridge vote data files are truncated (ballot images and write-in names) or zeroed (candidate totals and selection code totals) immediately after answering "Yes" to the prompt.

Next, the Early Voting Session Start Report is printed. This is a required report - its "Please Wait" pop-up window does not have a "Cancel" button.

8.4 Closing Polls

Early Voting polls are closed *only* from the Early Voting Lock state.

Move the POLLS switch to CLOSED. There will be a prompt "End All Early Voting?". Answer "Yes" to really close the polls.

Once polls are closed, the *Edge* will print the Early Voting Summary Report. This is a summary of voting activity in each session.

Note that a Results Report is not printed. This is because Early Voting typically ends <u>before</u> Election Day, and therefore, it is not permissible to see vote totals.

An Early Voting Grand Total *Report* is available from the Technician Functions screen; it sums the vote totals for each session.

9 POST ELECTION TESTING

A post-election testing mode, Post-LAT, is available on the *Edge*. This functions identically to Pre-LAT, including the availability of Vote Simulation.

To enter Post-LAT, do the following:

1. From Official Election Polls Closed, go to the Technician Functions screen:
   - Press the Activate button for 3 seconds.
   - When the *Edge* beeps, release the button.
   - Immediately press Activate for 3 seconds, again.

2. Touch the "To Post-LAT" button.

3. The *Edge* will now be at Post-LAT Ready To Open Polls.

Note that if the *Edge* is turned off before Post-LAT polls are opened, it will return to Official Election Polls Closed. In this case, repeat the steps above to return to Post-LAT.

Also note that after Post LAT polls are closed, cycling power on the *Edge* returns to Official Election Polls Closed, and at that point, it is not possible to return to Post-LAT.

System Reset

System Reset is the final step in the post-election handling of the *Edge*. Executing the System Reset function erases all ballot and vote data from the *Edge*.

System Reset is available from the Polls Closed state of each of the three election modes. To perform a System Reset, do the following:

1. From Polls Closed, go to the Technician Functions screen:
   - Press the Activate button for 3 seconds.
   - When the *Edge* beeps, release the button.
   - Immediately press Activate for 3 seconds, again.

2. Touch the red "System Reset" button.

3. After an "Are you sure?" prompt, the *Edge* will erase its Audit Trail and return to Maintenance Diagnostics.

Note that the Results Cartridge is not erased during a System Reset.

10 ADVANCED TOPICS

10.1 Report Options

The *Edge* can be configured to print hard copy reports directly on an optional built-in printer, send the report to a file, or display the report on screen.

The screen layout for the reports viewing screen is shown below:

```
*************************************    CONTEST ONE                    (1)
       BALLOT DEFINITION REPORT           CANDIDATE ONE                 (C)
*************************************       Party One
                                          CANDIDATE TWO                 (C)
Date 11/25/96          Time 15:12          Party Two
                                          CANDIDATE THREE               (C)
Serial Number          12345678            Party Three
                                          CANDIDATE FOUR                (E)
Protective Counter            0            Party Four
                                           Party Five
Cartridge Serial Number  INVALID           Party Six
                                          WRITE IN                      (W)
Poll Site
   Polling Place Name Text              CONTEST TWO                     (2)
                                          CANDIDATE FIVE                (C)
Polling Place ID            152            Party One
                                          CANDIDATE SIX                 (C)
Ballot Version                1            Party One
                                          CANDIDATE SEVEN               (C)
Report Source    Cartridge Memory          Party Two
                                          CANDIDATE EIGHT               (C)
 Election Name Line 1                      Party Two
 Election Name Line 2                     CANDIDATE NINE                (C)
 Election Name Line 3                      Party Three
 Election Name Line 4                     CANDIDATE TEN                 (C)
                                           Party Three
 ***           ***              ***
```

| Back | Print | Done | Page X of Y | Next |

Pressing the "done" button exits from the report operation. The "Next" and "Back" buttons allow moving through the report, if it does not all fit on one screen. The "Print" button allows for printing a hard copy of the report (printer must be attached).

10.2 Vote Consolidation

Vote Consolidation is an optional activity that can be done at the Polls Closed state. It allows for the collection of votes from many *Edge* voting machines onto a single Vote Consolidation Cartridge.

Why use Vote Consolidation?
- It provides a foolproof way to create poll site or precinct summary totals on election night.
- It reduces the number of cartridges that must be handled during the tally task at WinEDS.

Important Notes:

1. *Vote Consolidation only works on machines that have identical ballot definitions. Depending on how the election was defined in WinEDS, this may mean that Vote Consolidation does not work across multiple precincts.*
2. *Vote Consolidation does <u>not</u> destroy any data on the individual Edges.*
3. *It is possible to consolidate one Edge multiple times, onto different Vote Consolidation Cartridges. This is a safeguard against lost or damaged cartridges, and operator error. <u>In no case can this cause votes to be counted multiple times, as WinEDS will not accept the duplicate totals.</u>*

Vote Consolidation is available on the *Edge* in each election mode - Pre-LAT, Official, and Post-LAT.

1. To start the Vote Consolidation process, insert a Vote Consolidation Cartridge into the *Edge*'s Auxiliary Port when the *Edge* is at the Polls Closed state.

2. The *Edge* will show a window that says "Start Vote Consolidation?" with "Yes" and "Cancel" buttons. Press "Cancel" to abort the process.

3. After pressing "Yes", the *Edge* checks the inserted cartridge.
   - If it is blank, the ballot definition data from this machine's Audit Trail memory is copied to the Vote Consolidation Cartridge.
   - If there is a ballot definition already on the Vote Consolidation Cartridge, it is checked against this machine's ballot. If it is different, the machine will ask whether to "Erase Data on Consolidation Cartridge?". Pressing "Yes" erases the existing data and copies this machine's ballot definition data. Pressing "Cancel" aborts the process.

4. Next, a special Consolidation "log" is checked to see if this machine has already been consolidated onto this cartridge. If so, the next step is skipped.

5. The *Edge* now copies its vote data from its Audit Trail to the Vote Consolidation Cartridge.

6. Finally, a screen is shown that allows for printing several Consolidation Reports:

Vote Consolidation

Consolidated Results Report	Consolidation Status Report
Consolidated Report By Precinct	Turnout Report

Done

Protective Counter 12345678   S/N: 87654321   V. 1.00   Nov 18, 1996 13:40

The Consolidated Results Report prints a report in the same format as a standard Results Report, but with the totals being the sum of all the machines that have been consolidated.

The Consolidated Results Report By Precinct prints a report where the totals are given separately for each different "Poll ID" assigned to the consolidated machines.

The Consolidation Status Report prints a brief listing of each *Edge* that has been consolidated, and its public counter number.

The Turnout Report prints a by selection code report of voter turnout.

Note that it is not required to print any of these reports. If doing a consolidation of all the machines in one poll site, wait until the last machine has been consolidated, and then print the reports.

Press the "Done" button when finished. The *Edge* will ask that the Vote Consolidation Cartridge be removed, and then return to the Polls Closed state.

Important: Do not remove the Vote Consolidation Cartridge until instructed to do so.

10.3 Audit*Trail Transfer

The Audit*Trail Transfer function is a special Polls Closed function that allows making a copy of the Audit Trail of an *Edge*.

The primary reason for using this function is in the case that on election night, a Results Cartridge is misplaced or in some way damaged or unreadable by WinEDS.

> *Note: The Audit Trail can only be transferred onto an Audit*Trail Transfer Cartridge.*

To perform the Audit*Trail Transfer, the *Edge* must first be at the Polls Closed state.

1.   Go to the Technician Functions screen:
     - Press the Activate button for 3 seconds.
     - When the *Edge* beeps, release the button.
     - Immediately press Activate for 3 seconds, again.

2.   The Technician Functions screen will now be displayed.

3.   Touch the "Audit*Trail Transfer" button.

4.   The *Edge* will prompt "Are You Sure?". Touch "Yes" to continue, or "Cancel" to return to the Technician Functions screen.

5.   The *Edge* will prompt for an Audit Trail Transfer Cartridge to be inserted in the Auxiliary Port. Insert the cartridge.

6.   If the Audit*Trail Transfer Cartridge is not blank, there will be a prompt asking whether to erase the cartridge. Answer "Yes" to erase & continue, "Cancel" to return to the Technician Functions screen.

7.   The Audit Trail files will now be copied to the cartridge, and verified. This may take several seconds.

8.   Finally, a "Transfer Successful" message will be shown. At this time, remove the Audit*Trail Transfer Cartridge. The *Edge* will return to the Technician Functions screen.

> *Note: The Audit*Trail Transfer process does not alter the data in the Edge's Audit Trail memory.*

10.4 Pollworker Training Mode

Pollworker Training Mode is a method to allow multiple passes through the Official Election mode, from ready to open polls to polls closed, to facilitate pollworker training sessions. This mode is enabled by a special WinEDS machine setting, and is loaded with the ballot.

To use Training Mode, load the ballot with the Training Mode setting enabled, and go through pre-LAT normally. From here, you can do a normal Official Election. At Official Election Polls Closed, go to the Technician Functions screen and press System Reset. This will prompt for whether to start a new training session. Select this option. After a few seconds, the *Edge* will return to Ready to Open polls.

Any number of training sessions can be run on an *Edge* configured in this manner.

Note that during training mode, all reports, event log entries, and many screen titles, indicate Training Mode instead of Official Election. This is a safety measure to help ensure that data from these machines does not get mixed with data from the actual election.

10.5 Audio Voting

The *Edge* has an option to allow for audio presentation of the ballot. To enable this option, follow these steps:
1. Connect the audio interface box to the serial port on the *Edge*. The serial port is adjacent to the printer compartment, in back of the display.
2. Connect the headphone jack to the audio interface box.
3. The audio interface box can be placed in any convenient position; because it includes a volume control, it may be best to have the voter hold it.
4. Switch the *Edge* into audio voting mode:
   - From the "Waiting for Voter" screen, press & hold the yellow Activate button for 3 seconds to get to the "Voter Inactive" display. Release the button.
   - Press & hold the yellow Activate button for another 3 seconds.
   - Answer "Yes" to the "Enable Audio Voting" prompt.
   - Return to voting, and activate the *Edge* for the voter as usual.

The *Edge* includes instructions to the voter on how to vote using the audio ballot.

To switch back to visual voting, follow these steps:
   - From the "Waiting for Voter" screen, press & hold the yellow Activate button for 3 seconds to get to the "Voter Inactive" display. Release the button.
   - Press & hold the yellow Activate button for another 3 seconds.
   - Answer "Yes" to the "Disable Audio Voting" prompt.
   - Return to voting, and activate the *Edge* for the voter as usual.

It is not necessary to disconnect the audio interface box while the *Edge* is in its normal, visual voting mode.

10.6 Operating The *EDGE* on Battery Power

The *Edge* has built-in batteries that are capable of powering the system for several hours.

When operating on battery, all normal functionality is available. In addition, there is an optional no-activity power down function that prevents an idle machine from needlessly draining its batteries. This timer can be set to between 1 and 255 minutes. *Note that the no-activity timer is disabled during the Official Election mode, to avoid pollworker confusion.*

The *Edge* indicates that it is operating on battery by changing the background color of the main display footer bar's Date/Time text:

> Grey = AC Power
> Yellow = Battery Power
> Red = Low batteries

When the batteries are nearly discharged, a warning message will pop up. This is also the time when the Date/Time background changes from yellow to red. At this point, the *Edge* will shut down in 10 minutes. *Note that the warning message is delayed if the system is at Voter Active.*

After an extended period of operating on battery power, recharge the batteries as soon as possible. To do this, plug the unit into an AC outlet and let it sit for a minimum of 24 hours.

