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AccuVote-OS Precinct Count User’s Guide

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1. Introduction

1.1. Overview

The AccuVote-OS Precinct Count User’s Guide is designed for Election Administrators and other election officials using the AccuVote.

1.1.1. Other documents

Product documents also offered by Diebold Election Systems, Inc. include:

- AccuFeed User’s Guide
- AccuVote-OS Hardware Guide
- AccuVote-TS R6 Hardware Guide
- Ballot Station User’s Guide
- Election Media Processor Hardware Guide
- Election Media Processor User’s Guide
- GEMS System Administrator’s Guide
- GEMS User’s Guide
- Voter Card Encoder User’s Guide
- VCProgrammer User’s Guide

The AccuVote-OS is a mark sense-based voting device, complementing the AccuVote-TS DRE as well as a host of other related products offered by Diebold Election Systems. The AccuVote-OS offers a powerful and effective precinct count and absentee voting solution, and may be configured on a stand-alone basis in a polling environment. Each precinct count AccuVote-OS unit is loaded with a memory card, and programmed with ballot information for the corresponding polling location. The results of ballots scanned by the AccuVote-OS are tallied to the memory card, and these results are uploaded to the host computer at the close of election.

This document addresses the functionality of the AccuVote-OS used in a precinct count environment.

1.2. Election modes

The AccuVote-OS Precinct Count firmware operates according to one of four modes programmed to the unit’s memory card: Pre-Download, Pre-Election, Election, and Post-Election. Pre-Download indicates that the memory card is blank, and has not yet been programmed. Pre-Election Mode is used to perform comprehensive ballot testing and Logic and Accuracy Test functions prior to election day. Ballots are counted during the election in Election Mode, and once the election has concluded, election results reports are printed, and the AccuVote-OS and memory card are set to Post-Election Mode. Election results may now be uploaded to the host computer, and further election results reports and audit reports printed.

Supervisor Functions and Setup mode may also be accessed from any of the election modes, where the operator may perform a variety of administrative functions. Supervisor Functions includes critical administrative functions, which may only be accessed by entering a Supervisor password defined in the GEMS AccuVote-OS Options window. Hardware testing functions are
contained with Diagnostics mode, which is accessed by powering the AccuVote-OS on while pressing the YES and NO buttons.

The following list indicates the election mode in which each function is performed:

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Table 1-1: AccuVote-OS functions with election modes

1.3. Functionality

Instructions and messages are displayed in the LCD screen located on the front face of the AccuVote-OS unit. Operator control is exercised either by pressing the YES or NO buttons on the front of the unit, or by feeding a control card, such as an AccuVote Ender card through the card reader.

Continuously pressing the NO button will cycle through all functions in both Pre-Election and Post-Election Modes, returning to the initial prompt displayed in the corresponding mode. In Election Mode, the Election Zero report must be printed prior to ballots being cast during election day, and once the unit is electronically locked at the end of election day, the election results report is automatically printed, placing the unit into Post-Election Mode.

1.4. Ballots

The AccuVote-OS accepts ballots configured by the Diebold Election Systems GEMS software only. Ballots are limited to the following dimensions: 8 ½” by either 11”, 14”, 17”, or 18”. Ballots may be configured in portrait or landscape mode. Races and candidates are arranged on ballots in rows and columns, each candidate on the ballot corresponding to a voting oval. Each ballot is bordered by card Id, timing and diagnostic marks, which serve both to identify and calibrate the ballot to the AccuVote-OS card reader.

Ballots are fed into the AccuVote-OS from the unit’s input side, identified by the inward pointing arrow in the ballot feed cavity, are scanned by the card reader contained within the AccuVote-OS, then ejected from the output side of the unit once the ballot has been successfully scanned.
Ballots that are ejected back from the input side of the card reader are not counted. An error message is displayed on the unit LCD if a ballot is rejected in this manner.

Ballots must be marked by filling in the voting oval corresponding to each candidate with designated marking instruments. Generally speaking, each marked voting oval encountered on a ballot corresponds to a single candidate count tallied to the memory card. Specialized tally rules exist for straight party and write-in voting, as well as in open primary elections, giving rise to potential exceptions to this rule.

1.5. Testing ballots

A suite of three tests is available in Pre-Election Mode for testing ballots – Unvoted Ballot Test, Fully Voted Ballot Test, and Count Test. The Unvoted Ballot Test is designed to accept unmarked ballots only, and verifies that no ballot contains any unintended marked voting ovals. The Fully Voted Ballot Test, on the other hand, is designed to accept fully marked ballots only, and verifies that no ballot contains any unintended unmarked voting ovals. Test ballots are marked and processed in Count Test in order to demonstrate that all ballots are accepted, counted, and tallied correctly by the unit, as they will be on election day.

AccuVote-OS memory cards may be programmed to return ballots if certain conditions are met, such as overvote, blank voted race, or blank voted ballot. Ballots identified with marginal marks, or which cannot be properly calibrated, are automatically returned by the AccuVote-OS unit.

1.6. Ballot box

The AccuVote-OS is conventionally installed in a ballot box, into which ballots drop once they have been scanned. The ballot box contains two compartments; a main and secondary compartment, the latter accepting ballots only if the units have been configured to separate either blank or write-in ballots in the ballot box. Ballots may also be manually placed in a side compartment of the ballot box. A rear door as well as the entire top of the ballot box may be opened in order to allow ballots to be removed at the end of ballot counting.

1.7. Election day

Before voting commences on election day, an Election Zero report is printed on every AccuVote-OS unit, indicating that all candidate totals on the unit’s memory card are zero. Once the report is printed, poll workers sign the report, all ballot box compartments are locked, and the AccuVote-OS is sealed into the ballot box. At election close, an AccuVote Ender card is fed into the AccuVote-OS, electronically locking the unit and generating a report of the vote center’s election results. Absentee ballots may optionally be counted during or after polling ballots at each precinct. Additional results reports can be printed on the AccuVote-OS after the election has been closed.

Since feeding the AccuVote Ender card effects the tally of election results, AccuVote-OS units used in an early voting environment should be powered off at the end of each early voting day. Tallying should be performed at the end of election day only.

1.8. Transmission

The AccuVote-OS memory card is programmed in Pre-Download mode only, while the uploading of election results occurs either in Pre-Election Mode or Post-Election Mode. Each memory card may be uploaded to the GEMS host computer once only, unless results have been reset in GEMS. AccuVote-OS memory card programming and results uploading are managed in GEMS in the AccuVote-OS Server 1 console.

Transmission may occur either directly or by modem. Direct transmission is effected by cabling the AccuVote-OS’ serial port to a COM port on the GEMS host computer. In order to perform
modern transmission, the AccuVote-OS uses an internal pocket modem. The telephone number can be included in the vote center data that is downloaded to a memory card from GEMS, or it can be programmed to the AccuVote-OS memory card using the AccuVote unit. At the conclusion of election day, results are uploaded from the polling location to a modem or modem group configured to the GEMS host computer.

1.9. Reporting

Election results report may be printed in a variety of formats. Short reports include candidate and write-in totals only, for each race in the vote center. Long reports, on the other hand, include race and ballot statistics, race statistics including the number of overvotes, undervotes, and blank votes encountered for each race, as well as the number of overvoted, undervoted, blank voted, and write-in ballots encountered in the vote center.

One or more AccuVote-OS units may be used to count ballots at any vote center, and each unit tallies results to one or more report precincts. AccuVote-OS units with memory cards configured to tally to multiple report precincts may print election results reports either as Summary, including totals summarized across all precincts in the vote center only, Full Totals, including both Summary and individual reports for each report precinct, All Totals, including totals for each report precinct, as well as selective totals reports, which include results for selected report precincts only.

1.10. Security

Extensive security is employed, be it in the encryption of data transmission at the time of Memory Card programming or at the time of election results transmission to the host computer. Critical AccuVote-OS functions are protected by password entry, and audit logs may be printed at any point in time, detailing all activities performed on a Memory Card since the point of programming.
2. Document Overview

This chapter provides a comprehensive overview of the AccuVote-OS Precinct Count User’s Guide, as well as a list of all points to remember when using the AccuVote-OS in the election management process.

2.1.1. Chapter 1—Introduction
This chapter provides an overview of the AccuVote-OS unit, and how it is used in the course of an election.

2.1.2. Chapter 2—Document Overview
This chapter provides an overview of the AccuVote-OS Precinct Count User’s Guide.

2.1.3. Chapter 3—Pre-Download Mode
This chapter discusses the functions available on an AccuVote-OS in Pre-Download Mode.

2.1.4. Chapter 4—Pre-Election Mode
This chapter discusses the functions available on an AccuVote-OS in Pre-Election Mode.

2.1.5. Chapter 5—Election Mode
This chapter discusses the functions available on an AccuVote-OS in Election Mode.

2.1.6. Chapter 6—Post-Election Mode
This chapter discusses the functions available on an AccuVote-OS in Post-Election Mode.

2.1.7. Chapter 7—Ballot Testing
After the ballots have been designed and printed and the Memory Cards have been programmed, the ballot cards may be tested. This chapter contains details on the AccuVote-OS prompts appearing in the Blank Ballot Test, the Fully Marked Ballot Test, and the Ballot Count Test.

2.1.8. Chapter 8—Analyzing Unaccepted Ballots
This chapter includes all error messages that may be encountered on the AccuVote-OS when testing ballot cards. Accompanying each message are possible causes for their appearance and recommended solutions.

2.1.9. Chapter 9—Transmitting Election Results to the Host Computer
This chapter describes transmission of election results to the host computer in detail, both directly and by modem. Aborting, halting and restarting election results transmission are also explained.

2.1.10. Chapter 10—Zero Totals Report
This chapter describes the Zero Totals report in detail.
2.1.11. Chapter 11—Election Results Reports
This chapter describes the Test Totals and Election Totals reports in detail.

2.1.12. Chapter 12—Audit Reports
A detailed explanation of the Audit report is provided, including the information given in each election mode and a description of how to print the report.

2.1.13. Chapter 13—Supervisor Functions
Each Supervisor Function is described in detail in this chapter. Prompts are shown for each election mode, as well as the procedures to:
- Enter the supervisor password
- Set a Memory Card to Pre-Election Mode
- Clear a Memory Card.

2.1.14. Chapter 14—Resume Counting
A step-by-step procedure to resume counting ballots using the AccuVote-OS is detailed:
- Reset the Memory Card to Resume Counting Mode
- Count ballots in Resume Counting Mode
- Clear vote center results in GEMS
- Transmit the new election results to host computer

2.1.15. Chapter 15—Setup Mode
AccuVote-OS Setup Mode is described in detail in this chapter.

2.1.16. Chapter 16—Diagnostics Mode
AccuVote-OS Diagnostics Mode is described in detail in this chapter.

2.1.17. Chapter 17—AccuVote-OS Messages
A detailed list of AccuVote-OS problem messages is printed in this chapter.

2.1.18. Chapter 18—Election Day
This chapter provides Election Day AccuVote-OS and Memory Card problem resolution as well trouble-shooting procedures.

2.2. Appendices
Appendix A—AccuVote-OS Status
To be used as a reference for determining the status of a Memory Card in an unknown mode.
Appendix B—AccuVote-OS Election Day Preparation Checklist
Checklist of all AccuVote-OS preparation activities leading up to Election Day.
3. Pre-Download

An AccuVote-OS unit installed with a non-programmed memory card is in Pre-Download Mode. The only functions available in Pre-Download Mode are memory card programming or Supervisor Functions. Memory card programming may be performed either directly, by cabling the AccuVote-OS’ serial port to a COM port on the GEMS host computer, or by modem, if the AccuVote-OS and GEMS host computer are in remote locations.

3.1. GEMS

Prior to programming memory cards, ensure that the Count Method has been set to AccuVote-OS for all vote centers to be counted on the AccuVote-OS. Optionally enter the telephone number for election central in the Vote Center Editor for all vote centers to be uploaded by modem. Ensure that the following information has been correctly defined in the AccuVote-OS Options window in GEMS:

- Reports
- Password
- Display Message Time
- Firmware version
- Whether Write-In ballots are to be separated in the ballot box
- Whether ballots with All Races Blank Voted are to be separated in the ballot box
- Ballot return conditions
- Print Message on override conditions
- Straight party and write-in tally settings
- Auto Absentee

3.2. Pre-Download Mode prompts

Insert a blank memory card into the AccuVote-OS. If the memory card was previously formatted with a different version of firmware, the LCD displays

OK TO FORMAT THIS MEM CARD?

Press Yes, then

FORMATTING MEMORY CARD

appears.
3.3. Programming memory cards

Memory card programming downloads all ballot information as well as related counters for the vote center onto the memory card. Each memory card programmed represents a vote center/machine Id combination, taken from the GEMS AccuVote-OS Server 1 console, and are programmed in the order that they occur on the console. Programming must be initiated on both the AccuVote-OS Server 1 console in GEMS as well as on the AccuVote-OS. Multiple AccuVote-OS units may be configured to receive the transmissions from a single GEMS database. Once a memory card has been programmed, a label is printed.

It is essential that the label is attached to the memory card once the memory card has been downloaded. Use Scotch tape in order to fasten the label to the memory card, ensuring that the label is attached in a consistent orientation, on the same side, of all memory cards. Ensure that no tape obstructs the shutter area of the memory card.

A memory card must be clear before it is programmed, and a memory card must be programmed before any other activity is performed in Pre-Election Mode. Memory cards are programmed either directly or by modem.

Only the latest programmed version of memory card should be used in an election. For this reason, when programming memory cards (for example, absentee) for the printer for ballot verification purposes, ensure that the memory cards are programmed and tested before election day.

If the phone number for election central was not downloaded to the memory card with the vote center data, define telephone number for all Memory Cards for modem transmission on the AccuVote-OS unit immediately after programming the Memory Cards. Defining telephone numbers and modem communications settings on multiple Memory Cards is detailed in section 15.2 Changing the Telephone number.
3.3.1. Programming memory cards directly

A memory card is programmed directly using the following procedure. Ensure that vote centers have been queued and port(s) in the AccuVote-OS Server 1 console have been readied for memory card programming, and all memory cards requiring programming are blank.

The host computer should be connected to the COMM. PORT jack at the back of the AccuVote-OS with an RS-232C cable.

![View of Ports at Rear of AccuVote-OS Unit](image)

**Figure 3-1. View of Ports at Rear of AccuVote-OS Unit**

<table>
<thead>
<tr>
<th>INSERT NEXT MEMORY CARD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. When the above message is displayed on the AccuVote-OS, insert the next Memory Card to be programmed.</td>
</tr>
<tr>
<td>2. After the following two messages are displayed in sequence, press YES.</td>
</tr>
<tr>
<td>FORMATTING MEMORY CARD</td>
</tr>
<tr>
<td>PROGRAM MEM CARD BY DIRECT MODE?</td>
</tr>
</tbody>
</table>
REQUESTING COMMUNICATION

The message above will be displayed, followed by:

<table>
<thead>
<tr>
<th>INITIALIZING COMMUNICATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>RECEIVING HEADER DATA</td>
</tr>
<tr>
<td>RECEIVING PRECINCT DATA</td>
</tr>
<tr>
<td>RECEIVING PRECINCT CARDS</td>
</tr>
<tr>
<td>RECEIVING CARD HEADER</td>
</tr>
<tr>
<td>RECEIVING CONTEST DATA</td>
</tr>
<tr>
<td>RECEIVING CANDIDATE DATA</td>
</tr>
<tr>
<td>RECEIVING BALLOT LOCATIONS</td>
</tr>
</tbody>
</table>
and finally

PRINT ZERO TOTALS?

3. Press YES in order to print a Zero Totals report. Many of the above messages may be displayed too briefly to be noticeable. Do not press the NO button while transmission is in progress, as this will interrupt memory card programming.

4. Remove the Memory Card and attach its label when this final message is displayed.

Repeat the above instructions until all Memory Cards have been programmed.

### 3.3.2. Programming memory cards by modem

A memory card is programmed by modem using the following procedure. Ensure that vote centers have been queued, port(s) in the AccuVote-OS Server 1 console have been readied for memory card programming, and all memory cards requiring programming are blank.

The AccuVote-OS being used to perform the remote programming should be connected to AC power and the Line jack at the back of the unit connected to an RJ-11 wall phone jack with an RJ-11 cable.
Figure 3-2. View of Rear Portion of AccuVote-OS Unit

INSERT NEXT MEMORY CARD

is displayed on the AccuVote-OS LCD. Insert the blank memory card.

FORMATTING MEMORY CARD

And

PROGRAM MEM CARD BY DIRECT MODE?

are displayed. Press NO.

PROGRAM MEM CARD BY TELEPHONE?

is displayed. Press YES.
is shown, where 6046779657 is a sample telephone number. Assuming this number is correct, press YES. For more information on setting telephone numbers on the AccuVote-OS, refer to section 15.3 Telephone Numbers.

is shown—press YES

DIALING CENTRAL COMPUTER

is displayed, followed by

REQUESTING COMMUNICATION

INITIALIZING COMMUNICATIONS

RECEIVING HEADER DATA

RECEIVING PRECINCT DATA

RECEIVING PRECINCT CARDS
RECEIVING CARD HEADER

RECEIVING CONTEST DATA

RECEIVING CANDIDATE DATA

RECEIVING BALLOT LOCATIONS

RECEIVING TEXT

GENERATING COUNTERS

ENDING COMMUNICATIONS

HANGING UP PHONE

GENERATING REPORT
and finally

**PRINT ZERO TOTALS?**

Many of the above messages may be displayed too briefly to be noticeable. Do not press the NO button in the course of transmission, as it will cause programming to be interrupted.

Remove the memory card and attach its label when this final message is displayed.

**REMOVE MEMORY CARD**

Repeat the above instructions to program additional Memory Cards.

For more information on the Zero Total report, refer to *Chapter 10: Zero Total Reports*.

### 3.3.3. Interrupting Memory Card Programming on the AccuVote-OS

Memory Card programming may also be interrupted by pressing the AccuVote-OS NO button.

Pressing NO as transmission is in progress displays

**ENDING COMMUNICATIONS**

Press the NO button.

**HANGING UP PHONE**

is displayed, followed by

**ABORTED BY USER PRESS ANY BUTTON**

Press either YES or NO.

**RECEIVE FAILED TRY AGAIN?**

is now displayed. Press YES in order to attempt the modem download again.
Press YES in order to confirm the telephone number, otherwise, press NO in order to change the phone number, and continue as before.

If NO was pressed in response to the preceding message,

is displayed. Remove the memory card and continue.

### 3.3.4. Memory Card Label

The memory card label is automatically printed after the memory card is programmed, and appears at the top of every report. A label may also be printed after making a duplicate copy of the memory card. Ensure that the label is attached to the memory card after being programmed.

The exact format of the memory card label depends on the report file specified in the GEMS AccuVote-OS Options window. This following information commonly appears on the memory card label.

- The election title, taken from GEMS.
- Election date in mm/dd/yy format.
- Election type.
- Vote center number, consisting of vote center Id, machine Id, and copy number.
- Vote center label.
- Number of times the vote center has been programmed.
- Copy number of the memory card if it is a copy of a master memory card - 0 if it is a master memory card.
- Number of times the memory card has been set to Pre-Election Mode.
- Memory card size, measured in bytes—either 32KB, 64KB or 128KB.
- AccuVote-OS firmware release.
- Internal precinct check number.
- Internal counter check number, which changes as counters change - this number should not change after the election is finished.

See Figure 3-3.
Figure 3-3. Memory Card Label Information
4. Pre-Election Mode

Pre-Election Mode offers the following functions:

- Testing ballots
- Transmitting test results to the host computer
- Printing the Test Results report
- Printing the Audit report
- Preparing for election
- Supervisor Functions

Pre-Election Mode functions can no longer be accessed after a memory card has been set to Election Mode. However, a memory card can be reset to Pre-Election Mode in Supervisor Functions from either Election Mode or Post-Election Mode.

4.1. AccuVote-OS prompts

The initial prompt in Pre-Election Mode is

```
TEST BALLOTS?
```

Press NO consecutively to view each of the Pre-Election Mode prompts.

```
TEST BALLOTS?
SEND TEST RESULTS?
PRINT TEST TOTALS REPORT?
PRINT AUDIT REPORT?
```
## 4.2. Where Pre-Election Mode Functions are Discussed

Most of the functions available in Pre-Election Mode are discussed in other chapters in this guide:

<table>
<thead>
<tr>
<th>Function</th>
<th>Discussed in</th>
</tr>
</thead>
<tbody>
<tr>
<td>Printing the Zero Total report</td>
<td>Chapter 10: Zero Total Reports</td>
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<td>Transmitting Test Election Results</td>
<td>Chapter 9: Transmitting Election Results to the Host Computer</td>
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<tr>
<td>Printing the Election Results</td>
<td>Chapter 11: Election Results Reports</td>
</tr>
<tr>
<td>Printing the Audit Report</td>
<td>Chapter 12: Audit Reports</td>
</tr>
<tr>
<td>Supervisor Functions</td>
<td>Chapter 13: Supervisor Functions</td>
</tr>
</tbody>
</table>

Table 4-1. Pre-Election Mode function discussion chapters

## 4.3. Preparing for the Election

After testing the AccuVote-OS unit and ensuring that it is properly tabulating votes, the memory card may be set to Election Mode. The memory card should be set to Election Mode only after the Logic and Accuracy Test has been completed.

Press YES in response to

The LCD now displays

Press YES.

Remove the Memory Card when
is displayed and proceed with the next memory card to be set to Election Mode. Seal memory cards into the AccuVote-OS units once the Public Accuracy Test has been completed.
5. **Election Mode**

The following functions are available in Election Mode

- Printing the Election Zero report
- Counting ballots
- Printing the Election Results report
- Supervisor Functions

A Memory Card is set to Election Mode from Pre-Election Mode. Supervisor Functions may only be accessed by pressing the YES button while powering the unit on. Unlike Pre-Election Mode and Post-Election Mode, it is not possible to cycle to the beginning of the prompt chain – Election Mode functions must be performed in strict sequence. The AccuVote-OS is automatically set to Post-Election Mode once it is powered off after the Election Results report has been printed.

### 5.1. Printing the Election Zero report

Once the AccuVote-OS has been powered on in Election Mode, the Election Zero report is automatically printed.

Note that the Election Zero report is not printed after the Memory Card has been set to Resume Counting, unless no ballots have been counted in Election Mode. See Figure 5-1.

![Figure 5-1. Printing the Election Zero Report](image)

The AccuVote-OS LCD displays:

```
GENERATING REPORT...
```
PRINTING REPORT

as the report is printed. If the memory card is programmed with a vote center containing more than one precinct, only the summary is printed:

PRINTING SUMMARY

If only one precinct is contained in the vote center,

PRINTING
PRECINCT: 10.00

is displayed, where 10.00 is a sample precinct.

NEED ANOTHER COPY?

is displayed as the report is printed. Press YES in order to print any additional copies of the Election Zero report, otherwise press NO. This report is not to be torn off from the printer tape, and is left attached to the Election Results report printed after the AccuVote-OS is electronically locked when the polls close. Poll workers should verify that candidate totals are zero on the Election Zero report, then sign the report.

5.2. Counting Ballots

Ballot counting automatically begins once the Election Zero report has finished printing. If separation of blank or write-in ballots is being performed, the AccuVote-OS LCD will display:

POLL: 10.00 w
TOT COUNT: 0

Otherwise, the LCD will display

POLL: 10.00 u
TOT COUNT: 0

during ballot counting, where 10.00 is a sample vote center number. TOT COUNT is incremented for each ballot that is read by the AccuVote-OS, excepting ballots that are returned.
Note that the ballot count displayed on the LCD increments for *every ballot card* passed through the AccuVote-OS, and not every ballot. This distinction is important in cases where each ballot consists of several cards.

Ensure that polls are equipped with correct marking instruments. Poll workers should be trained to recognize error message categories: messages that may be resolved by re-feeding ballots and messages that pertain to AccuVote-OS return parameters.

### 5.3. Absentee Ballots

#### 5.3.1. Auto Absentee

If an election was defined using the Auto Absentee option, Absentee ballots may be counted at the polling precinct at any time during the election, without the use of control cards.

The AccuVote-OS may be programmed to determine the counter group affiliation of ballots by selecting the Auto Absentee check box on the Tally Settings tab of the GEMS AccuVote-OS Options dialog box. This feature allows the AccuVote-OS to determine whether a ballot is to be tallied to a polling or absentee counter group based on the card ID and precinct identifier printed on the ballot.