10.7 *EDGE* Configuration Options

Note that all of these configuration options are set at the factory, but can be overridden by loading alternate parameters with a ballot definition.

Time Format
The *Edge* can display time in either 12-hour (AM/PM) or 24-hour (military) formats. To switch formats, go to the "Set Date and Time" function in Maintenance Diagnostics..

Automatic Power Down
When operating on battery power, the *Edge* can be configured to automatically power down after a period of inactivity. This period can be chosen to be between 1 and 255 minutes.

To start up the *Edge* after an automatic power down, move the power switch to the off position and back to on. Note that this automatic power down never applies to the Official Election mode.

Save Event Log
Normally, the System Reset function erases all files from internal memory. However, when this option is selected, the Event Log will not be erased. This provides the ability to keep a much longer history of machine operations.

Warning: If the Event Log is not erased, at least occasionally, it will get quite large. This can eventually reduce the capability of the machine to store votes.

Report Style
The Zero Proof and Results Reports can be printed either "by ballot" or "by selection code". The "by ballot" setting is a summary format; the "by selection code" setting prints a separate report section for each selection code/ballot subset/precinct in the ballot definition.

Report Destination
This setting determines whether reports are displayed on screen, sent to the optional printer, or sent to a Results Cartridge file for later use.

Results Report Copies
The *Edge* can be told to automatically print up to 9 copies of the Official Election Results Report. This is to eliminate poll worker error when multiple report copies are required on election night.

Multiple Languages
This setting controls whether the optional multiple ballot languages feature is active.

Pollworker Training Mode
This setting provides a special mode for pollworker training classes. It allows multiple passes through the Official Election mode without the normal procedure of resetting the machine and reloading a ballot.

Early Voting
This setting controls whether the Early Voting mode is available, and if it is, how the vote data is saved – either by Early Voting session or as one entity.

Official Election Mode
This setting controls whether the Official Election mode is also available when a machine is configured for Early Voting.

Log each Activate & Cast Vote
This setting tells the *Edge* to make an event log entry each time it is activated for a voter, and each time a voter touches the Cast Ballot button.

OK to close polls with no votes cast?
This setting tells the *Edge* whether to allow polls to close with a Public Counter value of zero. This can help eliminate election morning poll worker mistakes.

Minimum number of minutes polls must stay open
This setting requires Official Election polls to stay open a minimum time. This time can be set to between 1 and 255 minutes. This can help eliminate election morning poll worker mistakes.

Post LAT vote simulation
The ability to do a Post-LAT vote simulation can be enabled and disabled.

Blank Ballot
This setting determines whether the casting of a totally blank ballot (no candidate selections made) is allowed. If a blank ballot is not allowed, the Cast Ballot screen will not be shown to the voter until at least 1 selection has been made.

Endorsed Candidates
Controls whether Endorsed candidates are allowed on the ballot.

Straight Party
Controls whether straight party contests are allowed on the ballot.

Selective Primary
Controls whether selective primary/recall contests are allowed on the ballot.

Write Ins
Controls whether write-in candidates are allowed on the ballot.

Vote Consolidation
Controls whether the vote consolidation function is available.

Selector Control
Controls whether the selectors for un-voted candidates disappear when a contest is fully voted.

Display Write In Names
Controls whether to display write-in names after they are entered.

Auto Activate
Indicates whether the machine is configured for Auto Activation. Note that the Auto Activate subsystem must be installed for the machine to operate correctly if Auto Activate is enabled.

Auto Activate Timeout
Selects the time "window" where the Activation Cards are valid. This is the number of minutes after a card has been programmed where the *Edge* will accept the card as valid. Setting this to a larger number of minutes provides more polling place flexibility, but can increase the risk of fraud.

Preference Voting
Controls whether preference voting contests (also known as single transferable vote and instant runoff) are allowed on the ballot.

10.8 Security Recommendations

The *Edge* has numerous security features built in. Physical security of the machines is also important; since that is under control of each jurisdiction, we offer the following recommendations:

- House the machines in an access-controlled area.

- Keep all spare parts, especially CPU boards and firmware sets, locked up at all times.

- Keep all cartridges (Results, Consolidation, etc.) locked up when not being used.

- Limit access to the machines, cartridges, spare parts, etc. as much as possible.

- Make use of numbered security seals to ensure that Results Cartridges cannot be removed from the machines without evidence.

- Perform a full inspection of each machine, including validating the firmware version, before election use.

11 APPENDIX A – EVENT LOG ENTRIES

Event	Description
3.3V Is Bad	The system 3.3V supply is bad. *This indicates a serious failure of the electronics. To avoid losing vote data, turn this machine off immediately.*
5V Is Bad	The system 5V supply is bad. *This indicates a serious failure of the electronics. To avoid losing vote data, turn this machine off immediately.*
AC Power Status	This event is logged when the status of AC power - on or off - changes. The on/off value is stored with the event.

Data Value	Description
Off	AC Power is now off
On	AC Power is now on

Event	Description
Attempt To Close Polls	This is logged if there is an attempt to close Official Election polls when one of the configurable preconditions (no votes cast, minimum time) have not been met. The "Ready To Resume Voting" event is logged after the polls switch is returned to OPEN.
Audit*Trail Transferred	Logged at the successful completion of an Audit Trail transfer.
Audit Trail Xfer Error	There was an error during the Audit Trail Transfer function.
Auto Act Act Canceled	A voter active state was canceled by the pollworker.
Auto-Act Time Invalid	A Voter Card with a valid time that is outside of the *Edge*'s limits (set by the Configuration ROM) has been tried. Check that the time on the Card Programmer matches that of the *Edge*.
Auto-Act Elec-Info Bad	The check data on the Auto Activate card that makes sure it is from a programmer that "knows" about the current election, is bad.
Auto-Act Reuse Attempt	There was an attempt to reuse a Voter Card after it has already been voted.
Auto-Act Sel Code Bad	The Voter Card has an invalid ballot subset indicated. This is due to a discrepancy between the ballot loaded on the machine, and the data loaded into the card programmer.
Auto-Act Write Ver Fail	There was a failure when verifying data that was written to the Voter Card. It is likely that the Voter Card is bad.

Auto-Act Write Fail	There was a failure when writing data to the Voter Card. It is likely that the Voter Card is bad.
Auto Activate Enabled	The pollworker has switched from manual to auto activate.
Automatic Power Down	When operating on battery, the configurable no-activity timeout has expired, so the system powered down to conserve the batteries.
Aux Cart In At Elec	A cartridge was inserted in the Auxiliary Port during the election program.
Backup Battery Too Low	If the *Edge*'s main backup battery falls below a predetermined threshold, this event is logged, and the system shuts down.
Bad Touch Panel Cal Parm	The touchscreen calibration parameters have become corrupted.
Ballot CRC Mismatch	The load ballot function determined that the ballot definition files are invalid.
Ballot Load Error	There was an error either validating a Results Cartridge during ballot load, or the machine was unable to copy the ballot to internal memory.
Ballot Loading Beginning	Logged when the load ballot function is started.
Ballot Loaded OK	Logged when the load ballot function completes successfully.
Begin Consolidation	Logged when the Vote Consolidation task is started.
Begin Early Voting Merge	The Early Voting session end vote data merge is beginning.
Begin Maintenance Diag	Logged when the Maintenance Diagnostics mode is entered, including at power up.
Begin Vote Simulation	The start of a Vote Simulation.
Can't Clear All AT Files	There was an error while doing a System Reset – some of the files on the Audit Trail could not be deleted.
Card Encryption Bad	The Voter Card has a bad cryptographic signature. The card may be a forgery, or from a different election.
Card Read Fail	A read of a smart card failed. It is likely that the card is bad.
Card Status Invalid	A Voter Card with a status other than "OK" has been tried. This can happen if a card is taken from an *Edge* that has a system error and tried in another machine.

Consolid Turnout Report	The Vote Consolidation Turnout *Report* was printed.
Consolid. Status Report	The Vote Consolidation Status *Report* was printed.
Consolid Rpt From Maint	A Vote Consolidation report was printed from the Maintenance Diagnostics Aux Port *Reports* function.
Consolid. Results Report	The Vote Consolidation Results Report was printed.
Consold Precinct Report	The Vote Consolidation By-Precinct Report was printed.
Consolidation Error	Logged when an error is encountered while consolidating votes.
E.V. Ballot Image Rpt	The Early Voting Ballot Image Report was printed.
E.V. Grand Total Report	The Early Voting Grand Total Report was printed.
E.V. Large AT Report	The Early Voting "Large" Audit Trail Report was printed.
E.V. Log Report	The Early Voting Log Report was printed.
E.V. Results Report	The Early Voting Results Report was printed.
E.V. Session End Report	The Early Voting Session End Report was printed.
E.V. Sess. Start Report	The Early Voting Session Start Report was printed.
E.V. Small AT Report	The Early Voting "Small" Audit Trail Report was printed.
E.V. Zero Proof	The Early Voting Zero Proof Report was printed.
Early Vote Elecinfo Bad	The elecinfo file cannot be read.
Early Vote Inv Lock Card	An invalid early voting smart card was used to try to enter lock mode.
Early Vote Session Start	An Early Voting session has been started. The session number is logged with the event.
Early Voting Card Full	An Early Voting smart card is full – no room for more machine serial numbers.
Early Voting Polls Clse	Early Voting polls were closed.
Early Voting Polls Open	Early Voting polls were opened.
Early Voting Ready2Open	Logged when the machine is ready to open Early Voting polls.

Early Vote Reuse Attempt	The user tried to reuse an Early Voting smart card a second time on the same machine.
Early Voting Session End	An Early Voting session has been ended. The session number is logged with the event.
Early Voting Summary Rpt	The Early Voting Summary Report was printed.
Early Voting Wr Ver Fail	The write verify during an early voting lockup, storing the by-session vote data, failed.
Early Voting Write Fail	The write during an early voting lockup, storing the by-session vote data, failed.
EEPROM Memory Copy Bad	One of the EEPROM memories has become corrupted.
Elec. Ballot Image Report	The Official Election Ballot Image Report was printed.
Election – Activate	Optionally logged each time the *Edge* is activated for voting.
Election - Cast Vote	Optionally logged each time a voter casts a vote on the *Edge*.
Election Large AT Report	The "large" Audit Trail Report was printed at Official Election.
Election Not ELEC Task	This is an internal error that indicates that the election code is being executed outside of the election task.
Election Polls Closed	Logged when Official Election polls are closed.
Election Polls Open	Logged when Official Election polls are opened.
Election Results Report	Logged when an Official Election Results Report is printed.
Election Small AT Report	The "small" Audit Trail Report was printed at Official Election
Election Zero Proof	Logged when an Official Election Zero Proof Report is printed.
End Consolidation	The Vote Consolidation process has ended.
End Early Voting Merge	The Early Voting session end vote data merge has ended.
End Maintenance Diag	Logged when Maintenance Diagnostics is exited, which happens when loading a ballot.
End Vote Simulation	The end of a Vote Simulation.
Graphics Not GRAF Task	This is an internal error that indicates that the graphics code is being executed outside of the graphics task.

Incorrect RC Serial Num	The Results Cartridge in the machine is for a different serial number *Edge* than this one.
Invalid Ballot	The election program's initialize function has discovered a problem with the ballot definition. An indication of where in the system the error occurred is stored with the event.

Error Code	Description
105	Endorsed candidates are not allowed, but are on the ballot.
106	Straight Party candidates are not allowed, but are on the ballot.
107	Selective Primary candidates are not allowed, but are on the ballot.
108	Write In candidates are not allowed, but are on the ballot.

Invalid Card Insertion	An invalid card was inserted in the Auto Activate slot. This may be due to a card that is inserted in the wrong orientation, or something other than the smart card, such as a credit card.
Invalid Consinfo File Sz	The consinfo.bin file was an unexpected size.
Invalid EV Info File	The Early Voting info file is invalid.
Invalid EV Unlock Attmpt	An attempt to unlock the machine was made with an invalid Early Voting smart card.
Invalid Report Failure	An unknown error occurred during the printing of a report.
LCD Contrast Adjust	The user has adjusted the screen contrast.
LdBal Not LDBL Task	This is an internal error that indicates that the ballot load code is being executed outside of the ballot load task.
Machine Not MACH Task	This is an internal error that indicates that the machine monitoring/control code is being executed outside of the machine task.
Maint Not MANT Task	This is an internal error that indicates that the maintenance diagnostics code is being executed outside of the maintenance task.
Maint Official AT Report	The Official Election Audit Trail Report was printed from the Maintenance Diagnostics Aux Port Reports function.
Maint Post LAT AT Report	The Post-LAT Audit Trail Report was printed from the Maintenance Diagnostics Aux Port Reports function.
Maint Pre LAT AT Report	The pre-LAT Audit Trail Report was printed from the Maintenance Diagnostics Aux Port Reports function.
Manual Activate Enabled	The pollworker has switched from auto to manual activate.

No Room On Device	There is no room to collect this Early Voting's session files – either the Results Cartridge or Audit Trail is full.
Off Election Ready2Open	Logged the first time the *Edge* enters the Official Election Ready To Open Polls state.
Post LAT Ballot Img Rpt	The post-LAT Ballot Image Report was printed.
Post-LAT Large AT Report	The "large" Audit Trail Report was printed at Post-LAT.
Post LAT Polls Closed	Logged when Post-LAT polls are closed.
Post LAT Polls Open	Logged when Post-LAT polls are opened.
Post Lat Ready To Open	Logged the first time the *Edge* enters the Post-Lat Ready To Open Polls state.
Post LAT Results Report	Logged when a Post-LAT Results Report is printed.
Post-LAT Small AT Report	The "small" Audit Trail Report was printed at post-LAT.
Post LAT Zero Proof	Logged when a Post-LAT Zero Proof Report is printed.
Pre LAT Ballot Image Rpt	The Pre-LAT Ballot Image Report was printed.
Pre-LAT Large AT Report	The "large" Audit Trail Report was printed at Pre-LAT.
Pre LAT Polls Closed	Logged when Pre-LAT polls are closed.
Pre LAT Polls Open	Logged when Pre-LAT polls are opened.
Pre Lat Ready To Open	Logged the first time the *Edge* enters the Pre-Lat Ready To Open Polls state.
Pre-LAT Small AT Report	The "small" Audit Trail Report was printed at Pre-LAT.
Pre LAT Zero Proof	Logged when a Pre-LAT Zero Proof Report is printed.
Pre LAT Results Report	Logged when a Pre-LAT Results Report is printed.
Print Event Log	Logged at the completion of printing the Event Log.
Print Results From Maint	The Results Report was printed from the Maintenance Diagnostics Aux Port Reports function.
Printer Busy	The printer is on-line, but not responding. This event is logged outside of the election program.

Printer Off Line	The printer is off-line, and cannot be put back on line. This event is logged outside of the election program.
Printer Paper Out	The printer is out of paper. This event is logged outside of the election program.
Prot. Counter Rollover	Logged when the protective counter value rolls over from 4,294,967,295 to zero.
Protective Counter Bad	Logged outside of the election program, when a protective counter error is discovered. Details of the error - which of the redundant values was bad - are stored with this event. Because of the possibility of multiple errors, the errors are encode as individual bits.

Error Code	Description
Bit 0 set	EEPROM #1 value is bad.
Bit 1 set	EEPROM #1 complement is bad.
Bit 2 set	EEPROM #2 value is bad.
Bit 3 set	EEPROM #2 complement is bad.

Public Counter Bad	Logged outside of the election program, when a public counter error is discovered. Details of the error - which of the redundant values was bad - are stored with this event.

Error Code	Description
Bit 0 set	EEPROM #1 value is bad.
Bit 1 set	EEPROM #1 complement is bad.
Bit 2 set	EEPROM #2 value is bad.
Bit 3 set	EEPROM #2 complement is bad.

Public Counter Rollover	Logged when the public counter value rolls over from 4,294,967,295 to zero.
Ready To Resume Voting	Logged after reopening polls after the "Attempt To Close Polls" event.
RTC Battery Low	The system's clock battery is low, and must be replaced.
Serv Req 60: RC Out	If the Results Cartridge is removed during voting, the *Edge* declares an error and logs this event.
Serv Req 70: CRC Error	The validation between voters discovered a corrupted internal data array.
Serv Req 80: Printer Err	Logged when there is a printer error.
Set Time and Date	Logged when changing the *Edge*'s date and time (touching "OK" from the date/time screen).

Simulation Not SIM Task	This is an internal error that indicates that the vote consolidation code is being executed outside of the consolidation task.
Summary Total Miscompare	The cross-check between the summary totals and the ballot image data failed. This is the event that is logged when the failure occurs during report printing.
Sum total check not done	Indicates that the between voters summary total cross check aborted because of an error.
Sys Err 20: Pub Cntr	There was an error when validating or incrementing the public counter value. Details of the error - which of the redundant values was bad - are stored with this event. This error is specific to the election program. Other places use the "Public Counter Bad" log event. Because of the possibility of multiple errors, the errors are encoded as individual bits.

Error Code	Description
Bit 0 set	EEPROM #1 value is bad.
Bit 1 set	EEPROM #1 complement is bad.
Bit 2 set	EEPROM #2 value is bad.
Bit 3 set	EEPROM #2 complement is bad.

Sys Err 21: ATA Read	There was a file system read error. An indication of where in the system the error occurred is stored with the event.

Error Code	Description
0	Error displaying the election info screen.
15	Vote save error reading from AT Ballot Image file.
19	Vote save error reading from RC Ballot Image file.
31	Vote save error reading from AT pref image file.
35	Vote save error reading from RC pref image file.
53	Vote save error reading from AT Write In file.
56	Vote save error reading from RC Write In file.
63	Vote save error reading from AT Totals file.
65	Vote save error reading from AT Totals file.
66	Vote save: The two copies of the AT Totals data that were read do not match.
74	Vote save error reading from AT Totals file.
78	Vote save error reading from RC Totals file.
85	Vote save error reading from AT Selcode Totals file.
77	Vote save error reading from AT Selcode Totals file.
88	Vote save: The two copies of the AT Selcode Totals data that were read do not match.
96	Vote save error reading from AT Selcode Totals file.
98	Vote save AT readback error.
100	Vote save error reading from RC Totals file.
102	Vote save RC readback error.
113	Error reading bitmap file.

131	Error reading election info file.
135	Error reading bitmap file.
139	Voting: Contest combination file read error.
174	Election Initialize – cannot load fonts
182	Cannot load audio file.
187	Cannot load audio file.
190	Cannot load audio file.
192	Cannot load audio file.
202	Reports: Error reading Contest file.
204	Reports: Error reading Candidate file.
206	Reports: Error reading Election info file.
208	Reports: Error reading party file.
213	Reports: Error reading totals file.
215	Reports: Error reading ballot image file.
221	Reports: Error reading contest combination file.
223	Reports: Error reading write in file.
226	Reports: Error reading consolidation info file.
229	Reports: Error reading selcode totals file.
235	Reports: Error reading consolidation totals file.
238	Reports: Error reading consolidation selcode totals file.
241	Reports: Error reading consolidation write in file.
249	Reports: Error reading AT report file.
253	Reports: Error reading AT report file.
256	Reports: Error reading AT report file.
259	Reports: Error reading AT report file.
262	Reports: Error reading AT report file.
266	Reports: Error reading EV info file.
271	Reports: Error reading EV session total file.
272	Reports: Error reading EV session selcode totals file.
276	Reports: Error reading EV consinfo file.
279	Reports: Error reading report file.

Sys Err 22: ATA Write   There was a file system write error. An indication of where in the system the error occurred is stored with the event.

Error Code	Description
9	Vote save error writing AT Ballot Image file.
12	Vote save error writing RC Ballot Image file.
16	Vote save: The read-back compare of the AT Ballot Image failed.
20	Vote save: The read-back compare of the RC Ballot Image failed.
30	Vote save: Could not zero fill the new Write-In file storage (AT).
33	Vote save: Could not zero fill the new Write-In file storage (RC).
35	Vote save error writing AT Write In file.
38	Vote save error writing RC Write In file.
41	Vote save: The read-back compare of the AT Write-In record failed.
45	Vote save: The read-back compare of the RC Write-In record failed.
57	Vote save error writing AT Totals file.
60	Vote save error writing RC Totals file.
63	Vote save: The read-back compare of the AT Totals file failed.

67	Vote save: The read-back compare of the RC Totals file failed.
79	Vote save error writing AT Selcode Totals file.
82	Vote save error writing RC Selcode Totals file.
147	Rand_blk: could not write new randomized blocks to AT.
150	Rand_blk: could not write new randomized blocks to RC.
155	Election: Crypto signature of election files failed.

Sys Err 23: RC/AT Verify   The validation of vote data between voters discovered a difference between the Audit Trail and Results Cartridge copies.

Sys Err 24: Int. Logic   There was an error double-checking the vote data as it is being saved. An indication of where in the system the error occurred is stored with the event.

Error Code	Description
6	Vote save: The ballot image that was created does not match the voter's data.
55	Vote save: The Totals data was not incremented correctly for this voter's selections.
77	Vote save: The Selcode Totals data was not incremented correctly for this voter's selections.
91	Vote save: Could not increment Public Counter.
92	Vote save: Could not increment Protective Counter.

Sys Err 28: Prot Cntr   There was an error when validating or incrementing the protective counter value. Details of the error - which of the redundant values was bad - are stored with this event. This error is specific to the election program. Other places use the "Protective Counter Bad" log event. Because of the possibility of multiple errors, the errors are encoded as individual bits.

Error Code	Description
Bit 0 set	EEPROM #1 value is bad.
Bit 1 set	EEPROM #1 complement is bad.
Bit 2 set	EEPROM #2 value is bad.
Bit 3 set	EEPROM #2 complement is bad.

Sys Err 31: Vote Not Rec   If the election's vote save process encounters an error, this event is logged. Details of where the error occurred are stored with the event.

Error Code	Description
1	*[This value is used internally, to designate the start of vote saving; it is not an error code number.]*
2	The Audit Trail does not have enough space to save this vote.
3	The Results Cartridge does not have enough room to save this vote.
4	Could not allocate a memory block for creating the ballot image.
5	Could not allocate a memory block for validating the ballot image.
6	The ballot image that was created does not match the voter's data.
7	Could not open AT Ballot Image file.
8	Could not seek to correct AT Ballot Image file position.

9	Error writing AT Ballot Image file.
10	Could not open RC Ballot Image file.
11	Could not seek to correct RC Ballot Image file position.
12	Error writing RC Ballot Image file.
13	Could not allocate a memory block for a read-back verify of the ballot image.
14	Could not seek to correct AT Ballot Image file position.
15	Error reading from AT Ballot Image file.
16	The read-back compare of the AT Ballot Image failed.
17	The AT Ballot Image file could not be closed.
18	Could not seek to correct RC Ballot Image file position.
19	Error reading from RC Ballot Image file.
20	The read-back compare of the RC Ballot Image failed.
21	The RC Ballot Image file could not be closed.