In order to use this feature, the Absentee counter group must be defined with precinct identifiers in GEMS, to force the creation of a unique set of ballots with precinct identifiers for the Absentee counter group. The AccuVote-OS must also be installed with 1.95e (or later) firmware.

#### 5.3.2. Counting Absentee Ballots without Auto Absentee

If an election was defined without using the Auto Absentee option, absentee ballots can be counted at the polling precinct at any time during the election, or at the end of election day using control cards.

If absentee ballots are counted at the precinct during election day, the Absentee Count card is used to enter absentee ballot counting mode, and when absentees have been counted, the Polling Count card is used to return the unit to polling count mode.

To count absentee ballots at the precinct during election day, open the ballot box retaining door and feed an Absentee Count card into the AccuVote-OS while pressing the YES and NO buttons. Process the absentee ballots. Once absentee ballots have been counted, the Polling Count Card is fed into the AccuVote-OS while pressing the YES and NO buttons to returning the AccuVote-OS to polling count mode.

To count absentee ballots at the precinct at the end of election day, open the ballot box retaining door and feed an Absentee Count Card into the AccuVote-OS while pressing the YES and NO buttons. Process all absentee ballots. Once absentee ballots have been counted, the AccuVote Ender Card is fed into the AccuVote-OS while pressing the YES and NO buttons, electronically locking the AccuVote-OS and ending the election.

### 5.4. Printing the Election Results report

At election close, open the ballot box retaining door, then feed the AccuVote Ender card in order to electronically lock the AccuVote-OS and print the Election Results report.
are displayed, followed by

**PRINTING REPORT**

which is displayed for each precinct in the vote center. 10.00 is a sample precinct number.

**NEED ANOTHER COPY?**

is then shown. Press YES in order to print another copy, otherwise, press NO.

Unlock and open the ballot box retaining door and press YES if another copy of the Election Results report is required, otherwise press NO. The Election Results report should be signed by polling officials and placed in a marked, sealed envelope as required. The Election Results report should be left attached to the Election Zero report printed when the poll was opened on the AccuVote-OS.

Refer to Chapter 16: Election Results Reports for more information on the Election Results report.

### 5.5. Remaining prompts

Once the Election Results report has printed,

**READY TO TURN UNIT OFF?**

is displayed. If all election processing has been completed, press YES, then power AccuVote-OS off after

**ELECTION FINISH TURN UNIT OFF**

is displayed. Before turning the power off, slide the AccuVote-OS out a sufficient distance to access the power switch. Turn the AccuVote-OS power off.
If NO is pressed in response to the prior prompt, **REPRINT ELECTION RESULTS REPORT?** is displayed.
6. Post-Election Mode

Once the AccuVote-OS has been electronically locked, the memory card should remain sealed in the unit until all election results have been secured at election central after the election has closed.

Post-Election Mode includes the following functions:

- Transmitting election results to the host computer
- Printing the Election Results report
- Printing the Audit report
- Supervisor Functions.

When transmitting election results to the host computer, set up the AccuVote-OS next to a RJ-11 phone receptacle after electronically locking the AccuVote-OS. Refer to the procedure titled Transmitting election results by modem detailed in Chapter 13: Transmitting Election Results to the Host Computer for more information.

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<tr>
<td>Printing the Election Results reports</td>
<td>Chapter 11: Election Results Reports</td>
</tr>
<tr>
<td>Printing the Audit Report</td>
<td>Chapter 12: Audit Reports</td>
</tr>
<tr>
<td>Supervisor Functions</td>
<td>Chapter 13: Supervisor Functions</td>
</tr>
</tbody>
</table>

Table 6-1. Post-Election Mode function discussion chapters

6.1. Post-Election Mode Prompts

The following prompts are displayed in Post-Election Mode:

SEND RESULTS BY TELEPHONE?
SEND RESULTS BY DIRECT MODE?

Election results may be transmitted either by modem or directly. If the operator requests not to transmit results by modem, direct transmission is offered as an alternative. Press NO in order to continue.

PRINT ELECTION TOTALS REPORT?

PRINT AUDIT REPORT?

SUPERVISOR FUNCTIONS?
7. Ballot testing

Ballot testing is performed in Pre-Election Mode after test ballots have been received from the printer. Ballot testing should be performed for every ballot/precinct identifier combination, for all AccuVote-OS memory cards in an election. Testing ballots will ensure that:

- Timing, diagnostic, and card identification marks are correctly located on the ballot.
- Memory cards are programmed correctly.
- Memory cards accept only designated ballots.
- Memory cards recognize only valid voting ovals, but no invalid voting ovals.
- AccuVote-OS units tally ballots correctly.

The AccuVote-OS provides three distinct procedures in Pre-Election Mode for testing ballots:

- Unvoted Ballot Test
- Fully Voted Ballot Test
- Count Test

7.1. Marking ballots

Ballots should be marked by filling in voting ovals using designated marking instruments only. Instructions for filling in ovals should be provided on ballots and included in voter education materials. AccuVote-OS units recognize voting ovals as marked if 15 percent or more of the ovals are filled. Ovals marked using checks or X’s may not be detected as being sufficiently filled, causing the AccuVote-OS to return ballots with the message

UNDEF MARK
RACE #10

7.2. Marking instruments

Which marking instruments to be used will depend on the card reader the AccuVote-OS uses. There are two types of card readers: infrared and visible light. Infrared card readers only accept the following marking instruments:

- Berol “7700”
- Sanford “Sharpie”
- Sanford “Powermark”
- Type 2 pencils.

Visible light readers, on the other hand, except a broad range of marking instruments, including those listed above. Do not use yellow, orange, or green markers. Different types of markers and feeding ballots in different orientations may be tried to identify the range of readable marks.
7.3. Secrecy sleeves

Ballots are fed into the AccuVote-OS encased in secrecy sleeves, in order to protect the privacy of the voter’s ballot. Secrecy sleeves should be designed and clearly marked to allow voters to feed ballots into the AccuVote-OS by gripping the sleeve and releasing the ballot as it enters the input side of the card reader, provided voters will be feeding ballots themselves. If ballots are one-sided and being fed into AccuVote-OS units by poll workers, they may be fed face down in secrecy sleeves to ensure optimal confidentiality. Secrecy sleeve dimensions correspond to the dimensions of the corresponding ballot.

7.4. Marking test decks

Test decks are compiled for every unique ballot/precinct identifier combination, for all AccuVote-OS vote centers, in each vote center category in the election. All test ballots should be clearly marked as such.

All ballots participating in the Unvoted Ballot Test must be blank. Each ballot participating in the Fully Voted Ballot Test must have each voting position on the ballot marked.

The following ballot marking scheme is recommended for Count Test:

- Mark the first candidate or response in each race on one ballot only
- Mark the second candidate or response in each race on two ballots
- Mark the third candidate or response in each race on three ballots
- Proceed marking ballots with this rule until the last candidate in the race with the highest number of candidates has been marked
- Mark additional ballots to test any special conditions for which ballots are rejected
- Mark additional ballots to test any special counting rules, such as write-ins and straight party votes.

Compile a manual tally corresponding to each test deck to be processed in Count Test, against which the AccuVote-OS’ tabulated results will be compared. See Figure 7-1.

![Figure 7-1. Samples of Ballot Cards](image-url)
7.5. Testing unvoted ballot cards

Unvoted ballots are set aside for every unique ballot/precinct identifier combination, for all AccuVote-OS vote centers in each vote center category in the election. These ballot combinations may be valid in more than one vote center in an election; ideally, the Unvoted Ballot Test should be performed for each combination in each vote center.

Unvoted ballots should be processed in the Unvoted Ballot Test in all four orientations – face up and face down, and head first and face first.

No voting positions should be marked in this test - an error message will be printed on the AccuVote-OS tape for every marked voting position. Select one of each of the ballots valid in the vote center and test each card in all four orientations.

7.5.1. AccuVote-OS prompts

Press YES in response to

**TEST BALLOTS?**

Press YES in response to

**TEST UNVOTED BALLOTS?**

The following prompts now appear:

**INITIALIZING PLEASE WAIT**

**INSERT UNVOTED BALLOT**

Insert a valid, unmarked ballot. Once the first unvoted ballot is processed,

**GENERATING REPORT ...**
are displayed as the unvoted ballot is processed, and the label followed by the Unvoted Ballots Test report is printed. The unvoted ballot is retained in the card reader until the information has finished printing, after which it is returned from the card reader.

Reinsert an unvoted ballot when

is displayed again. Reinsert the unvoted ballot in a different orientation, and continue until the ballot has been processed in all four orientations.

### 7.5.2. Unvoted Ballots Test Report

The card number and status is printed for each card read in the Unvoted Ballot Test. The status is either OKAY or ERRORS. ERRORS is printed if any voting position has been marked as well as the race number, race title and candidate for every voting position marked.

### 7.6. Testing fully voted ballots

Fully voted ballots are marked for every unique ballot/precinct identifier combination, for all AccuVote-OS vote centers in each vote center category in the election. These ballot combinations may be valid in more than one vote center in an election; ideally, the Fully Voted Ballot Test should be performed for each combination in each vote center.

Ballots should be processed in the Fully Voted Ballot Test in all four orientations – face up and face down, and head first and face first.

Select one ballot from each card style valid for the vote center, mark every voting position available on the ballot and feed each of the ballots in all four orientations in the test. All voting positions should be marked on the ballots, including write-in positions. An error message will be printed on the AccuVote-OS tape for every voting position left blank.

### 7.6.1. AccuVote-OS prompts

5. Press YES in response to

6. Press NO in response to
7. Press YES in response to

TEST FULLY VOTED BALLOTS?

8. The following prompts now appear:

INITIALIZING
PLEASE WAIT

INSERT FULLY VOTED BALLOT

9. Insert a fully voted ballot into the AccuVote-OS and

GENERATING REPORT ...

PRINTING LABEL

PRINTING RESULTS

are displayed as the fully voted ballot is processed and the label followed by the Fully Voted Ballots Test report is printed. The fully voted ballot is retained in the card reader until printing has finished, after which it is returned.

Continue with the Fully Voted Ballot Test when the following message is displayed again:
7.6.2. Fully Voted Ballot Test Report

The card number and status is printed for each card read in the Fully Voted Ballot Test. The status is either OKAY or ERRORS. ERRORS is printed if any voting position has been left unmarked as well as the race number, race title and candidate for every voting position left unmarked.

7.7. Counting test ballots

Assemble test decks using the procedure described in section 7.4 Marking test decks above to perform the count ballot test procedure. Complete the Unvoted and Fully Voted Ballot Tests using all ballot cards before performing the Count Test using marked test decks. If errors are encountered in the former two tests that require re-printing of ballots, all tests will have to be repeated with the new set of ballots.

Test decks to be used for Count Test are assembled for every unique ballot/precinct identifier combination, for all AccuVote-OS vote centers in each vote center category in the election. These ballot combinations may be valid in more than one vote center in an election; ideally, Count Test should be performed for each combination in each vote center.

There is a slight delay as the AccuVote-OS’s ballot deflector shifts in case of separation of write-in or blank ballots. The AccuVote-OS may jam if the next ballot is fed too soon after a ballot that causes the deflector to shift.

Note that the ballot counter displayed on the LCD increments for every ballot card passed through the AccuVote-OS, and not every ballot. This distinction is important in cases where each ballot consists of several cards.

If the AccuVote-OS has been installed in a ballot box, ensure that the ballot box retaining door is open to permit access to the YES and NO buttons.

1. Press YES in response to

2. Press NO in response to

3. Press YES in response to
4. Press YES in response to

TEST FULLY VOTED BALLOTS?

5. Press YES in response to

COUNT TEST BALLOTS?

6. Once the report has been printed, press NO in response to

PRINT ZERO TOTALS?

in order to print a Zero Totals report.

7. Insert each one of the remaining ballots in the test ballot deck. Each inserted ballot results in TOT COUNT being incremented, except if the ballot is rejected.

is now shown, where the number of the vote center in use is displayed in place of 10.00. If ballot separation for write-in ballots or unvoted ballots is specified in the AccuVote-OS Options window in GEMS, the counting message is displayed as:

8. Insert each one of the remaining ballots in the test ballot deck. Each inserted ballot results in TOT COUNT being incremented, except if the ballot is rejected.