At this point, the voter's ballot image has been successfully saved to both the AT and RC.

22	Could not allocate a memory block for creating the preference voting ballot image.
23	Could not open AT Preference Image file.
24	Could not seek to correct AT Preference Image file position.
25	Error writing AT Preference Image file.
26	Could not open RC Preference Image file.
27	Could not seek to correct RC Preference Image file position.
28	Error writing RC Preference Image file.
29	Could not allocate a memory block for a read-back verify of the preference image.
30	Could not seek to correct AT Preference Image file position.
31	Error reading from AT Preference Image file.
32	The read-back compare of the AT Preference Image failed.
33	The AT Preference Image file could not be closed.
34	Could not seek to correct RC Preference Image file position.
35	Error reading from RC Preference Image file.
36	The read-back compare of the RC Preference Image failed.
37	The RC Preference Image file could not be closed.

At this point, the voter's preference voting ballot image has been successfully saved to both the AT and RC.

38	There is insufficient room to store this voter's write-in names.
39	Could not open AT Write In file.
40	Could not allocate memory for write-in storage..
41	Could not seek to correct AT Write In file position.
42	Could not allocate memory for creating more Write In storage.
43	Could not zero fill the new Write-In file storage (AT).
44	Could not open RC Write In file.
45	Could not seek to correct RC Write In file position.
46	Could not zero fill the new Write-In file storage (RC).
47	Could not seek to correct AT Write In file position.
48	Error writing AT Write In file.

49	Could not open RC Write In file.
50	Could not seek to correct RC Write In file position.
51	Error writing RC Write In file.
52	Could not seek to correct ATWrite In file position.
53	Error reading from AT Write In file.
54	The read-back compare of the AT Write-In record failed.
55	Could not seek to correct RC Write In file position.
56	Error reading from RC Write In file.
57	The RC Write In file could not be closed.
58	The read-back compare of the RC Write-In record failed.
59	The AT Write In file could not be closed.

At this point, the voter's Write In name entries have been successfully saved to both the AT and RC.

60	Could not allocate first memory block for read-back verify of the totals counters.
61	Could not allocate second memory block for read-back verify of the totals counters.
62	Could not open AT Totals file.
63	Error reading from AT Totals file.
64	Could not seek to correct AT Totals file position.
65	Error reading from AT Totals file.
66	The two copies of the AT Totals data that were read do not match.
67	The Totals data was not incremented correctly for this voter's selections.
68	Could not seek to correct AT Totals file position.
69	Error writing AT Totals file.
70	Could not open RC Totals file.
71	Could not seek to correct RC totals file position.
72	Error writing RC Totals file.
73	Could not seek to correct AT Totals file position.
74	Error reading from AT Totals file.
75	The read-back compare of the AT Totals file failed.
76	The AT Totals file could not be closed.
77	Could not seek to correct RC Totals file position.
78	Error reading from RC Totals file.
79	The read-back compare of the RC Totals file failed.
80	The RC Totals file could not be closed.

At this point, the voter's selections have been added to the candidate totals counters, and saved to both the AT and RC.

81	The allocated memory for the first Totals buffer could not be released.
82	The allocated memory for the second Totals buffer could not be released.
83	Could not open AT Selcode Totals file.
84	Could not seek to correct AT Selcode Totals file position.
85	Error reading from AT Selcode Totals file.
86	Could not seek to correct AT Selcode Totals file position.
87	Error reading from AT Selcode Totals file.
88	The two copies of the AT Selcode Totals data that were read do not match.

89	The Selcode Totals data was not incremented correctly for this voter's selections.
90	Could not seek to correct AT Selcode Totals file position.
91	Error writing AT Selcode Totals file.
92	Could not open RC Selcode Totals file.
93	Could not seek to correct RC Selcode Totals file position.
94	Error writing RC Selcode Totals file.
95	Could not seek to correct AT Selcode Totals file position.
96	Error reading from AT Totals file.
97	The AT Selcode Totals file could not be closed.
98	The read-back compare of the AT Selcode Totals file failed.
99	Could not seek to correct RC Selcode Totals file position.
100	Error reading from RC Totals file.
101	The RC Selcode Totals file could not be closed.
102	The read-back compare of the RC Selcode Totals file failed.

At this point, all voter data has been saved successfully, to both the AT and RC.

103	Could not increment Public Counter.
104	Could not increment Protective Counter.

At this point, the Edge has completed the vote save process.

Sys Err 32: Summary Comp The validation of vote data between voters discovered a mismatch between the summary totals and the ballot image data.

Sys Err 41: Malloc Error Logged if the election program runs out of memory.

Error Code	Description
4	Vote save: Could not allocate a memory block for creating the ballot image.
5	Vote save: Could not allocate a memory block for validating the ballot image.
13	Vote save: Could not allocate a memory block for a read-back verify of the ballot image.
22	Vote save: The allocated memory for the Ballot Image read-back buffer could not be released.
23	Vote save: The allocated memory for the Ballot Image buffer could not be released.
24	Vote save: The allocated memory for the Ballot Image test unpack buffer could not be released.
27	Vote save: Could not allocate memory for creating more Write In storage.
29	Could not allocate memory block for read-back verify of the Write In data.
47	Vote save: The allocated memory for the Write In buffer could not be released.
48	Vote save: Could not allocate memory block for read-back verify of the totals counters.
49	Vote save: Could not allocate 2nd memory block for read-back verify of the totals counters.
69	Vote save: The allocated memory for the first Totals buffer could not be released.

70	Vote save: The allocated memory for the second Totals buffer could not be released.
94	Election init: Could not allocate memory for the st party registry.
95	Election init: Could not allocate memory for the st party crossover data.
96	Election init: Could not allocate memory for the st party ignore data.
97	Election init: Could not allocate memory for the st party vote data.
98	Election init: Could not allocate memory for the st party speedup array.
100	Election init: Could not allocate memory for the contest data.
103	Election init: Could not allocate memory for the candidate data.
111	Election init: Could not allocate memory for the contest name data.
112	Election init: Could not allocate memory for the contest dimension data.
114	Election init: Could not allocate memory for the contest color data.
116	Election init: Could not allocate memory for the candidate name data.
118	Election init: Could not allocate memory for the candidate dimension data.
120	Election init: Could not allocate memory for the candidate color data.
122	Election init: Could not allocate memory for the party data.
124	Election init: Could not allocate memory for the party names data.
126	Election init: Could not allocate memory for the vote array.
127	Election init: Could not allocate memory for the vote-for array.
128	Election init: Could not allocate memory for the write in temp holding.
131	Election init: Could not allocate memory for the contest combination data.
132	Election init: Could not allocate memory for the selcode data.
134	Election init: Could not allocate memory for the selcode name data.
142	Election: Could not allocate room for the elecinfo structure.
146	Rand_blk: could not allocate memory for new randomized blocks.
156	Voteok: Could not allocate memory for straight party un-voting.
170	Reports: Memory allocation error.

Sys Err 43: Audit*Trail   Logged if there is an error accessing the Audit Trail memory. An indication of where in the system the error occurred is stored with the event.

Error Code	Description
2	Vote save: The Audit Trail does not have enough space to save this vote.
7	Vote save: Could not open AT Ballot Image file.
8	Vote save: Could not seek to correct AT Ballot Image file position.
14	Vote save: Could not seek to correct AT Ballot Image file position.
17	Vote save: The AT Ballot Image file could not be closed.
26	Vote save: Could not open AT Write In file.
28	Vote save: Could not seek to correct AT Write In file position.
34	Vote save: Could not seek to correct AT Write In file position.
39	Vote save: Could not seek to correct AT Write In file position.
47	Vote save: The AT Write In file could not be closed.
50	Vote save: Could not open AT Totals file.
52	Vote save: Could not seek to correct AT Totals file position.
56	Vote save: Could not seek to correct AT Totals file position.
61	Vote save: Could not seek to correct AT Totals file position.
64	Vote save: The AT Totals file could not be closed.
71	Vote save: Could not open AT Selcode Totals file.

72	Vote save: Could not seek to correct AT Selcode Totals file position.
74	Vote save: Could not seek to correct AT Selcode Totals file position.
78	Vote save: Could not seek to correct AT Selcode Totals file position.
83	Vote save: Could not seek to correct AT Selcode Totals file position.
85	Vote save: The AT Selcode Totals file could not be closed.
99	Election init: File open error.
138	Voting: Contest combination file open error.
143	Pollwork: Cannot open event log.
144	Rand_blk: Cannot open AT ballot image file.
145	Rand_blk: File seek error.
162	Reports: Cannot open contest file.
164	Reports: Cannot open candidate file.
166	Reports: Cannot open election info file.
168	Reports: Cannot open party file.
171	Reports: Cannot open selcode file.
172	Reports: Cannot set position in selcode file.
173	Reports: Cannot open totals file.
175	Reports: Cannot open ballot image file.
177	Reports: Cannot set position in ballot image file.
178	Reports: Cannot open selcode text file.
179	Reports: Cannot set position in selcode text file.
180	Reports: Cannot open contest combination file.
181	Reports: Cannot set position in contest combination file.
183	Reports: Cannot open write in file.
185	Reports: Cannot set position in write in file.
186	Reports: Cannot open consolidation info file.
188	Reports: Cannot set position in consolidation info file.
189	Reports: Cannot open selcode totals file.
191	Reports: Cannot set position in selcode totals file.
195	Reports: Cannot open consolidation totals file.
197	Reports: Cannot set position in consolidation totals file.
198	Reports: Cannot open consolidation selcode totals file.
200	Reports: Cannot set position in consolidation selcode totals file.
201	Reports: Cannot open consolidation write in file.
203	Reports: Cannot set position in consolidation write in file.
204	Reports: Cannot open consolidation write in temp file.

Sys Err 44: Results Cart — Logged if there is an error accessing the Results Cartridge. An indication of where in the system the error occurred is stored with the event.

Error Code	Description
3	Vote save: The Results Cartridge does not have enough room to save this vote.
10	Vote save: Could not open RC Ballot Image file.
11	Vote save: Could not seek to correct RC Ballot Image file position.
18	Vote save: Could not seek to correct RC Ballot Image file position.
21	Vote save: The RC Ballot Image file could not be closed.
31	Vote save: Could not open RC Write In file.

32	Vote save: Could not seek to correct RC Write In file position.
36	Vote save: Could not open RC Write In file.
37	Vote save: Could not seek to correct RC Write In file position.
43	Vote save: Could not seek to correct RC Write In file position.
45	Vote save: The RC Write In file could not be closed.
58	Vote save: Could not open RC Totals file.
59	Vote save: Could not seek to correct RC totals file position.
65	Vote save: Could not seek to correct RC Totals file position.
68	Vote save: The RC Totals file could not be closed.
80	Vote save: Could not open RC Selcode Totals file.
81	Vote save: Could not seek to correct RC Selcode Totals file position.
87	Vote save: Could not seek to correct RC Selcode Totals file position.
89	Vote save: The RC Selcode Totals file could not be closed.
148	Rand_blk: Cannot open ballot image file.
149	Rand_blk: Cannot set ballot image file position.

Sys Err 46: Ballot CRC	The validation between voters discovered a corrupted ballot definition file.
System Not SYST Task	This is an internal error that indicates that the system monitoring code is being executed outside of the system task.
System Power Up Ok	Logged at every power up. The checksum value of the program ROM is saved with this event.
System Power Down	This event is logged at each power down.
System Reset	Logged at every system reset, both from election/polls closed, and from maintenance.
System Self-Test Passed	The machine's power-up tests were successful.
Touchscreen Calibration	The user has recalibrated the touchscreen.
Training Mode Reset	The machine was reset to another pass through Official Election while in Pollworker Training Mode.
Elec. Ballot Image Report	The Official Election Ballot Image Report was printed.
Training – Activate	Optionally logged each time the *Edge* is activated for voting in Pollworker Training Mode.
Training - Cast Vote	Optionally logged each time a voter casts a vote on the *Edge* in Pollworker Training Mode.
Training Large AT Report	The "large" Audit Trail Report was printed at Pollworker Training Mode.