7.7.1. Absentee Ballots

9. If absentee ballots are to be processed at the precinct, feed an Absentee Count card while pressing the YES and NO buttons, even if the test absentee ballots are not being counted. Count the test absentee ballots that were prepared for the precinct, if any.

10. If the unvoted or write-in ballots are to be separated in the ballot box, the absentee ballot counting prompt will change to:
otherwise, the prompt will change to

| POLL: 10.00 U | ABS COUNT: 0 |

7.7.2. Electronically Locking the AccuVote-OS

11. An AccuVote-OS Ender card must be fed into the AccuVote-OS while pressing the AccuVote-OS YES and NO buttons, electronically locking the AccuVote-OS.

7.7.3. Remaining Prompts

12. Once the unit has been electronically locked,

| PRINT TEST RESULTS REPORT? |

is displayed. Press YES in order to print the Test Results Report.

13. Once the report is printed,

| REPEAT TEST? |

is displayed. Press YES in order to repeat the test, otherwise press NO.

7.8. Ballot Acceptance Standards

The GEMS AccuVote-OS Options window defines the conditions under which ballots are rejected by the AccuVote-OS, and are included in the information programmed on each memory card. These parameters include:

- Rejecting a ballot with one or more overvoted races
- Rejecting a ballot with one or more undervoted races
- Rejecting a ballot with one or more unvoted race
- Rejecting a ballot card with no voted races
- Rejecting a ballot in an open primary election with a multiple primary party selection
- Rejecting a ballot with a straight party overvote in a general election
A ballot marked in violation of an AccuVote-OS parameter definition is either returned to the voter for remarking, or the voter is provided with a new ballot for marking. A ballot that has not been scanned properly and is returned need only be re-fed into the AccuVote-OS.

Poll workers should be trained to observe the AccuVote-OS LCD and distinguish between messages, understanding the correct response in each case.

Following is a list of AccuVote-OS parameter return conditions with related messages.

overvoted race

over voted race

undervoted race

under voted race

blank voted race

blank voted race

blank voted card

blank voted card

The above message appears only if the entire ballot card is blank and rejection of blank voted ballots has been defined in the AccuVote-OS Options in GEMS.

straight party overvote
Race 10 in these examples corresponds to the first affected race on the ballot. Messages may be printed on the AccuVote-OS tape when overrides are performed - rejection conditions for which override messages are printed are also defined in the AccuVote-OS Options window in GEMS.

For more information on error messages relating to ballot counting, see Chapter 8 Analyzing Unaccepted Ballots.

Ballots are returned from the input side of the card reader. Ballots returned when using the AccuFeed are dropped into the output tray and must be re-fed in addition to the next ballot drawn into the AccuFeed’s input area.
8. Analyzing Unaccepted Ballots

Ballots may be returned by the AccuVote-OS for a variety of reasons. Either election parameters are defined to return ballots according to certain conditions, ballots may have been poorly cut or printed, ballot artwork is incorrect, or there is a problem with the AccuVote-OS unit itself. The ballot is held in the ballot reader as the message is displayed on the LCD, for the length of time specified in the Display Message Time field in the AccuVote-OS Options window in GEMS.

This chapter lists all possible error messages that may occur in the course of ballot testing and counting. Each message is listed with the probable error cause as well as a recommended solution.

Any ballot conforming to the ballot return criteria defined under the Reject Settings tab in the AccuVote-OS Options window in GEMS is returned by the AccuVote-OS. The voter should be informed of the cause for the ballot's rejection and given another blank ballot to vote on. Ballot rejection may be overridden by pressing the YES button while re-feeding the ballot.

Chapter 17: AccuVote-OS Messages contains a comprehensive list of error messages that are encountered outside of ballot processing.

Absentee Card Ballot Returned

**Probable Cause**

The Absentee Count card was inserted during an Unvoted Ballot Test, Fully Voted Ballot Test, or in the Count Test, where the Absentee Count card is not expected. Only blank ballots are to be inserted during the Unvoted Ballot Test, and only fully voted ballots are to be inserted during the Fully Voted Ballots test.

**Solution**

Remove the Absentee Count Card and insert the card appropriate to the test being conducted.

Absentee Count Card Expected

**Probable Cause**

The AccuVote-OS Ender card has been fed before having fed the Absentee Count card into the AccuVote-OS. The vote center has been defined with multiple counter groups in GEMS. The Absentee Count card must be inserted before the AccuVote-OS Ender card, even if no absentee ballots are being processed.

**Solution**

Insert an Absentee Count Card while pressing the YES and NO buttons.
**Ballot Not Read**

**Probable Cause**

The AccuVote-OS has returned a ballot that has been fed into the unit. Either:

- the unit could not orient the ballot due to difficulty in reading the timing marks
- ballot identification information is incorrect

**Solution**

Re-feed the ballot into the AccuVote-OS unit. If the ballot can not be successfully read the voter should be provided with another ballot.

**Blank Voted Card**

**Probable Cause**

No votes were read on the ballot card.

**Solution**

A blank voted ballot is returned by the AccuVote-OS. Confirm that the ballot has been marked correctly and with a designated marking instrument. Depending on state law, have the voter color over the choices made on the ballot with the proper marking instrument, or spoil the original ballot and provide the voter with another unvoted ballot to mark, provided the ballot card was improperly marked. Override the AccuVote-OS if the voter’s original choice was as desired.

**Blank Voted Race**

**Probable Cause**

A ballot with an unvoted race is returned by the AccuVote-OS.

**Solution**

Verify that the voter has voted as intended. If the voter mistakenly did not choose a candidate in the race, either return the ballot to the voter to remark, or allow the voter to mark another ballot card, and submit the ballot to the AccuVote-OS. Override the AccuVote-OS if the voter’s choice was as desired.
Analyzing Unaccepted Ballots

Card Length 99

Probable Cause
The ballot card tested during an Unvoted Ballot Test, Fully Voted Ballot Test or Count Test is defective. The length of the ballot fed into the AccuVote-OS is not acceptable according to the information programmed onto the memory card. It is also possible that the printed ballot may not agree with the ballot artwork and should be reprinted.

Solution
Insert the correct ballot card or reprint the ballots.

Card Read Error

Probable Cause
The AccuVote-OS could not read sufficient information to determine the type of ballot inserted.

Solution
Reinsert the ballot into the reader in a different orientation. If the error continues, check the ballot card to see if timing marks, diagnostic marks, ender marks and identification marks appear on both sides of the card. If any of these marks are missing the ballot card must be reprinted. If the ballot is printed properly, have the AccuVote-OS serviced.

Counted Ballot Jammed in Reader

Probable Cause
A ballot has been read by the ballot reader and subsequently jammed upon ejection from the unit.

Solution
Unlock and open the ballot box retaining door and slide the AccuVote-OS partially off the ballot box lid. Pull the ballot from the back of the AccuVote-OS and drop it through the ballot entry slot. Do not re-feed the ballot into the AccuVote-OS, as it has already been counted.

When finished, return the AccuVote-OS to the back of the ballot box lid and close and lock the retaining door.
**Day Read as 99**

**DAYS READ AS 99**

**BALLOT RETURNED**

**Probable Cause**
The AccuVote-OS did not encounter the proper day on a ballot read during an Unvoted Ballot Test, Fully Voted Ballot Test, or Count Test.

**Solution**
Insert the ballot card again, as it may have been misread. If the error continues to occur, the date printed on the ballot card may not match the election information that has been programmed to the memory card.

If the card Id marks at the bottom of the ballot correspond to those on the original ballot artwork, the wrong memory card is being used. Verify that the correct ballot for the vote center is being used and that the print shop has properly printed the ballot artwork.

**Duplicate Vote**

**DUPLICATE VOTE**

**SEE OFFICIAL**

**Probable Cause**
Two or more votes have been read for a cross-endorsed candidate whose name appeared on the ballot more than once in a race.

**Solution**
Check that the voter understands and intends the choice made. If the choice was not intended, spoil the ballot and provide the voter with another ballot. Override the AccuVote-OS if the voter marked the ballot as intended.

**Election Type X**

**ELECTION TYPE X**

**BALLOT RETURNED**

**Probable Cause**
The AccuVote-OS encountered the incorrect election type on a ballot read during an Unvoted Ballot Test, Fully Voted Ballot Test, or Count Test.

**Solution**
Insert the ballot card again as it may have been misread. If the error continues to occur, the election type printed on the ballot card may not match the election information that has been programmed to the memory card.

If the card Id marks at the bottom of the ballot correspond to those on the original ballot artwork, the wrong memory card is being used. Verify that the correct ballot for the vote center is being used and that the print shop has properly printed the ballot artwork.
Ender Card

ENDER CARD
BALLOT RETURNED

Probable Cause
An AccuVote-OS Ender card was inserted during an Unvoted Ballot Test or Fully Voted Ballot test. Only blank test cards are to be inserted during the Unvoted Ballot Test and only fully voted test cards are to be inserted during the Fully Voted Ballot Test.

Solution
Remove the AccuVote-OS Ender card and insert the appropriate test card for the test being conducted.

Ender card expected

ENDER CARD
EXPECTED

Probable Cause
An Absentee Count card was fed into the AccuVote-OS while depressing the YES and NO buttons. Either the Absentee Count card has already been read, or the vote center has only been defined with a single counter group in GEMS.

Solution
Insert an AccuVote-OS Ender card while simultaneously pressing the YES and NO buttons.

Feeder Jammed Clear Ballot

FEEDER JAMMED
CLEAR BALLOT

Probable Cause
A ballot has become jammed in the AccuFeed unit.

Solution
Remove the paper outfeed tray and remove the ballot, provided the jammed ballot is located in the paper outfeed area. Otherwise, remove the paper infeed tray and remove the jammed ballot if the ballot has jammed entering into the AccuFeed's feed path from the infeed tray. If the jam has occurred inside the AccuFeed, lift the lid of the AccuFeed, remove the jammed ballot and any other ballots drawn into the feed path and replace them in the infeed tray. Note that all ballots not completely processed have not been counted.
**Invalid Ballot**

**Invalid Ballot**

**Probable Cause**

Card ID marks are ¼" spaced black boxes located at the bottom of the front of the ballot card. The pattern created by the entire set of these marks uniquely identifies a ballot card.

Even though a ballot may have been properly printed, a stray mark, such as smudged ink, may appear among the card ID marks. Conversely, ballots may have been improperly printed, with too few or too many card ID marks. Either of these conditions will give rise to an 'Invalid Ballot' return message.

Feeding an AccuVote-OS Ender card, an Absentee Count card, or a Precinct Header card without pressing the YES and NO buttons also gives rise to the return message.

**Solution**

Isolate any possible stray marks and determine whether they have been printed onto the ballots. Ballot artwork will have to be reprinted if the stray marks occur on all ballots or if too few or too many card identification marks are present.

**Invalid Checksum**

**Probable Cause**

The AccuVote-OS has read a ballot with an invalid checksum during an Unvoted Ballot Test, Fully Voted Ballot Test, or Count Test. The checksum is a machine-readable validation number on the ballot card.

**Solution**

Insert the ballot again, as the ballot may have been misread. If the error continues, the checksum printed on the ballot does not match the ballot identification information printed on the ballot, and the ballot artwork should be verified and reprinted.

**Month Read as 99**

**Probable Cause**

The AccuVote-OS did not encounter the proper month on a ballot read during an Unvoted Ballot Test, Fully Voted Ballot Test or Count Test.

**Solution**

As the ballot may have been misread, insert the ballot again. If the error continues, the month on the ballot must be reprinted to match the information programmed to the memory card.
If the card ID marks at the bottom of the ballot do not correspond to those on the original ballot artwork, the wrong memory card is being used. Verify that the correct ballot for the vote center is being used and that the print shop has properly printed the ballot artwork.

**Multi-Party Vote**

Probable Cause

A ballot has been read with multiple primary party selections in an open primary election defined to reject ballots with multiple primary party votes. A voter may choose candidates of one primary party only. For example, a voter can not vote in both Democratic and Republican races.

Solution

Ensure that the voter has voted as intended. If not, provide the voter with another ballot to mark.

**No Ender Marks**

Probable Cause

The AccuVote-OS unit did not detect any ender marks on the ballot card read. Every ballot card including the AccuVote-OS Ender card and the Absentee Count card must have ender marks.

Solution

As the ballot may have been misread, insert the ballot again. If the error continues, the affected ballots must be re-printed to match the information programmed to the memory card.

If the card ID marks at the bottom of the ballot correspond to those on the original ballot artwork, the wrong memory card is being used. Verify that the correct ballot for the vote center is being used and that the print shop has properly printed the ballot artwork.

**No Precinct ID**

Probable Cause

The AccuVote-OS unit did not detect a precinct identification number when one was expected.

Solution

As the ballot may have been misread, insert the ballot again. If the error continues, the precinct ID must be printed on the ballot to match the information programmed to the memory card, or Precinct Header cards must be used.

If the card ID marks at the bottom of the ballot correspond to those on the original ballot artwork, the wrong memory card is being used. Verify that the correct ballot for the vote center is being used and that the print shop has properly printed the ballot artwork.
No Start Mark

Probable Cause
The start mark is the initial mark found in the timing mark sequence and determines the orientation of a ballot. Because every ballot card must have a start mark to be processed, and no start mark has been found on the ballot card, it is rejected.

Solution
As the ballot may have been misread, reinsert the ballot. If the error continues, a start mark must be printed on the ballot to match the information programmed to the memory card.

If the card ID marks at the bottom of the ballot correspond to those on the original ballot artwork, the wrong Memory Card is being used. Verify that the correct ballot for the vote center is being used and that the print shop has properly printed the ballot artwork.

Overvoted race

Probable Cause
An overvoted ballot has been rejected by the AccuVote-OS.

Solution
Verify that the ballot was marked according to the voter’s intention. Override the AccuVote-OS if the voter has marked the ballot as intended, otherwise provide the voter with another ballot to mark.

Party Overvoted

Probable Cause
A ballot with a straight party overvote has been rejected by the AccuVote-OS.

Solution
Verify that the voter’s straight party choice is as intended. Provide the voter with a blank ballot if the ballot was not marked as intended, otherwise, re-feed the ballot while overriding the AccuVote-OS.
**Power Fail**

Probable Cause
The AccuVote-OS unit is not drawing AC power while powered on. This message flashes on an alternating basis with messages and prompts displayed in the course of the current prompt chain.

Solution
Check the power cord and the fuse for the cause of the power loss. Using an extension cord if necessary, connect the AccuVote-OS to an alternate power source. This may be an issue at the polling place on election day, where the local AC power source may be faulty.

If none of the above apply, continue to run the unit on the battery, provided that the unit is battery-backed. If the unit is not battery-backed, or if the battery is dead, wait until power is restored to resume ballot counting.

** Returned Ballot **

Probable Cause
A ballot has been jammed in the card reader while being returned.

Solution
If the ballot is visible, remove the ballot from the unit. If the ballot is not visible, open the retaining door, slide the AccuVote-OS partially out from the ballot box lid, and remove the ballot from the back of the AccuVote-OS unit.

Return the unit to back of the ballot box lid and close and lock the retaining door upon completion.

*The returned ballot has not been counted and must be re-fed.*

**Undefined Mark**

Probable Cause
A ballot has been returned with one or more voting ovals filled with a check, x or some other mark, which fills less than 15 percent of the voting oval.

Solution
The ballot should be returned to the voter for proper remarking, so that all voting ovals are completely filled in.
Undervoted Race

UNDER VOTED RACE
RACE #10

Probable Cause
An undervoted ballot has been rejected by the AccuVote-OS.

Solution
Verify that the voter has made the intended choice - if not, provide the voter with another ballot to mark. If the ballot is marked according to the voter's intention, re-feed the ballot by overriding the AccuVote-OS.

Wrong PCT/Card

WRONG PCT/CARD
BALLOT RETURNED

Probable Cause
A ballot with an incorrect precinct/card ID combination is read during an Unvoted Ballot Test, Fully Voted Ballot Test, or Count Test.

Solution
Re-feed the ballot into the AccuVote-OS. If the ballot continues to be returned, verify that the ballot’s card Id marks correspond to those on the ballot artwork, and that the ballot is correct for the vote center.

Wrong PCT Code

WRONG PCT CODE
BALLOT RETURNED

Probable Cause
An incorrect precinct code was encountered on a ballot during an Unvoted Ballot Test, Fully Voted Ballot Test, or Count Test.

Solution
As the ballot could have been misread, reinsert the ballot. Check to see if the ballot was read with the correct memory card.

If the error continues, the correct precinct code must be printed on the ballot to match the information programmed to the memory card, or Precinct Header cards must be used.

Year read as 99

YEAR READ AS 99
BALLOT RETURNED

Probable Cause
The incorrect election year was encountered on a ballot.
Solution

As the ballot may have been misread, reinsert the ballot. If the error continues, the correct year must be printed on the ballot to match the information programmed to the memory card.

If the card ID marks at the bottom of the ballot correspond to those on the original ballot artwork, the wrong memory card is being used. Verify that the correct ballot for the vote center is being used and that the print shop has properly printed the ballot artwork.
9. Transmitting Election Results to the Host Computer

This section describes the procedure used to transmit election results to the host computer in both Pre-Election and Election Modes. Election results may be transmitted either directly or by modem.

In order to transmit results, the AccuVote-OS Server 1 console must be active in GEMS, and all ports designated for transmission must be selected and started.

Pressing either of the AccuVote-OS buttons while the transmission is in progress will interrupt the transmission.

The section *Election Day Troubleshooting* describes a variety of possible transmission problem scenarios and recommended solutions.

9.1. Direct Transmission

9.1.1. Configuration

To directly transmit election results to the host computer, the COMM. PORT jack must be connected to one of the computer's serial ports with a null modem cable. Connect the AccuVote-OS to AC power and power the unit on.

Do not press either of the AccuVote-OS buttons while the transmission is in progress, as it will be interrupted. See Figure 9-1.

![Figure 9-1. Rear View of AccuVote-OS](image)

9.1.2. Transmission

Insert the Memory Card whose results are to be transmitted directly to the host computer in the AccuVote-OS.

1. In Pre-Election Mode only, press the NO button until
Transmitting Election Results to the Host Computer

SEND TEST RESULTS?
appears, then press YES.

2. In either Pre-Election or Post-Election Mode, press No in response to

SEND RESULTS BY TELEPHONE?

prompt. Note that this is the first prompt to appear after powering the unit on in Post-Election Mode.

3. Press YES in response to

SEND RESULTS BY DIRECT MODE?

4. The AccuVote-OS now begins transmission of election results to the host computer. The following messages are displayed:

REQUESTING COMMUNICATION

INITIALIZING COMMUNICATIONS

SENDING CONTEST DATA

SENDING CANDIDATE DATA
5. If election results are to be transmitted from more than one Memory Card, press YES, remove the uploaded card, then insert the next card to upload. If no more cards are to be uploaded, press NO to continue.

9.2. Transmitting Election Results by modem

9.2.1. Configuration

In order to perform modem configuration, the GEMS server should be configured with one or more modems, each modem connected to the server by means of a modem cable, as well as to a telephone line. A port expansion device or port server should be employed in order to provide multiple ports for modem transmission.

Each AccuVote-OS is installed with a pocket modem, over which modem transmissions occur. In order to transmit by modem, a telephone number to election central (the GEMS host) must be programmed to the AccuVote-OS modem, and the AccuVote-OS must be connected to a direct telephone line at the polling location. At the point of transmission, the AccuVote-OS modem dials the telephone number programmed to the memory card, which then connects over one of the telephone lines to the GEMS host computer, and then to the GEMS database.

If several single phone lines are being used to receive election results at election central, keep a list of polling places and election central phone numbers handy to verify phone numbers if transmission problems occur.

9.2.2. Transmission

1. In Pre-Election Mode only, press NO until
appears, then press YES.

2. In either Pre-Election or Post-Election Mode, press YES in response to

SEND RESULTS BY TELEPHONE?

3. Note that this prompt is displayed immediately upon powering on in Post-Election Mode.

The designated modem’s telephone number for transmitting election results is now displayed. Press YES to accept the phone number.

If no phone number is displayed, or an incorrect phone number is displayed, enter a number or change the existing one. Refer to the section titled 15.3 Telephone numbers for more information on defining phone numbers on the AccuVote-OS.

Note: Telephone numbers should be programmed prior to Election Day, and not at the point of transmitting results at election close.

6046779657 PHONE NUM. OKAY?

4. Press YES in response to

READY TO SEND RESULTS?

5. The AccuVote-OS now begins results transmission to the host computer. The following messages are displayed:

DIALING CENTRAL COMPUTER

REQUESTING COMMUNICATION
<table>
<thead>
<tr>
<th>Step</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Transmitting Election Results to the Host Computer</td>
</tr>
<tr>
<td>2. Initializing Communications</td>
</tr>
<tr>
<td>3. Sending Contest Data</td>
</tr>
<tr>
<td>4. Sending Candidate Data</td>
</tr>
<tr>
<td>5. Sending Ballot Counters</td>
</tr>
<tr>
<td>6. Waiting for Upload Confirm</td>
</tr>
<tr>
<td>7. Closing Communications</td>
</tr>
<tr>
<td>8. Hanging up Phone</td>
</tr>
<tr>
<td>9. Results Sent OK</td>
</tr>
<tr>
<td>10. Turn Unit Off</td>
</tr>
</tbody>
</table>

6. To print the election results reports or perform any of the functions otherwise available in the election mode, power the unit off and then on again.

If the results of any further memory cards must be sent to the host computer, remove the memory card currently installed in the AccuVote-OS and insert the next one.
9.3. Redialing

If the telephone number at election central is occupied at the time of the AccuVote-OS' call, the unit will automatically redial up to 10 times to attempt to complete the call.

The above prompt will change to the prompt below as the unit attempts to redial election central.

Ensure that the local telephone architecture has been properly designed for optimal call throughput at election close. Cascading lines, switches, or any other available services may be used to arrive at an appropriate design.

9.4. Interrupting Election Results Transmission from the AccuVote-OS

Election results transmission may be interrupted from the AccuVote-OS by pressing the NO button. The following sequence of prompts is displayed if the NO button has been pressed during transmission:

1. 

is displayed on the AccuVote-OS LCD, indicating that transmission on the AccuVote-OS has been aborted. Press either YES or NO.

2. If transmitting results by modem,

is displayed.

is now displayed. To repeat the transmission attempt, press YES. Press NO to terminate the transmission.
10. Zero Total Reports

The Zero Total report lists all counters in the election as zero. Always verify that these counters are zero before counting ballots.

The Zero Totals report may be printed:
- following memory card download (optional)
- prior to counting ballots in Pre-Election Mode (optional)
- prior to counting ballots in Election Mode (mandatory)

After the report has printed at the beginning of election day, poll workers should verify that all candidate totals are zero, sign the oath area at the bottom of the report, roll up the printed report without removing it from the paper roll, and insert the report in between the paper roll and the battery.

The format of the AccuVote-OS Zero Total and Election Results reports are defined by the reports file option specified in the AccuVote-OS Options dialog. The report file determines the format of information displayed on reports, including the amount of detail provided at election close or the wording of the oath text at the end of the report.

Report files vary by region; the location of a jurisdiction determines the report file that must be used. The standard American report format is 195/196US.

Races appear on the Zero Totals reports in the order of report sequence number defined in the Race Editor in GEMS.

10.1. Naming

The report title varies according to the election mode.
- ‘Zero Total report’ following memory card programming.
- ‘Test Zero report’ prior to counting ballots in Pre-Election Mode.
- ‘Election Zero report’ at the outset of Election Mode

All Zero Totals reports are identical in format, differing in title only. These reports are identical to the Election Results reports in terms of layout.

10.2. Report Contents

There are four types of Zero Totals reports:
- Summary Totals, including all races in the vote center.
- Full Totals, including Summary Totals as well as results detailed by precinct, for all precincts in the vote center.
- All Precinct Totals, including results detailed by precinct, for all precincts in the vote center.
- Individual Precinct Totals, including results for selected precincts only.

Zero Total reports may consist of:
- a memory card label
- a Summary Totals report
precinct detail

All candidate and ballot total fields in these reports must be 0.

The Zero Totals report may be printed either in long or short form, the short form providing condensed and the long form providing detail race statistics.