Training Polls Closed	Logged when Pollworker Training Mode polls are closed.
Training Polls Open	Logged when Pollworker Training Mode polls are opened.
Training Ready2Open	The machine is at Pollworker Training Mode ready to open polls.
Training Results Report	Logged when the Pollworker Training Mode Results Report is printed.
Training Small AT Report	The "small" Audit Trail Report was printed at Pollworker Training Mode.
Training Zero Proof	Logged when the Pollworker Training Mode Zero Proof Report is printed.
Vote Simulation Abort	A vote simulation script was aborted by the user.
Vote Simulation Error	There was an error during vote simulation. This could be a bad script command, unexpected end-of-file, or a Simulation Cartridge removal.

12 APPENDIX B – REPORT FORMATS

12.1 ELECTION RESULTS REPORT

The totals data for a Results Report is taken from the candidate and selection code counter files.

The contest lines on the Results Report show the vote-for value for that contest.
Candidate totals are printed right justified.

Endorsed candidates show a candidate grand total, right justified at the right margin, and individual totals for each party the candidate is linked to. The individual totals are right justified, but indented 4 spaces from the right margin.

Write-in votes are printed along with the ballot image index that they are linked to. (This is required so that attempts to vote for the same person multiple times in a vote-for-many contest can be detected.) If no write-in votes have been entered, the "Write In Votes" section will say "No Write In Votes in Memory".

The "Selection Code Names" section is grouped by precinct ID. This grouping assumes that the ballot is defined with all selection codes for a precinct in a single group. If the ballot does not have selection codes, this section is omitted. The selection code section includes a grand total after the totals for each selection code.

NOTE: The format for Pre-LAT and Post-LAT Results Reports are identical, *except* that the signature boilerplate is a one-line technician signature.

```
******************************************
     OFFICIAL ELECTION RESULTS REPORT
******************************************

Date 11/25/96              Time 15:12

Serial Number              1234567890

Protective Counter         1234567890

Public Counter             1234567890

Poll Site
   Polling Place Name Text

Polling Place ID                    152

Ballot Version                        1
Report Source        Internal Memory

   Election Name Line 1
   Election Name Line 2
   Election Name Line 3
   Election Name Line 4
Candidate Totals
Candidate                     Total
```

```
***              ***                  ***

   CONTEST ONE
     CANDIDATE ONE                     (1)
       Party One                        0
     CANDIDATE TWO
       Party Two                        0
     CANDIDATE THREE
       Party Three                      0
     CANDIDATE FOUR
       Party Four                0      0
       Party Five                0
       Party Six                 0
     WRITE IN                            0

   CONTEST TWO
     CANDIDATE FIVE                     (2)
       Party One                         0
     CANDIDATE SIX
       Party One                        0
     CANDIDATE SEVEN
       Party Two                        0
     CANDIDATE EIGHT
       Party Two                        0
     CANDIDATE NINE
       Party Three                      0
     CANDIDATE TEN
       Party Three                      0

   CONTEST THREE                        (1)
     CANDIDATE ELEVEN                    0
       Party One
     CANDIDATE TWELVE                   0
       Party Two

   CONTEST FOUR                         (1)
     CANDIDATE THIRTEEN                  0
       Party One
     CANDIDATE FOURTEEN                 0
       Party Two

   CONTEST FIVE                         (1)
     CANDIDATE FIFTEEN                    0
       Party One
     CANDIDATE SIXTEEN                  0
       Party Two
   BALLOT QUESTION ONE                  (1)
     Yes                                 0
     No                                  0
***              1056-County         ***
   BALLOT QUESTION TWO                  (1)
     Yes                                 0
     No                                  0

***              1057-County         ***

***              1058-County         ***

   BALLOT QUESTION THREE               (1)
     Yes                                 0
     No                                  0

   Write In Votes

   87654321 This is a 24 char WI nam
```

76543218 This is not

Selection Code Totals

** All Selection Code Totals are Zero

                    Election Officers
Please Complete After Closing The Polls
We the undersigned Election Officers do
hereby certify that on the _____
day of _____ 19_____ this board
under the scrutiny of each member,
closed the polls from further voting,
obtained this printed record of votes
cast on this machine and that after the
polls closed, the Protective Counter
read 1234567890, the Public Counter
read 1234567890 and the machine has
been sealed with seal # _____.

Signed:

   _____

   _____

   _____

   _____

S/N 1234567890 v1.00 11/20/96 3:13 PM

12.2 EVENT LOG REPORT

The *Edge* Event Log Report is very similar to the AVC Advantage®'s Log Reports. A sample report is shown below:

```
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
                  EVENT LOG
* * * * * * * * * * * * * * * * * * * * * * * * * * * *

Date 11/25/96                 Time 15:12

Serial Number                 1234567890

Protective Counter            1234567890

Report Source            Internal Memory

Voting Machine Activity:

System Power Down
        10/17/96 10:51 AM      615
AC Power Status                      On
        10/17/96 10:51 AM      615
System Power Up                    62EC
        10/17/96 10:51 AM      615
Set Polling Place ID
        10/17/96 10:51 AM      615
Power Up Test Failure            32768
        10/17/96 10:51 AM      615

S/N 1234567890  v1.00  11/20/96 3:13 PM
```

For each event in the log, the first line shows the event name (24 characters maximum), and an interpretation of the optional data value, if appropriate. For example, the "System Power Down" event does not use this data value, while the "AC Power Status" event interprets the value as "On" or "Off".

The second line shows the date/time of the event, and the machine's Protective Counter value at the time of the event.

13 APPENDIX C – ERROR MESSAGES

13.1 Vote Consolidation

Popup Window:

> Consolidation Warning,
> This Cartridge Has
> Already Been Consolidated
> In This Election Mode.

Pollworker LCD:

[No Message]

Event Log:

No Entry.

Description:

This is a warning message, informing the user that the current machine has already placed its vote data onto this Consolidation Cartridge. It is OK to proceed and generate Consolidation Reports if this message is encountered.

Popup Window:

> Consolidation Error,
> This Cartridge Has A
> Previous Consolidation Error
>
> Please Remove
> The Consolidation Cartridge.

Pollworker LCD:

```
Vote Cons Error
Remove Cartridge
```

Event Log:

No Entry.

Description:

On a previous consolidation with this cartridge, an error had occurred. The data on the cartridge may be suspect. Redo the consolidation on a different cartridge.

Popup Window:

<div align="center">

Consolidation Error,
The Ballot Could Not Be Copied.

Please Remove
The Consolidation Cartridge.

</div>

Pollworker LCD:

```
Vote Cons Error
Remove Cartridge
```

Event Log:
No Entry.

Description:
The process of copying the *Edge*'s ballot definition to the Consolidation Cartridge encountered an error. It is likely that this Consolidation Cartridge is bad. Redo the consolidation on a different cartridge.

Popup Window:

<div align="center">

Consolidation Error,
The Consolidation Cartridge
Could Not Be Erased.

Please Remove
The Consolidation Cartridge.

</div>

Pollworker LCD:

```
Vote Cons Error
Remove Cartridge
```

Event Log:
No Entry.

Description:
In response to the "erase cartridge" prompt, the *Edge* encountered an error while trying to delete the files from this Consolidation Cartridge. It is likely that this Consolidation Cartridge is bad. Redo the consolidation on a different cartridge.

Popup Window:

<div align="center">

Consolidation Error,
Insufficient Room to Consolidate.

Please Remove
The Consolidation Cartridge.

</div>

Pollworker LCD:

```
Vote Cons Error
Remove Cartridge
```

Event Log:
No Entry.

Description:
There is not enough free space on this Consolidation Cartridge to consolidate the current *Edge*. Redo the consolidation on a different cartridge.

Popup Window:

<div align="center">

Consolidation Error,
Bad Data On The Cartridge.

Please Remove
The Consolidation Cartridge.

</div>

Pollworker LCD:

```
Vote Cons Error
Remove Cartridge
```

Event Log:
No Entry.

Description:
The vote data that was copied to the Consolidation Cartridge has, when being verified, been discovered to be corrupted. It is likely that this Consolidation Cartridge is bad. Redo the consolidation on a different cartridge.

Popup Window:

Consolidation Error,
Couldn't Mount The Cartridge.

Please Remove
The Consolidation Cartridge.

Pollworker LCD:

```
Vote Cons Error
Remove Cartridge
```

Event Log:

No Entry.

Description:

The *Edge* cannot access the files on this Consolidation Cartridge. It is likely that this Consolidation Cartridge is bad. Redo the consolidation on a different cartridge.

Popup Window:

This Is Not A
Consolidation Cartridge,

Please Remove
The Consolidation Cartridge.

Pollworker LCD:

```
Vote Cons Error
Remove Cartridge
```

Event Log:

No Entry.

Description:

An incorrect cartridge type was inserted when the *Edge* asked for a Consolidation Cartridge. Insert the correct cartridge type to proceed.

Popup Window:

Consolidation Error,
Results Could Not Be Consolidated.

Please Remove
The Consolidation Cartridge.

Pollworker LCD:

```
Vote Cons Error
Remove Cartridge
```

Event Log:
"Consolidation Error"

Description:
One of the vote data files could not be written to. It is likely that this Consolidation Cartridge is bad. Redo the consolidation on a different cartridge.

Popup Window:

Consolidation Error,
Consolidation Log
Could Not Be Updated,

Please Remove The
Consolidation Cartridge.

Pollworker LCD:

```
Vote Cons Error
Remove Cartridge
```

Event Log:
"Consolidation Error"

Description:
The Vote Consolidation Info file could not be written to. It is likely that this Consolidation Cartridge is bad. Redo the consolidation on a different cartridge.

Popup Window:

<div align="center">

Consolidation Error,
Bad Consolidation Data,

Please Remove The
Consolidation Cartridge.

</div>

Pollworker LCD:

```
Vote Cons Error
Remove Cartridge
```

Event Log:

"Consolidation Error"

Description:

A read-back verify of the vote data that was copied to the Consolidation Cartridge has indicated that the data on the cartridge is corrupt. Redo the consolidation on a different cartridge.

Popup Window:

<div align="center">

The Cartridge May Not Be
Removed During Consolidation

Please Power Down

</div>

Pollworker LCD:

```
Aux Cart Removed
Please Power Down
```

Event Log:

No Entry.

Description:

The Vote Consolidation Cartridge was removed from the Aux Port prematurely. The *Edge* must be powered down and back up to make sure that it properly recovers from this situation.

Popup Window:

Consolidation Error,
Consolidation Cartridge Header File
Could Not Be Updated,

Please Remove
The Consolidation Cartridge.

Pollworker LCD:

```
Vote Cons Error
Remove Cartridge
```

Event Log:
    "Consolidation Error"

Description:
    There was a failure updating the cryptographic signatures of the consolidation files.

Popup Window:

Consolidation Error,
Couldn't Clear Cartridge Report Files,

Please Remove
The Consolidation Cartridge.

Pollworker LCD:

```
Vote Cons Error
Remove Cartridge
```

Event Log:
    "Consolidation Error"

Description:
    Previous report files on the consolidation cartridge could not be erased.