10.3. Memory card label

An example of a memory card label with a short report is displayed in Figure 10-1.

```
**************************
ZERO TOTAL REPORT
**************************
ABC COUNTY
GENERAL ELECTION
NOVEMBER 4, 2002
DATE: 11/04/02 TYPE: G
POLL CTR: 10A00
VC 5 JANESVILLE FIRE
TIME: 10:33:00 15/26/15
```

Figure 10-1. Short report memory card label

Both short and long reports include the following information in the label:

- Election title
- Election date
- Election type
- Vote center number
- Current time
- Current date.
- Vote center name

10.3.1. Long memory card label

In addition to the above label information, the memory card label on long reports includes the:

- Vote center program version - this number indicates the number of times a particular vote center has been downloaded.
- Memory card copy number - 0 indicates that the memory card is the original card.
- Count representing the number of times the memory card has been set to Pre-Election mode
- Memory card size, in bytes.
- AccuVote-OS firmware release.
- Precinct check number - for internal use only.
- Counter check number - for internal use only.
An example of a label printed with a long report is displayed in Figure 10-2.

```
ZERO TOTAL REPORT

ABC COUNTY
GENERAL ELECTION
NOVEMBER 4, 2002
DATE: 11/04/02 TYPE: G
POLL CTR: 10A00
VC 5 JANESVILLE FIRE
VERSION: 0 COPY: 0
COUNT: 1 SIZE: 32
ACCU-VOTE RELEASE: 1.96.4
PRECINCT CHECK: 100826
COUNTER CHECK: 0
TIME: 10:33:00 15/26/15
```

**Figure 10-2. Long report memory card label**

The long report includes AccuVote-OS ballot return parameters defined in the AccuVote-OS Options window in GEMS, as well as:

- The number of memory card copies made.
- The absentee ballot tally option.
- The number of seconds AccuVote-OS messages are displayed.
- Whether write-in ballots are to be separated in the ballot box.
- Whether blank ballots are to be separated in the ballot box.
- Whether to count duplicate candidate votes.
- Whether to count multiple primary party votes.
- Whether all primary parties are placed on a single ballot.
- Whether straight party voting is additive.
- Whether straight party voting is combined.

Figure 10-3 displays the AccuVote-OS parameters and Figure 10-4 displays the election parameters printed on the long Zero Total report.
10.4. Short reports

Short Zero Totals reports list candidate zero amounts for each race for the entire vote center.

Total absentee and non-absentee ballots cast by precinct are listed at the beginning of the report and should be zero. Absentee ballots cast are only printed if absentee ballots are counted at the precinct.

Races and candidates are printed in the report sequence order, with the race number, race title and candidate zero amounts for the entire vote center.

An example of a race listing in a short Zero Total report is displayed in Figure 10-5.
10.5. Long reports

Long Zero Totals reports include the number of ballots returned by card and precinct. Ballots cast are divided by absentee and non-absentee ballots, if absentee ballots are counted at the precincts. A summary of ballots cast is printed for the vote center, including the number of ballots:

- Blank voted.
- Overvoted.
- Undervoted.
- Write-ins.

Each race in the vote center is printed with candidate zero amounts and includes the:

- Race title.
- Race number.
- Number of candidates running.
- Number to vote for.
- Number of times race is counted.
- Number of times race is overvoted.
- Number of times race is undervoted.
- Number of write-ins, if write-in spaces are provided in the race.

Note that all of the above amounts—except for the number of candidates running and the number to vote for—should be zero.

An example of a race listing in a long Zero Total report is shown in Figure 10-6.
10.6. Printing the Zero Totals report

10.6.1. Single-Precinct Vote centers in Pre-Election Mode

Either a short or long listing of races by precinct may be printed in a single-precinct voting-center. The following procedure is used to print this report:

1. When

   PRINT ZERO TOTALS?

   is displayed, press YES.

2. GENERATING REPORT ...

   and

   PRINT LONG REPORT?

   will be displayed. Press YES to print a long report, otherwise press NO.

3. 

Figure 10-6. Long race listing
PRINTING REPORT

is displayed as well as

PRINTING PRECINCT: 10.00

where 10.00 is a sample precinct number.

NEED ANOTHER COPY?

follows—to create another copy of the report, press YES, otherwise press NO.

10.6.2. Multiple-Precinct Vote centers In Pre-Election Mode

The following options are available when printing the Zero Total report for a multiple-precinct vote center:

- Full Totals report, which includes a Summary Totals report and races by precinct
- Summary Totals report
- Races by precinct for all precincts
- Races by precinct for selected precincts

1 Press YES in response to

PRINT ZERO TOTALS?

2

GENERATING REPORT

and

PRINT FULL TOTALS REPORT

are displayed. To print a Full Totals report, which includes both summary and races by precinct, press YES and continue with step 12, otherwise press NO.
3

PRINT SUMMARY TOTALS ONLY?

is now displayed. To print only a Summary Totals report, press YES and continue with step 10, otherwise press NO to print races by precinct only.

4

PRINT ALL PRECINCT TOTALS?

is shown. To print races for all precincts, press YES and continue at 8, otherwise press NO to print races for selected precincts only.

10.6.3. Races for selected precincts only

5 Continue with this step if NO was pressed in step 4.

PRINT PRECINCT NUMBER 10.00

is displayed, where the precinct number displayed will be the first precinct in the vote center. Press YES to print the precinct. Press NO to continue to the next precinct. If NO is pressed, the same prompt is redisplayed for the next precinct in the vote center. After all precincts have been displayed, continue to the next prompt in Pre-Election Mode.

6 Press YES to print a long report for the given precinct, otherwise press NO when

PRINT LONG REPORT?

is displayed.

7 The following messages are displayed:

PRINTING REPORT

and

PRINTING PRECINCT: 10.00

for the precinct currently being printed.
NEED ANOTHER COPY?

follows—to print another copy of the report, press YES. Press NO to return to step 5 and continue with the next precinct in the vote center.

Note that the oath of office is printed after each precinct.

10.6.4. Races for all precincts

8 Continue with this step if YES was pressed in step 4.

PRINT LONG REPORT?

is displayed. Press YES for a long report, otherwise press NO.

9.

PRINTING REPORT

is shown, followed by

PRINTING
PRECINCT: 10.00

for each precinct in the vote center as the precinct is printed.

NEED ANOTHER COPY?

follows—to print another copy of the report, press YES, otherwise press NO.

10.6.5. Summary Totals Report

10 Continue with this step if YES was pressed in step 3.

PRINT LONG REPORT?

is displayed. Press YES to print a long report, otherwise press NO.

11 This is followed by
and

NEED ANOTHER COPY?

To print another copy of the Summary Totals report, press YES, otherwise press NO.

10.6.6. **Full Totals Report**

12 Continue with this step if YES was pressed in step 2.

PRINT LONG REPORT?

is displayed. Press YES to print a long report, otherwise press NO.

13

PRINTING REPORT

PRINTING SUMMARY

are displayed, followed by

PRINTING
PRECINCT: 10.00

for each precinct in the vote center as the precinct is printed.

NEED ANOTHER COPY?

follows—to print another copy of the Full Totals report, press YES, otherwise press NO.
10.6.7. **Election Mode**

The Election Zero report is automatically printed before an election is opened on the AccuVote-OS in Election Mode. The report consists of either a listing of races in the precinct if the vote center contains one precinct only, or a Summary Totals report if the vote center contains more than one precinct.

The report is printed as

```
GENERATING REPORT ...
```

```
PRINTING REPORT
```

are displayed, as well as

```
PRINTING PRECINCT: 10.00
```

if the vote center is single-precinct, where 10.00 is a sample precinct number, or

```
PRINTING .SUMMARY
```

if the vote center is multi-precinct. Press YES when

```
NEED ANOTHER COPY?
```

is displayed to print another copy, otherwise press NO.

The Election Zero report should not be detached from the paper roll—the report should be removed attached to the Election Results report printed after the AccuVote-OS is electronically locked when the polls close. Polling officials should sign the Election Zero report as required by local statute.
11. Election Results Reports

Election results reports are printed on the AccuVote-OS at various times during the course of an election, and are similar in form to the Zero Total reports. The title of the results report varies according to the election mode:

**Test Results Report**  
Test results report, printed after the ballot card test is completed in Pre-Election mode.

**Election Results Report**  
Official election totals report for a vote center, printed once an election is closed on an AccuVote-OS.

Races appear on the election results reports in the order defined in GEMS. Race and candidate names are taken from the corresponding label values in GEMS, rather than the ballot text.

The format of the Election Results reports depends on the report filename defined in the AccuVote-OS Options window in GEMS.

11.1. Report contents

Election results reports may consist of:

- Memory Card label
- Summary Totals report
- Race totals by precinct.

Summary totals are printed for the entire vote center and race totals either by precinct or for the entire vote center, depending on the election mode in which the report is printed.

Each section of the election results report may be printed either in long or short form, the short form providing condensed information and the long form more extensive results information.

An election results report always includes a Memory Card label and includes either a Summary Totals report or race totals by precinct but not necessarily both.

11.2. Memory Card Label

An example of a short Memory Card label is displayed in Figure 11-1.

```
******************************
ELECTION RESULTS REPORT
******************************
ABC COUNTY
GENERAL ELECTION
NOVEMBER 4, 1997
DATE: 11/04/97 TYPE: G
POLL CTR: 10.00
TIME: 10:33:00 15/26/15
```

Figure 11-1. Short Report Label
Both short and long reports include the following information on the Memory Card label:

- election title
- election date
- election type
- vote center number
- current time
- current date

11.2.1. Long Report

In addition to the above label information, long reports include the:

- Vote center program version—this number indicates the number of times a particular vote center has been programmed onto a Memory Card
- Memory Card copy number—0 indicates that the Memory Card is the original card
- Number of times Memory Card has been set to Pre-Election mode
- Memory Card size, in bytes
- AccuVote-OS release
- Precinct check number—for internal use only
- Counter check number—for internal use only

An example of a long Memory Card label is displayed in Figure 11-2.

![Long Report Label](image-url)
11.2.2. **AccuVote-OS Parameters**

The long report also includes the AccuVote-OS parameters defined for the election:

- overvoted races
- unvoted races
- undervoted races
- unvoted cards
- straight party overvotes
- multi-party votes
- duplicate votes

The same parameters for which ballot rejection override messages may be printed are printed underneath.

11.2.3. **Additional Election Parameters**

Additional election parameters are printed, including:

- Number of Memory Card copies made
- Absentee ballot tally option
- Number of seconds AccuVote-OS messages are displayed
- Whether write-in ballots are to be separated in the ballot box
- Whether unvoted ballots are to be separated in the ballot box
- Whether to count duplicate candidate votes
- Whether to count multiple primary party votes
- Whether all primary parties are placed on a single ballot
- Whether straight party voting is additive
- Whether straight party voting is combined.

Figure 11-3 and Figure 11-4 display the AccuVote-OS parameters and election parameters printed on the long Election Results report. Note that no ballots are rejected.
11.3. Summary Totals Report

The Summary Totals section of the election results report provides candidate totals for each race for the entire vote center.

Total absentee and non-absentee ballots cast by precinct are listed at the beginning of the report. Absentee ballots cast are only printed if absentee ballots are counted at the precincts. Races and candidates are printed in the sequence entered in GEMS, with the race number, race title and candidate totals for the entire vote center.
11.3.1. Long Report

The long version of the summary section includes the number of ballot cards returned by ballot card number for each precinct in the vote center. The number of ballots cast is broken down into non-absentee and absentee ballots if absentee ballots are counted at the precincts. A summary of ballots cast is printed for the vote center, including the number of ballots:

- Blank voted
- Overvoted
- Undervoted
- With write-ins—only if an election employs write-in voting.

Each race in the vote center is printed with candidate totals for the entire vote center, as well as the:

- Race number
- Race title
- Number of candidates running
- Number to vote for
- Number of times race is counted
- Number of times race is overvoted
- Number of times race is blank voted.

11.4. Race Totals by Precinct

Races are listed with candidate totals by precinct—races and candidates are printed in the order entered in GEMS. Ballots cast are listed by ballot card number and are broken down into non-absentee and absentee ballots if absentee ballots are counted at the precincts.

An example of a race listing in a short Election Results report is displayed in Figure 11-5.

<table>
<thead>
<tr>
<th>STATE SENATOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>John Doe</td>
</tr>
<tr>
<td>Frank Smith</td>
</tr>
<tr>
<td>Betty Clark</td>
</tr>
</tbody>
</table>

Figure 11-5. Short Race Listing

11.4.1. Long Report

An example of a race listing in a long Election Results report is displayed in Figure 11-6.
The long version of the race totals by precinct provides the following information for every precinct:

- race number
- the number of candidates running in the race
- the number of candidates to vote for
- summary of ballots cast, including the number of ballots
  - counted
  - unvoted
  - overvoted
  - undervoted, provided the number of candidates to vote for is greater than one
  - with write-ins, if write-in ballots are used

### 11.5. Pre-Election Mode

The election results report is titled Test Results report in Pre-Election Mode and is printed after an AccuVote-OS has been electronically locked following a test election.

#### 11.5.1. Single-Precinct Vote centers in Pre-Election Mode

Either a short or long listing of race totals by precinct in a single-precinct-vote center may be printed. The following procedure is used to print this report:

1. When
PRINT TEST
TOTALS REPORT?

is displayed, press YES.

2

GENERATING
REPORT

and

PRINT LONG REPORT?

will be displayed. Press YES to print a long report, otherwise press NO.

3

PRINTING REPORT

is displayed as well as

PRINTING
PRECINCT: 10.00

where 10.00 is a sample precinct number.

NEED ANOTHER COPY?

follows—to print another copy of the report, press YES, otherwise press NO.

11.5.2. Multiple-Precinct Vote centers in Pre-Election Mode

The following options are available when printing the Test Results report for a multiple-precinct-vote center:

- Full Totals report, which includes a summary and race totals by precinct
- Summary Totals report
- Race totals by precinct for all precincts
- Race totals by precinct for selected precincts.

1 Press YES after
PRINT TEST RESULTS REPORT?

is displayed.

2

GENERATING REPORT

and

PRINT FULL TOTALS REPORT?

are displayed. To print a Full Totals report, which includes both summary and race totals by precinct, press YES and continue with step 12, otherwise press NO.

3

PRINT SUMMARY TOTALS ONLY?

is now displayed. To print a Summary Totals report only, press YES and continue with step 10. Press NO to print the Test Results report with race totals by precinct only.

4

PRINT ALL PRECINCT TOTALS?

is shown. To print race totals for all precincts, press YES and continue with step 8. Press NO to print race totals for selected precincts only and continue with step 5.

11.5.3. Race Totals for Selected Precincts

5 Continue with this step if YES was pressed in step 4.

PRINT PRECINCT NUMBER 10.00

is displayed, where the precinct number displayed will be the first precinct in the vote center. Press YES to print totals for the precinct. Press NO to continue to the next precinct. If NO is pressed, the same prompt is redisplayed for the next precinct in the vote center. After all precincts have been displayed, continue to the next prompt in Pre-Election Mode.

6 Press YES to print a long report for the given precinct, otherwise press NO when
7 The following messages are displayed:

PRINT LONG REPORT?

is displayed.

PRINTING REPORT

and

PRINTING PRECINCT: 10.00

for the precinct for which totals are currently being printed.

NEED ANOTHER COPY?

follows—to print another copy of the report, press YES, otherwise press NO. Return to step 5 and continue with the next precinct in the vote center.

11.5.4. Race Totals for All Precincts

8 Continue with this step if YES was pressed in step 4.

PRINT LONG REPORT?

is displayed. Press YES to print a long report, otherwise press NO.

PRINTING REPORT

is shown, followed by
for each precinct in the vote center as the precinct results are printed.

NEED ANOTHER COPY?

follows—to print another copy of the report, press YES, otherwise press NO.

11.5.5. Summary Totals Report

10 Continue with this step if YES was pressed in step 3.

PRINT LONG REPORT?

is displayed. Press YES to print a long report, otherwise press NO

11 This is followed by

PRINTING REPORT

PRINTING SUMMARY

and

NEED ANOTHER COPY?

To print another copy of the report, press YES, otherwise press NO.

11.5.6. Full Totals Report

12 Continue with this step if YES was pressed in step 2.
PRINT LONG REPORT?

is displayed. Press YES to print a long report, otherwise press NO.

PRINTING REPORT

PRINTING SUMMARY

are displayed, followed by

PRINTING
PRECINCT: 10.00

for each precinct in the vote center as the precinct results are printed.

NEED ANOTHER COPY?

follows—to print another copy of the report, press YES, otherwise press NO.

11.6. Election Mode

The Election Results report in Election Mode is automatically printed after an election has been closed on the AccuVote-OS. The report includes a short listing of race totals by precinct as well as an optional summary totals. The AccuVote-OS prompts displayed are identical for single and multiple-precinct vote centers.

Once the report has printed it should be signed by polling officials and placed in a marked, sealed envelope as required. The Election Results report should be left attached to the Election Zero report.

The report is printed as

GENERATING REPORT
are displayed, as well as

**PRECINCT: 10.00**

for every precinct in the vote center. Press YES when

**NEED ANOTHER COPY?**

is displayed to print another copy, otherwise press NO.

**11.7. Post-Election Mode**

The same prompt chain for printing Election Results reports is employed in Post-Election Mode as in Pre-Election Mode, for both single-precinct vote centers as well as multi-precinct vote centers.
12. Audit Reports

The AccuVote-OS Audit report may be printed in Pre-Election and Post-Election Modes. A Memory Card label precedes the Audit Report, identifying the polling place and the election held.

The Audit report includes:

- Time
- Date
- Election status
- Pre-election statistics
- Election statistics
- Overrides
- Post-election statistics
- Reports printed
- Transaction log

12.1. Election status

The election statuses are 0 through 6:

0  Memory Card is initialized
1  Memory Card is programmed
2  Election is in progress
3  AccuVote-OS Ender card has been read but Election Results report has not finished printing
4  Memory Card is in Post-Election Mode but election results have not yet been transmitted to the host computer
5  Memory Card is in Post-Election Mode and election results have been transmitted to the host computer
6  Memory Card is in Post-Election Mode, election results have been transmitted to the host computer and Audit report has been printed

12.2. Pre-election statistics

The following items are listed on the Audit report in the Pre-Election section:

# Ballot Tests

The total number of ballot card tests performed in Pre-Election Mode.

# Test Uploads

The total number of times ballot card test results are uploaded.
12.3. Election statistics

The following fields are printed in the Election section of the Audit report.

# Times Restarted

The number of times the election process has been restarted. Restarts occur when either the power switch on the AccuVote-OS unit is turned off, the AccuVote-OS unit experiences a power failure or the Memory Card is removed and re-inserted in the same or another AccuVote-OS.

# Non-Abs Ballots

The number of non-absentee ballots counted.

# Absentee Ballots

The number of absentee ballots counted.

# Total Ballots

The total number of ballots counted. This number should be equal to the sum of # Non-Abs Ballots and # Absentee Ballots.

12.4. Overrides

This section includes the number of overrides printed for each of the following:

- Overvoted race
- Unvoted race
- Undervoted race
- Unvoted card
- Straight party overvote
- Multi-party vote
- Duplicate candidate vote
- Oversize marks
- Total number of ballot card overrides.

12.5. Reports Printed

The following fields are printed in the Reports printed section of the Audit report.

# Download Zero

The number of Zero Total reports printed after programming the vote center to a Memory Card.

# Election Zero

The number of Election Zero reports printed, prior to counting ballots in Election Mode.

# Election Results

The number of Election Results reports printed after the election has been completed, both after electronically locking the AccuVote-OS and in Post-Election Mode.
# Test Zero
The number of Zero Total reports printed prior to counting test ballots in Pre-Election Mode.

# Test Results
The number of Test Results reports printed in Pre-Election Mode.

# Audit Reports
The total number of Audit Reports printed.

12.6. Transaction Log
The Transaction Log lists each transaction carried out on the Memory Card in chronological order as well as any errors that have occurred. Up to 30 different comments may be listed. The log lists the time each transaction was made, the date the card was initialized and the date when each session was started.

Descriptions are provided for the following fields in the Transaction Log. All other fields printed in the log should be self-explanatory.

**Absentee Count**
An Absentee Count card has been processed in Election Mode.

**Bal Count End**
An AccuVote-OS Ender card has been processed in Election Mode.

**Bal Count Start**
The first ballot is counted in Election Mode.

**Bal Test Start**
The first ballot is counted in Pre-Election Mode.

**Clear Counters**
This transaction is logged after a Memory Card has completed programming, before counting test ballots in Pre-Election Mode and before counting ballots in Election Mode.

**Com Error**
A communications error between the AccuVote-OS unit and the GEMS host has occurred.

**Download End**
Memory Card programming has completed.

**Download Start**
Memory Card programming has begun.

**Duplicate Card**
A Memory Card copy has been made.
Ender Card

An AccuVote-OS Ender card has been read.

Host Error

Memory Card programming or election results transmission has been interrupted by an action taken by GEMS.

Mem Card Reset

The Memory Card has been reset to Pre-Election Mode.

Prep for Elect

The Memory Card has been set to Election Mode.

Session Start

The unit has been turned on and/or the Memory Card has been installed.

Unknown Trans

A transaction has occurred which the unit does not recognize.

Unvoted Bal Test

The first ballot is counted in the Unvoted Ballot Test.

Upload Error

An error occurred in the course of transmitting election results to the host computer.

Upload Start

Transmission of election results to the host computer has begun.

Voted Bal Test

The first ballot is counted in the Fully Voted Ballot Test.

12.7. Printing the Audit Report

Auditing the Memory Card in Pre-Election Mode only causes the Audit report to be printed. Auditing the Memory Card in Post-Election Mode prints the Audit report in addition to setting the Election Status Indicator to 6 (the election status is printed on the Audit report).

1 Press YES in response to

PRINT AUDIT REPORT?

GENERATING REPORT ...
PRINTING LABEL

PRINTING AUDIT REPORT

and

NEED ANOTHER PRINTOUT?

appear. To print another copy of the Audit report, press YES, otherwise press NO.
13. Supervisor Functions

Supervisor Functions include Memory Card duplication and several other features that affect the Memory Card state. These functions are exclusively available to the Election Administrator and must be accessed using a password.

Supervisor Functions are accessible either in the regular stream of prompts in Pre-Election and Post-Election Modes or prior to entering Setup Mode in any one of the three election modes when powering the AccuVote-OS on, while pressing the YES button.

13.1. Pre-Election Mode

The following Supervisor Functions are available in Pre-Election Mode:

- Changing setup parameters
- Duplicating the Memory Card
- Clearing the Memory Card.

The following sequence of prompts is displayed in Supervisor Functions in Pre-Election Mode. Press NO after each prompt to view all prompts.

- CHANGE SETUP PARAMETERS?
- DUPLICATE THIS MEMORY CARD?
- CLEAR THIS MEMORY CARD?

13.2. Election Mode

Supervisor Functions are only accessible in Election Mode by powering the unit on while pressing the YES button. The following Supervisor Functions are available in Election Mode:

- Changing setup parameters
- Duplicating the Memory Card
- Resetting the Memory Card to Pre-Election Mode
- Clearing the Memory Card.

The following sequence of prompts is displayed in Supervisor Functions in Election Mode. Press NO after each prompt to view all prompts.

- CHANGE SETUP PARAMETERS?
- DUPLICATE THIS MEMORY CARD?
- CLEAR THIS MEMORY CARD?
13.3. Post-Election Mode

The following Supervisor Functions are available in Post-Election Mode:

- Changing setup parameters
- Duplicating the Memory Card
- Resuming counting ballots
- Resetting the Memory Card to Pre-Election Mode
- Clearing the Memory Card.

The following sequence of prompts is displayed in Supervisor Functions in Post-Election Mode. Press NO after each prompt to view all prompts.
13.4. Where the Functions are discussed

In some cases Supervisor Functions are not discussed in this chapter. The following functions are described in other chapters:

<table>
<thead>
<tr>
<th>Function</th>
<th>Discussed in</th>
</tr>
</thead>
<tbody>
<tr>
<td>Changing Setup Parameters</td>
<td>Chapter 15: Setup Mode</td>
</tr>
<tr>
<td>Resuming Counting Ballots</td>
<td>Chapter 14: Resume Counting</td>
</tr>
</tbody>
</table>

Table 13-1. Supervisor Functions discussion chapters

13.5. Entering a Password

Certain Memory Card functions may only be performed with the entry of a Supervisor password, which is defined in the AccuVote-OS options window in GEMS. These include:

- Accessing Supervisor Functions in any Election Mode
- Clearing a Memory Card in Election or Post-Election Modes
- Resetting a Memory Card to Pre-Election Mode

Audit reports may be printed at any time for any Memory Card to provide a complete list of transactions for that vote center.