13.2 Election Program

Popup Window:

<div align="center">

Results Cartridge Removed.
Service Required

</div>

Pollworker LCD:

<div align="center">

```
Results Cart Removed
  Service Required
```

</div>

Event Log:
"Serv Req 60: RC Out"

Description:
The Results Cartridge has been removed at a time when the *Edge* requires it to be inserted. Reinsert the cartridge and cycle power to resume.

Popup Window:

<div align="center">

No Cartridge May Be
Inserted Into the Auxiliary Port
During Voting.

Please Remove The Cartridge.

</div>

Pollworker LCD:

<div align="center">

```
Aux Cart Inserted
  Please Remove
```

</div>

Event Log:
"Aux Cart In At Elec"

Description:
The Election program does not allow a cartridge to be inserted into the Auxiliary Port during voting. Remove the cartridge.

Popup Window:

<div align="center">

Vote Save Error #xx
Use The Backup Voting Procedure

</div>

Pollworker LCD:

<div align="center">

Vote Save Error xx
Use Backup Procedure

</div>

Event Log:

"Sys Err 31: Vote Not Rec"

Description:

The *Edge* encountered an error when saving a voter's vote. The exact error code is indicated by "xx", which has the following meanings.

Note that these error numbers are the sequential steps of saving and verifying a vote. Depending on where the error occurs, different amounts of the vote data are known to be successfully saved. Specific points are noted in the list below, in *italics*.

Also note that in all cases, an additional log event, with the root cause of the error, is logged just prior to this entry.

"xx" Value	Description
1	*[This value is used internally, to designate the start of vote saving; it is not an error code number.]*
2	The Audit Trail does not have enough space to save this vote.
3	The Results Cartridge does not have enough room to save this vote.
4	Could not allocate a memory block for creating the ballot image.
5	Could not allocate a memory block for validating the ballot image.
6	The ballot image that was created does not match the voter's data.
7	Could not open AT Ballot Image file.
8	Could not seek to correct AT Ballot Image file position.
9	Error writing AT Ballot Image file.
10	Could not open RC Ballot Image file.
11	Could not seek to correct RC Ballot Image file position.
12	Error writing RC Ballot Image file.
13	Could not allocate a memory block for a read-back verify of the ballot image.
14	Could not seek to correct AT Ballot Image file position.
15	Error reading from AT Ballot Image file.
16	The read-back compare of the AT Ballot Image failed.
17	The AT Ballot Image file could not be closed.
18	Could not seek to correct RC Ballot Image file position.
19	Error reading from RC Ballot Image file.
20	The read-back compare of the RC Ballot Image failed.
21	The RC Ballot Image file could not be closed.

At this point, the voter's ballot image has been successfully saved to both the AT and RC.

22	Could not allocate a memory block for creating the preference voting ballot image.
23	Could not open AT Preference Image file.
24	Could not seek to correct AT Preference Image file position.
25	Error writing AT Preference Image file.

26	Could not open RC Preference Image file.
27	Could not seek to correct RC Preference Image file position.
28	Error writing RC Preference Image file.
29	Could not allocate a memory block for a read-back verify of the preference image.
30	Could not seek to correct AT Preference Image file position.
31	Error reading from AT Preference Image file.
32	The read-back compare of the AT Preference Image failed.
33	The AT Preference Image file could not be closed.
34	Could not seek to correct RC Preference Image file position.
35	Error reading from RC Preference Image file.
36	The read-back compare of the RC Preference Image failed.
37	The RC Preference Image file could not be closed.

At this point, the voter's preference voting ballot image has been successfully saved to both the AT and RC.

38	There is insufficient room to store this voter's write-in names.
39	Could not open AT Write In file.
40	Could not allocate memory for write-in storage..
41	Could not seek to correct AT Write In file position.
42	Could not allocate memory for creating more Write In storage.
43	Could not zero fill the new Write-In file storage (AT).
44	Could not open RC Write In file.
45	Could not seek to correct RC Write In file position.
46	Could not zero fill the new Write-In file storage (RC).
47	Could not seek to correct AT Write In file position.
48	Error writing AT Write In file.
49	Could not open RC Write In file.
50	Could not seek to correct RC Write In file position.
51	Error writing RC Write In file.
52	Could not seek to correct ATWrite In file position.
53	Error reading from AT Write In file.
54	The read-back compare of the AT Write-In record failed.
55	Could not seek to correct RC Write In file position.
56	Error reading from RC Write In file.
57	The RC Write In file could not be closed.
58	The read-back compare of the RC Write-In record failed.
59	The AT Write In file could not be closed.

At this point, the voter's Write In name entries have been successfully saved to both the AT and RC.

60	Could not allocate first memory block for read-back verify of the totals counters.
61	Could not allocate second memory block for read-back verify of the totals counters.
62	Could not open AT Totals file.
63	Error reading from AT Totals file.
64	Could not seek to correct AT Totals file position.
65	Error reading from AT Totals file.
66	The two copies of the AT Totals data that were read do not match.
67	The Totals data was not incremented correctly for this voter's selections.

68	Could not seek to correct AT Totals file position.
69	Error writing AT Totals file.
70	Could not open RC Totals file.
71	Could not seek to correct RC totals file position.
72	Error writing RC Totals file.
73	Could not seek to correct AT Totals file position.
74	Error reading from AT Totals file.
75	The read-back compare of the AT Totals file failed.
76	The AT Totals file could not be closed.
77	Could not seek to correct RC Totals file position.
78	Error reading from RC Totals file.
79	The read-back compare of the RC Totals file failed.
80	The RC Totals file could not be closed.

At this point, the voter's selections have been added to the candidate totals counters, and saved to both the AT and RC.

81	The allocated memory for the first Totals buffer could not be released.
82	The allocated memory for the second Totals buffer could not be released.
83	Could not open AT Selcode Totals file.
84	Could not seek to correct AT Selcode Totals file position.
85	Error reading from AT Selcode Totals file.
86	Could not seek to correct AT Selcode Totals file position.
87	Error reading from AT Selcode Totals file.
88	The two copies of the AT Selcode Totals data that were read do not match.
89	The Selcode Totals data was not incremented correctly for this voter's selections.
90	Could not seek to correct AT Selcode Totals file position.
91	Error writing AT Selcode Totals file.
92	Could not open RC Selcode Totals file.
93	Could not seek to correct RC Selcode Totals file position.
94	Error writing RC Selcode Totals file.
95	Could not seek to correct AT Selcode Totals file position.
96	Error reading from AT Totals file.
97	The AT Selcode Totals file could not be closed.
98	The read-back compare of the AT Selcode Totals file failed.
99	Could not seek to correct RC Selcode Totals file position.
100	Error reading from RC Totals file.
101	The RC Selcode Totals file could not be closed.
102	The read-back compare of the RC Selcode Totals file failed.

At this point, all voter data has been saved successfully, to both the AT and RC.

103	Could not increment Public Counter.
104	Could not increment Protective Counter.

At this point, the Edge has completed the vote save process.

The recovery procedure for this group of errors is to close polls. To do so, follow these steps:
- Press the Activate button until the system beeps (3 seconds)
- Release the button and immediately (within 1 second) press it again.
- Hold the button pressed until the system beeps again (3 seconds)

- Turn the Polls switch to the Closed position.

Note that the Results Report does not automatically print in this case.

Popup Window:

<center>Election Verification Error #xx</center>

Pollworker LCD:

<center>Elec. Verification
Error xx</center>

Event Log:

      xx = 23: "Sys Err 23: RC/AT Verify"

      xx = 32: "Sys Err 32: Summary Comp"

      xx = 46: "Sys Err 46: Ballot CRC"

      xx = 70: "Serv Req 70: CRC Error"

Description:

      Indicates that one of the steps in the between voter verification process has failed:

          xx = 23: The ballot files on the RC and AT are not identical.

          xx = 32: The recount between summary totals and ballot images has an error.

          xx = 46: A ballot definition file on the AT has been corrupted.

          xx = 70: An internal system data array has been corrupted.

The recovery procedure for this error is to close polls. To do so, follow these steps:

- Press the Activate button until the system beeps (3 seconds)
- Release the button and immediately (within 1 second) press it again.
- Hold the button pressed until the system beeps again (3 seconds)
- Turn the Polls switch to the Closed position.

Note that the Results Report does not automatically print in this case.

Popup Window:

System Error #xx, Index yy

Pollworker LCD:

```
System Error xx   yy
   Call For Service
```

Event Log:

    xx = 20: "Sys Err 20: Pub Cntr"
    xx = 21: "Sys Err 21: ATA Read"
    xx = 22: "Sys Err 22: ATA Write"
    xx = 28: "Sys Err 28: Prot Cntr"
    xx = 41: "Sys Err 41: Malloc Error"
    xx = 43: "Sys Err 43: Audit*Trail"
    xx = 44: "Sys Err 44: Results Cart"

Description:

Indicates an error in internal operation of the Election program.

    xx = 20: Either incrementing or reading the Public Counter encountered an error.

    xx = 21: A file read operation has failed.

    xx = 22: A file write operation has failed.

    xx = 28: Either incrementing or reading the Protective Counter encountered an error.

    xx = 41: An attempt to allocate a block of memory has failed.

    xx = 43: An unspecified error has occurred when accessing the Audit Trail.

    xx = 44: An unspecified error has occurred when accessing the Results Cartridge.

For each of the error types, the "yy" value indicates in more detail where the error has occurred.

The recovery procedure for this error is to close polls. To do so, follow these steps:
- Press the Activate button until the system beeps (3 seconds)
- Release the button and immediately (within 1 second) press it again.
- Hold the button pressed until the system beeps again (3 seconds)
- Turn the Polls switch to the Closed position.

Note that the Results Report does not automatically print in this case.

Popup Window:

<div align="center">

System Error,
Invalid Ballot Parameters

</div>

Pollworker LCD:

<div align="center">

System Error, Invalid
Ballot Parameters

</div>

Event Log:
  "Invalid Ballot"

Description:
  A ballot was loaded onto the *Edge* that contains a candidate or contest type that is not allowed in this jurisdiction's configuration.

The recovery procedure for this error is to go to polls closed and perform a System Reset. To do get to Polls Closed, follow these steps:
- Press the Activate button until the system beeps (3 seconds)
- Release the button and immediately (within 1 second) press it again.
- Hold the button pressed until the system beeps again (3 seconds)
- Turn the Polls switch to the Open position.
- Turn the Polls switch to the Closed position.

Note that the Results Report does not print.

Popup Window:

<div align="center">

Printer Off Line
Service Required

</div>

Pollworker LCD:

<div align="center">

Printer Error
Service Required

</div>

Event Log:
  "Printer Off Line"

Description:
The *Edge* printer is off line and cannot be automatically placed back on line. Check that the printer is properly connected, powered on and that it has paper, and then cycle power on the machine. If necessary, press the appropriate report button to generate another copy of the report.

Popup Window:

Printer Paper Empty
Service Required

Pollworker LCD:

Printer Error
Service Required

Event Log:

"Printer Paper Out"

Description:

The *Edge* printer is out of paper. Install a new paper roll, and then cycle power on the machine. If necessary, press the appropriate report button to generate another copy of the report

---

Popup Window:

Printer Busy
Service Required

Pollworker LCD:

Printer Error
Service Required

Event Log:

"Printer Busy"

Description:

The *Edge* printer is not accepting characters. Check that the printer is properly connected and is powered on, and then cycle power on the machine. If necessary, press the appropriate report button to generate another copy of the report.

Popup Window:

Printer Not Responding
Service Required

Pollworker LCD:

```
Printer Error
Service Required
```

Event Log:

"Serv Req 80: Printer Err"

Description:

The *Edge* printer is not acknowledging characters that are sent to it. Check that the printer is properly connected and powered on, and then cycle power on the machine. If necessary, press the appropriate report button to generate another copy of the report.

Popup Window:

Closing Polls Is Not Allowed!

Pollworker LCD:

```
To Resume Voting
Move POLLS To OPEN
```

Event Log:

"Attempt to Close Polls"

After polls are reopened:

"Ready to Resume Voting"

Description:

The Polls switch was moved to CLOSED when the Election program does not allow closing polls. Move the Polls switch to OPEN to resume voting.

Popup Window:

The Voter Card Is Stuck.

Please Ask For Assistance

Pollworker LCD:

`Voter Card Stuck`

Event Log:
[no entry]

Description:
A Voter Activation Card is stuck in the card reader, and cannot be ejected.

Popup Window:

This Voter Card Is Bad.

Please Ask For Assistance

Pollworker LCD:

`Bad Voter Card`

Event Log:
Can be one of:
"Auto-Act Write Ver Fail"
"Auto-Act Write Fail"
"Auto-Act Read Fail"

Description:
There was an error when reading or writing the Voter Card. The card is either not properly inserted, or has gone bad.

Popup Window:

This Results Cartridge Is

For Machine XXX

Please Remove The Cartridge

Pollworker LCD:

`[no message]`

Event Log:

[no entry]

Description:

This Results Cartridge is for *Edge* S/N XXX, not the present machine.

Popup Window:

This Smart Card Has Already
Been Used On This Machine

Pollworker LCD:

`[no message]`

Event Log:

Early Vote Reuse Attempt

Description:

During either Early Voting locking or unlocking, an EV Smart Card was used, that had already been used on this machine.

Popup Window:

<div align="center">

There Is No More Room On
This Smart Card For Another
Machine Serial Number

</div>

Pollworker LCD:

```
[no message]
```

Event Log:

Early Voting Card Full

Description:

During either Early Voting locking or unlocking, the EV smart card that was tried had no space left to store additional machine serial numbers.

Popup Window:

<div align="center">

The Cartridge May Not Be
Removed During Audio Voting,

Please Power Down.

</div>

Pollworker LCD:

```
Aux Cart Removed
Please Power Down
```

Event Log:

[no entry]

Description:

During Audio Voting, when using a separate cartridge for audio file, it must remain inserted at all times.

13.3 Audit Trail Transfer

Popup Window:

<div align="center">

Audit Trail Transfer Error:
Bad Data In Cartridge.

Please Remove The Cartridge
From The AUX Port.

</div>

Pollworker LCD:

```
AT Transfer Error
Remove Cartridge
```

Event Log:
"Audit Trail Xfer Error".

Description:
The Audit Trail transfer has failed. Retry the transfer using a different cartridge.

Popup Window:

<div align="center">

Incorrect Cartridge In The AUX Port

Please Remove The Cartridge
From The AUX Port.

</div>

Pollworker LCD:

```
[No error message]
```

Event Log:
No Entry.

Description:
An incorrect cartridge was inserted at the "Please Insert an Audit Trail Transfer Cartridge..." prompt. Insert an Audit Trail Transfer Cartridge to continue.

13.4 Vote Simulation

Popup Window:

Invalid Data On

The Simulation Cartridge.

Please Remove The Cartridge.

Pollworker LCD:
```
Vote Sim Error
Remove Sim Cartridge
```

Event Log:
"Vote Simulation Error".

Description:
The vote simulation script contained bad or corrupted data. Check the simulation script for errors and load it onto a different cartridge to continue.

Popup Window:

Error During The Simulation,

Please Remove

The Simulation Cartridge.

Pollworker LCD:
```
Vote Sim Error
Remove Sim Cartridge
```

Event Log:
"Vote Simulation Error".

Description:
The vote simulation task encountered an error, probably due to a simulation script error. Check the script.

Popup Window:

Error During The Simulation,

Press OK To Continue.

Pollworker LCD:

```
      Vote  Sim  Error
   Remove  Sim  Cartridge
```

Event Log:

"Vote Simulation Error".

Description:

There was an error during the vote simulation, and the Simulation Cartridge is already removed. Check the simulation script.

Popup Window:

The Cartridge May Not Be
Removed During Simulation

Please Power Down

Pollworker LCD:

```
   Aux  Cart  Removed
   Please  Power  Down
```

Event Log:

No entry.

Description:

The Vote Simulation Cartridge must not be removed during the simulation. Cycle power and restart the simulation.

13.5 Report Printing

Popup Window:

<div align="center">

Printer Not Responding
Service Required

</div>

Pollworker LCD:

```
Printer Error
Service Required
```

Event Log:
No Entry.

Description:
The *Edge* printer is off line when starting a non-required report. This popup allows the user to both fix the problem (printer off, out of paper, unplugged, etc.) and retry the report, or to cancel the report.

Popup Window:

<div align="center">

Printer Not Responding
Service Required

Press Retry or Power Down

</div>

Pollworker LCD:

```
Printer Error
Service Required
```

Event Log:
No Entry.

Description:
The *Edge* printer is off line when starting a required report (the Zero Proof at opening polls, or the Results Report at closing polls). The user is required to fix the problem, and either press retry or cycle power.

13.6 OPERATING SYSTEM

13.6.1   Low Battery Indications

Popup Window:

System Event
Change The Real Time Clock Battery

Pollworker LCD:

```
           System Event
      Change Clock Battery
```

Event Log:
"RTC Battery Low"

Description:
The Real Time Clock battery is low and needs replacement.

Popup Window:

System Event

The 12V Battery Is Too Low

The System Is Shutting Down
In 10 Minutes

Pollworker LCD:

```
12V Battery Too Low
```

Event Log:
"Backup Battery Too Low"

Description:
The main backup battery is too low for system operation. The *Edge* will shut down within 10 minutes. If continued operation is desired, a source of AC power must be secured.

Popup Window:

<div align="center">System Event</div>

<div align="center">The 12V Battery Is Too Low
System Is Halted</div>

Pollworker LCD:

```
12V Battery Too Low
 System Is Halted
```

Event Log:
"System Power Down"

Description:
    The main backup battery is too low for system operation. The *Edge* is shutting down to avoid damaging the batteries.

13.6.2   Fatal Errors

Note that all errors described in this section are indicators of a serious system failure. Discontinue further use of the unit, and contact SPVE if these are encountered.

Popup Window:
> N/A

Pollworker LCD:
```
Graphics Task
    Is Hung
```

Event Log:
> No Entry.

Description:
> The Graphics Task cannot be initialized. Note that no popup window is used for this message, since the Graphics Task would not be able to process it.

Popup Window:
> N/A

Pollworker LCD:
```
Machine Task
    Is Hung
```

Event Log:
> No Entry.

Description:
> The Machine Task cannot be initialized. Note that no popup window is used for this message, since it is likely that the entire system has problems.

Popup Window:

N/A

Pollworker LCD:

```
    Semaphore
 Creation Error
```

Event Log:

No Entry.

Description:

The system cannot be initialized. Note that no popup window is used for this message, since the graphics task has not been started. The system powers down after 5 seconds.

Popup Window:

N/A

Pollworker LCD:

```
   Could Not Init
     Printer
```

Event Log:

No Entry.

Description:

The system cannot be initialized. Note that no popup window is used for this message, since the graphics task has not been started. The system powers down after 5 seconds.

Popup Window:

N/A

Pollworker LCD:

```
   Could Not Create
     System Task
```

Event Log:

No Entry.

Description:

The system cannot be initialized. Note that no popup window is used for this message, since the graphics task has not been started. The system powers down after 5 seconds.

Popup Window:
> N/A

Pollworker LCD:
> Could Not Start
> System Task

Event Log:
> No Entry.

Description:
> The system cannot be initialized. Note that no popup window is used for this message, since the graphics task has not been started. The system powers down after 5 seconds.

Popup Window:
> N/A

Pollworker LCD:
> Couldn't Display
> Startup Page

Event Log:
> No Entry

Description:
> The *Edge*'s power up logo screen cannot be displayed.   Note that no popup window is used for this message, since the graphics task has not been started. The system powers down after 5 seconds.

Popup Window:
> N/A

Pollworker LCD:
> Can't Init The
> I2C Interface

Event Log:
> No Entry.

Description:
> The smart card interface cannot be initialized. Note that no popup window is used for this message, since the graphics task has not been started. The system powers down after 5 seconds.

Popup Window:

N/A

Pollworker LCD:

```
        Audit Trail
     Initialization Error
```

Event Log:

No Entry.

Description:

The system cannot be initialized. Note that no popup window is used for this message, since the graphics task has not been started. The system powers down after 5 seconds.

Popup Window:

N/A

Pollworker LCD:

```
       Can't Init The
     Graphics Subsystem
```

Event Log:

No Entry.

Description:

The graphics task cannot be initialized. Note that no popup window is used for this message, since the graphics task has not been started. The system powers down after 5 seconds.

Popup Window:

. N/A

Pollworker LCD:

```
     Can't Load Font File
           [name]
```

Event Log:

No Entry.

Description:

The specified font file cannot be loaded. Note that no popup window is used for this message, since the graphics task has not been started. The system powers down after 5 seconds.

Popup Window:

N/A

Pollworker LCD:

```
Failed to Load Image
        [name]
```

Event Log:

No Entry.

Description:

The specified bitmap file cannot be loaded. Note that no popup window is used for this message, since the graphics task has not been started. The system powers down after 5 seconds.

Popup Window:

N/A

Pollworker LCD:

```
Fatal Error
```

Event Log:

No Entry.

Description:

The system has encountered a fatal error. Note that no popup window is used for this message, and the system powers down after 5 seconds.

Popup Window:

```
System Event
3.3V Low
```

Pollworker LCD:

```
System Event
3.3V Low
```

Event Log:

No Entry.

Description:

A power supply voltage is at an incorrect level.

Popup Window:

<div align="center">System Event
5V Low</div>

Pollworker LCD:

<div align="center">System Event
5V Low</div>

Event Log:
No Entry.

Description:
A power supply voltage is at an incorrect level.

Popup Window:

<div align="center">Check A/D Converter</div>

Pollworker LCD:

<div align="center">Check A/D Converter</div>

Event Log:
No Entry.

Description:
The A/D Converter CPU peripheral device is not responding.

Popup Window:

<div align="center">Check Activate Switch</div>

Pollworker LCD:

<div align="center">Check Activate
Switch</div>

Event Log:
No Entry.

Description:
The Activate switch is stuck in an indeterminate position.

Popup Window:

<div align="center">Check Power Switch</div>

Pollworker LCD:

Check Power Switch

Event Log:
No Entry.

Description:
The Power switch is stuck in an indeterminate position.

Popup Window:

<div align="center">Check Polls Switch</div>

Pollworker LCD:

Check Polls Switch

Event Log:
No Entry.

Description:
The Polls switch is stuck in an indeterminate position.

Popup Window:

<div align="center">System Error – SRAM
Call For Service</div>

<div align="center">Please Power Down</div>

Pollworker LCD:

System Error – SRAM
Call For Service

Event Log:
[no entry]

Description:
The SRAM.BIN file is corrupt.

Popup Window:

<div align="center">System Reset Failed</div>

Pollworker LCD:

`[no message]`

Event Log:

Can't Clear All AT Files

Description:

The process of resetting the *Edge* after an election has failed. Not all files can be erased.

Popup Window:

<div align="center">N/A</div>

Pollworker LCD:

`Error : Insufficient`
`System Resources`

Event Log:

No Entry

Description:

The *Edge*'s power up code has determined that the CPU board it is running on does not have sufficient system resources for operation. Currently, this message is only reporting a lack of system RAM (8 Mb is the required minimum). Contact the factory for assistance.

13.7 Load Ballot Task

Popup Window:

Could not clear the public counter

Please remove the Results Cartridge

Pollworker LCD:

```
Could not clear
the Public Counter
```

Event Log:

"Ballot Load Failed"

Description:

There was an internal error while zeroing the Public Counter values. This machine may be unusable.

Popup Window:

Ballot Copy To Audit Trail Failed

Please Remove The Results Cartridge

Pollworker LCD:

```
Copy To AT Failed
Remove Cartridge
```

Event Log:

"Ballot Load Failed"

Description:

It was not possible to copy the ballot to the Audit Trail. This machine may be unusable.

Popup Window:

Invalid Results Cartridge Date.

Please Remove The Cartridge.

Pollworker LCD:

```
Invalid RC Date
Remove Cartridge  .
```

Event Log:

"Ballot Load Failed"

Description:

The current system date is outside the ballot definition's "valid date" range. Check that the *Edge*'s date/time are correct.

Popup Window:

Not Enough Room On
The Audit Trail.

Please Remove the Results Cartridge.

Pollworker LCD:

```
Not Enough Room
Remove Cartridge
```

Event Log:

"Ballot Load Failed"

Description:

The Audit Trail does not have enough room for the ballot definition and reasonable vote storage space. Check that there is no extraneous information on the Results Cartridge.

Popup Window:

<div align="center">

This Cartridge Has A Bad
Header File.

Please Remove The Cartridge.

</div>

Pollworker LCD:

```
Bad Header File
Remove Cartridge
```

Event Log:

"Ballot Load Failed"

Description:

The Results Cartridge has a bad "cartridge header" file. Reload the ballot definition onto the Results Cartridge.

Popup Window:

<div align="center">

This cartridge is for
Edge xxxx.

Please Remove The Cartridge.

</div>

Pollworker LCD:

```
This Cartridge Is
For Edge xxxx
```

Event Log:

"Ballot Load Failed"

Description:

The Results Cartridge is designated for another *Edge*.

Popup Window:

Inconsistent Totals File
In The Results Cartridge

Please Remove The Cartridge.

Pollworker LCD:

```
Bad Totals File
Remove Cartridge
```

Event Log:
    "Ballot Load Failed"

Description:
    The totals files have sizes that are inconsistent with the ballot definition data. This probably means that the cartridge has already been voted. A cartridge that has been cleared and programmed by WinEDS must be used.

Popup Window:

Invalid Results Cartridge Installed.

Please Remove The Cartridge.

Pollworker LCD:

```
Invalid RC
Remove Cartridge
```

Event Log:
    "Ballot Load Failed"

Description:
    The cartridge that was inserted into the Results Port is not a Results Cartridge.

Popup Window:

File Integrity Error.

Please Remove The Cartridge.

Pollworker LCD:

```
File Integrity Error
   Remove Cartridge
```

Event Log:
    "Ballot Load Failed"

Description:
    The ballot definition on the Results Cartridge is corrupted. Reload the ballot files onto the
Results Cartridge.

Popup Window:

Ballot File CRC Error.

Please Remove The Cartridge.

Pollworker LCD:

```
File CRC Error
Remove Cartridge
```

Event Log:
    "Ballot CRC Mismatch"

Description:
    The ballot definition on the Results Cartridge is corrupted. Reload the ballot files onto the
Results Cartridge.

Popup Window:

Error Allocating Memory

Please Remove The Cartridge.

Pollworker LCD:

```
Malloc Error
Remove Cartridge
```

Event Log:

"Ballot Load Failed"

Description:

Unable to allocate memory during load ballot. This machine may be unusable.

Popup Window:

The ELECINFO.BIN File On
The Results Cartridge Is Bad.

Please Remove The Cartridge.

Pollworker LCD:

```
Bad RC ELECINFO.BIN
Remove Cartridge
```

Event Log:

"Ballot Load Failed"

Description:

The Results Cartridge has a bad ELECINFO.BIN file. Reload the ballot definition files onto the Results Cartridge.

Popup Window:

Because Of A
Previous System Error,
Power Must be Cycled Before
A Ballot May Be Loaded

Pollworker LCD:

[no error message]

Event Log:

No entry.

Description:

There was a previous election program system error on this machine. Because of the chance that the system can be in an unstable state after a system error, it must be powered down/up before starting a new election cycle.

Popup Window:

This Ballot Requires The
Auto Activation Feature.

The Auto Activation Reader Is
Not Present On This Machine.

Please Remove The Cartridge.

Pollworker LCD:

No Auto Activate
Remove Cartridge

Event Log:

"Ballot Load Failed"

Description:

This ballot definition requires the Auto Activate feature; Auto Activation is not installed on this *Edge*.

Popup Window:

<div align="center">

The Maximum Write-in Size
On This Cartridge Is Outside
Of The Allowable Limits

Please Remove The Cartridge.

</div>

Pollworker LCD:

```
            Illegal Writein Size
              Remove Cartridge
```

Event Log:
    "Ballot Load Failed"

Description:
    The ballot definition has specified a write in name length that is outside of the allowable range. Reload the ballot definition files onto the Results Cartridge.

Popup Window:

<div align="center">

The Writein Type
Of This Cartridge Is Unknown.

Please Remove The Cartridge.

</div>

Pollworker LCD:

```
        Unknown Writein Type
           Remove Cartridge
```

Event Log:
    "Ballot Load Failed"

Description:
    The ballot definition has specified an unknown write in name parameter. Reload the ballot definition files onto the Results Cartridge

Popup Window:

<div align="center">

The EV_INFO.BIN File On
The Results Cartridge Is Bad.

Please Remove The Cartridge.

</div>

Pollworker LCD:

```
Bad RC EV_INFO.BIN
Remove Cartridge
```

Event Log:
    "Ballot Load Failed"

Description:
    The EV_INFO.BIN file is not zero length. Reload the ballot definition files onto the Results Cartridge

---

Popup Window:

<div align="center">

Report Files Are Present
On The Results Cartridge.

Please Remove The Cartridge

</div>

Pollworker LCD:

```
Report Files Present
```

Event Log:
    "Ballot Load Failed"

Description:
    The ballot definition on the Results Cartridge is corrupted. Reload the ballot files onto the Results Cartridge.

Popup Window:

Bad DIR.BIN File

Please Remove The Cartridge.

Pollworker LCD:

```
Bad DIR.BIN File
Remove Cartridge
```

Event Log:

"Ballot Load Failed"

Description:

The ballot definition on the Results Cartridge is corrupted. Reload the ballot files onto the Results Cartridge.

Popup Window:

Can't Load Ballot After
Unsuccessful System Reset

Please Remove The Results Cartridge.

Pollworker LCD:

```
System Reset Error
Remove Cartridge
```

Event Log:

"Ballot Load Failed"

Description:

This machine had a failure when performing System Reset. This means the system may be unstable. Redo the System Reset and then load the ballot again.

Popup Window:

<div align="center">

Config.Idx File Is Not Present

Please Remove The Results Cartridge.

</div>

Pollworker LCD:
```
          Missing CONFIG.IDX
          Remove Cartridge
```

Event Log:
"Ballot Load Failed"

Description:
The ballot definition on the Results Cartridge is corrupted. Reload the ballot files onto the Results Cartridge.

Popup Window:

<div align="center">

Could not clear AT report files

Please remove the Results Cartridge.

</div>

Pollworker LCD:
```
          Could not clear
          AT report files
```

Event Log:
"Ballot Load Failed"

Description:
Report files from the previous election are still present on the Audit Trail ad cannot be deleted. This means the system may be unstable. Redo System Reset and then load the ballot again.

14 GLOSSARY

Audit Trail	A block of memory, internal to the *Edge*, containing the ballot, vote totals and event logs. An exact copy of the data stored in the Audit Trail is kept in the Results Cartridge.
Auxiliary Port	A cartridge port to the right of the results port. It is used for various activities including consolidation and test vote simulation.
Ballot	1. The complete set of display pages containing the contests and candidates, which will be used in an election for an *Edge*. 2. The information contained in a ballot. 3. A set of data files, which the *Edge* can read and interpret as the information stored in a ballot.
Ballot Definition	The data structures and text that describe the ballot.
Ballot Image	The detailed record of the selections made by a particular voter.
Ballot Subset	That portion of a ballot that a particular voter is eligible to vote on. The subset (e.g. a precinct ID) is selected prior to the voter making selections.
Candidate	A person, question response, or write-in selector that a voter may select.
Closed Primary	This is a type of election wherein the voter must declare his/her party at the time of registration. The voter's party registration is then used a means to determine that voter's eligibility (e.g. which ballot subset to activate). The purpose is to select which candidates from a given party that will represent the party on the general election ballot.
Consolidation	An optional election state that allows results from more than one *Edge* to be consolidated into a single Consolidation Cartridge and report.
Contest	A race for elected office between candidates or parties. Also, a question, proposal, or amendment.
Contest Headers	The space on the displayed ballot page where the contest name is shown. Typically, the number of candidates to vote for is also displayed there.
Election	The process of creating a ballot, downloading it into the *Edge*, verifying it, and running the election applications, including the Official Election, which registers the votes of the voters.
Election Cycle	One complete pass through all the required Election Modes of the *Edge*.
Election Database	A database created for each election that defines the appropriate election parameters and attributes including the number issues, offices, candidates, vote for's, and other election specific information.
Election Mode	The "passes" through the voting process: Pre-LAT, Official Election, Post-LAT.
Election State	The steps within an election mode: Ready to Open Polls, Printing Zero Proof, Polls Open, Simulation, Printing Results, Polls Closed.
General Election	An election in which all voters participate in to elect candidates to hold an office or select preferences to questions.
Maintenance	A series of software and hardware tests and system utilities that allow

Diagnostics	for system maintenance and setting parameters.
Official Election	The *Edge* mode in which voters cast official ballots for their candidate choices. There are several election modes besides the Official Election, which are used for testing of the *Edge* and its ballot.
Open Primary	A type of election in which all the candidates of ALL parties compete against each other in the primary election. The top winners from each contest will be placed on the general election ballot.
Pre Election LAT	The election mode which is run prior to the Official Election, in which election officials test the logic and accuracy of the *Edge*.
Preference Voting	A type of election where voters pick their 1st choice, 2nd choice, etc. Also known as Single-Transferable Vote, Proportional Representation, and others. (Differences between these lie on the tally side, not at the *Edge*.)
Polls Switch	The switch that opens and closes the polls.
Post Election LAT	The optional election mode, which is run after the Official Election, in which election officials may test the logic and accuracy of the *Edge*.
Protective Counter	A counter that is never reset, and is incremented every time a vote is cast on the *Edge*.
Public Counter	A counter that is reset every election and maintained separately for each election mode; Pre LAT, Official Election, and Post LAT. It is incremented once for each vote cast on the *Edge*.
Results Cartridge	A removable Memory Cartridge, which contains a copy of the ballot and election results in the Audit Trail. Identical data is stored on the Audit Trail and Results Cartridge.
Results Report	A report generated by the *Edge* in each of the election modes, which displays much of the ballot information, as well as the vote totals for each candidate.
Vote For's	The maximum number of candidates that the voter can vote for in a given contest. This number may vary from contest to contest.
Write-In Candidate	This is an optional candidate type used to provide a means to the voter to type in the name of a candidate whose name does not appear on the displayed ballot.
Zero Proof Report	A report generated by the *Edge* in each of the election modes, which displays much of the ballot information, as well as confirming that the vote total for each candidate is zero.