Enter a password to access Supervisor Functions.

is displayed upon entering Supervisor Functions. The password must correspond to the Supervisor password defined in the AccuVote-OS Options window in GEMS, which was assigned to each Memory Card at the time of programming.

Each digit position may be incremented to the desired number by pressing NO the required number of times. When a digit position is correct, press YES to continue to the next digit position.

For example, pressing NO four times, pressing YES , then pressing NO two times, results in
If no password is required, press YES four times.

is displayed if an incorrect password is entered.

### 13.6. Where to enter a password

A password must also be entered in the following situations:

- Clearing an unaudited Memory Card in Election and Post-Election Modes
- Resetting a Memory Card to Pre-Election Mode
- Performing a Memory Card test in Diagnostic Mode

### 13.7. Copying Memory Cards

Memory Card may be copied in Supervisor Functions. Memory Card copies are useful for:

- Training
- Testing
- Problem arising with a Memory Card at a vote center on Election Day
- Recounting ballots
- Filing Memory Card copies with the government
- Using multiple Memory Cards for one vote center
- Taking intermittent snapshots of election results at large vote centers
- Running the entire election provided a full set of duplicate cards are available.

Memory Cards, as well as master Memory Cards, may be copied. The copy number is printed on the Memory Card label—0 indicates that the Memory Card is a master.

All information on the Memory Card is copied, including the Memory Card status. For example, if the source Memory Card is set to Election Mode, the copied Memory Card will also be set to Election Mode.

Provided the supply of Memory Cards is sufficient, make a copy of each programmed Memory Card and run the election using the copies, not the master Memory Cards. If any problem occurs with a Memory Card on Election Day, a copy may be made of the master card and counting continued using the new copy.

### 13.7.1. Vote centers with Multiple Memory Cards

Create additional Memory Cards to be used in case of a multiple Memory Card-vote center by copying from the master Memory Card, rather than repeatedly programming each card with the
same vote center information. Each Memory Card programmed with the same vote center is
given an incremented version number—only the results of the most recent version may be
transmitted to the host computer, whereas the results of each of the Memory Card copies may be
transmitted to the host computer.

13.7.2. Copying 32KB, 64KB and 128KB Memory Cards

The following instructions are used for copying 32KB, 64KB and 128KB Memory Cards:

1. In Pre-Election or Post-Election Mode, power the machine on and press NO until Supervisor
   Functions appears. Alternatively, power the AccuVote-OS on while pressing the YES button.
   Press YES in response to the prompt.

   SUPERVISOR
   FUNCTIONS?

2. Enter the Supervisor password and press NO until the following appears:

   DUPLICATE THIS
   MEMORY CARD?

   Then, press YES.

3. If the Memory Card to be copied is itself a copy, this message appears:

   NOT A MASTER
   OK TO DUPLICATE?

   Press YES. If the copy is not to be duplicated, press NO to continue.

   INSERT BLANK
   MEMORY CARD

4. Insert the blank Memory Card to be copied. If the inserted Memory Card is not blank, the
   following message is displayed:

   NOT BLANK -
   REMOVE CARD

5. Remove this Memory Card and either insert a blank Memory Card or clear it. The Memory
   Card may be cleared in Supervisor Functions in a separate AccuVote-OS session.

   Refer to Clearing the Memory Card in section 13.9 Supervisor Functions for information on
   clearing Memory Cards.

6. When a blank card is inserted, the following message appears:
7. Press YES.

OK TO FORMAT THIS MEM CARD?

FORMATTING MEMORY CARD

appears, followed by:

COPY SUCCESSFUL PRINT A LABEL?

Press YES. Note that each Memory Card, whether an original or copy, should be properly labeled.

8. GENERATING REPORT ...

PRINTING LABEL

and

PRINT ANOTHER LABEL?

are displayed. If another label is required, press YES, otherwise press NO. The system will now return to regular processing mode.

13.8. Resetting the Memory Card to Pre-Election Mode

A Memory Card may be reset to Pre-Election Mode in Supervisor Functions either in Election Mode or Post-Election Mode. Note that all election results are lost when a Memory Card is reset to Pre-Election Mode and may not be recovered.

The prompts displayed when resetting a Memory Card to Pre-Election Mode differ according to whether a Memory Card has been audited. A Memory Card may be audited in Post-Election Mode after election results are transmitted to the host computer.

13.8.1. Before Auditing the Memory Card

The following prompts are displayed when resetting an unaudited Memory Card to Pre-Election Mode.
1. Press YES in response to

   **RESET CARD TO PRE-ELECTION?**

2. Press YES in response to

   **CARD NOT AUDITED OK TO RESET?**

3. **ENTER PASSWORD DIGIT 1 OK? 0000**

   requires entry of the Supervisor password. Refer to *Entering a password* above for a further explanation on entering the Supervisor password.

4. **RESET UNAUDITED MEMORY CARD?**

   is displayed—press YES.

5. Remove the reset Memory Card when

   **REMOVE RESET MEMORY CARD**

   is displayed.

13.8.2. **After Auditing the Memory Card**

   To reset an audited Memory Card to Pre-Election Mode, press YES in response to

   **RESET CARD TO PRE-ELECTION?**

   The Memory Card is automatically reset to Pre-Election Mode, after which

   **REMOVE RESET MEMORY CARD**

   is displayed. Remove the reset Memory Card from the AccuVote-OS.
13.9. Clearing the Memory Card

Clearing a Memory Card causes all programmed election information and results to be removed from a Memory Card. It is not possible to recover any of the information once the Memory Card has been cleared. Clearing a Memory Card also causes any information defined to the Memory Card in Setup Mode to be lost.

The prompts used to clear a Memory Card in Pre-Election Mode are different from those in Election and Post-Election Modes. Furthermore, the prompts displayed in Election and Post-Election Modes differ according to whether a Memory Card has been audited.

Memory Cards must be cleared to be reused in future elections.

13.9.1. Pre-Election Mode

1. Press YES in response to

   CLEAR THIS MEMORY CARD?

2. CARD PROGRAMMED CLEAR?

   is displayed—press YES.

3. CLEARING MEMORY CARD

   and

   REMOVE CLEARED MEMORY CARD

   are shown. Remove the blank Memory Card and remove any attached label.

13.9.2. Election and Post-Election Modes

Memory Card clearing prompts in Election and Post-Election Modes differ according to whether a Memory Card has been audited.

1. Before Auditing the Memory Card

   The following prompts are displayed when clearing an unaudited Memory Card in Election or Post-Election Mode.

   1. Press YES in response to
2. The next message displayed is

**CARD NOT AUDITED CLEAR?**

Press YES

3. The Supervisor password must be entered when

**ENTER PASSWORD DIGIT 1 OK? 0000**

appears. Refer to *Entering a Password* above if a further explanation of how to enter the Supervisor password is required.

4. Then

**CARD NOT AUDITED CLEAR?**

is re-displayed—press YES.

5. Finally,

**CLEARING MEMORY CARD**

and

**REMOVE CLEARED MEMORY CARD**

are displayed. Remove the blank Memory Card and remove any attached label.

### 13.9.3. After Auditing the Memory Card

The following prompts are displayed when clearing a Memory Card audited after transmitting election results to the host computer in Election or Post-Election Modes.

1. Press YES in response to
CLEAR THIS MEMORY CARD?

2. Then CARD AUDITED CLEAR? is displayed—press YES.

3. Finally, CLEARING MEMORY CARD and REMOVE CLEARED MEMORY CARD are displayed. Remove the blank Memory Card and remove any attached label.
14. Resume Counting

The Resume Counting feature continues counting ballots for one or more vote centers after the election has closed, as permitted by local legislation. The Resume Counting feature is useful in jurisdictions that permit counting mail-in ballots after Election Day. The results of ballots counted in Resume Counting mode are added to existing results on a Memory Card.

The Resume Counting function is available only in Post-Election Mode.

Resume Counting involves:

- Resetting a Memory Card in Post-Election Mode to Resume Counting mode on the AccuVote-OS
- Counting the additional ballots on the AccuVote-OS
- Clearing the vote center in GEMS
- Transmitting the new election results to the host computer

A Memory Card may be set to Resume Counting Mode as many times as required.

14.1. Setting the Memory Card to Resume Counting mode

The first step in Resume Counting involves setting the Memory Card in Post-Election Mode to Resume Counting Mode on the AccuVote-OS. Note that electronically locking an AccuVote-OS by feeding an AccuVote-OS Ender card while pressing the YES and NO buttons in Election Mode places a Memory Card in Post-Election Mode.

1. Power on the AccuVote-OS with the Memory Card in Post-Election Mode. Press NO until the following prompt appears:

```
SUPERVISOR FUNCTIONS?
```

Press YES.

2. Enter the Supervisor password.

3. Press NO in response to every subsequent prompt in Supervisor Functions until the following prompt appears:

```
RESUME COUNTING BALLOTS?
```

Press YES.

4. When

```
REMOVE RESET MEMORY CARD
```

is displayed, power the AccuVote-OS off and on again.
14.2. Counting Ballots

If 1000 ballots have been counted in Election Mode, then the following prompts appear on the AccuVote-OS after it has been powered on again:

```
POLL:  10.00  
TOT COUNT: 1000
```

5. if unvoted or write-in ballots are being separated in the ballot box, otherwise the LCD will display

```
POLL:  10.00  U  
TOT COUNT:1000
```

where 10.00 is a sample vote center number and TOT COUNT shows that a total of 1000 have been counted.

6. Feed all additional ballots into the AccuVote-OS. When you have counted all additional ballots, feed the AccuVote-OS Ender card while pressing the YES and NO buttons.

If you are counting absentee ballots at the precinct and have additional absentee ballots, feed the Absentee Count card followed by the additional absentee ballots before submitting the AccuVote-OS Ender card.

7. After electronically locking the AccuVote-OS using the AccuVote-OS Ender card, the following messages are displayed as the Election Results report is printed:

```
GENERATING REPORT
```

```
PRINTING REPORT
```

```
PRINTING PRECINCT  10.00
```

is shown for each precinct in the vote center (if there is more than one precinct in the vote center). The Election Results report now reflects the new vote center totals. See Figure 14-1.
14.3. Clearing Vote Center Results in GEMS

Select the vote center in the AccuVote-OS Server 1 console under the Vote Centers tab, then click on the Reset button.

14.4. Transmitting the New Election Results to the Host Computer

The vote center’s new election results may be directly transmitted to the host computer using the following procedure. In order to perform modem transmission, refer to Transmitting election results by modem in Chapter 9: Transmitting Election Results to the Host Computer for a procedure detailing election results transmission.

14.4.1. GEMS

1. Activate the AccuVote-OS Server 1 console in GEMS.
2. Click on the Start button.
14.4.2. AccuVote-OS

After activating the AccuVote-OS Server 1 console in GEMS, transmit the new vote center results directly to the host computer as follows:

3. Power the AccuVote-OS on. Ensure that the machine is loaded with the proper Memory Card.

4. Press NO in response to

   SEND RESULTS BY TELEPHONE?

5. SEND RESULTS BY DIRECT MODE?

   is displayed—press YES.

6. REQUESTING COMMUNICATION

   is displayed followed by a number of other messages and lastly

   RESULTS SENT OK SEND ANOTHER?

Press NO. The new election results have now been received by GEMS. Proceed in Post-Election Mode or power the unit off and remove the Memory Card.
15. Setup Mode

Setup Mode is accessible from Supervisor Functions, and includes the following functions:

- Changing the phone number
- Electronically attaching the AccuFeed
- Redirecting output devices.

15.1. Setup Prompts

The following prompts are accessible in Setup Mode:

- CHANGE PHONE NUMBER?
- CHANGE BALLOT FEED METHOD?
- CHANGE OUTPUT DEVICES?
- SAVE SETTINGS TO MEMORY CARD?

The Saving Settings functions are only available in Setup Mode accessed from Supervisor Functions.

15.2. Changing the Telephone Number

The telephone number used in modem transmission may be defined in GEMS’ Vote Center Editor and downloaded to the memory card with the vote center data, defined in Setup Mode, or defined when programming or transmitting results by telephone.

Note: a telephone number that is defined or changed when programming or transmitting results by modem will be lost when the unit is turned off. If a number for election central has not been defined, or the existing number must be changed, the number must be specified in Setup Mode to be permanently saved to the memory card.
If the election central telephone number was not specified in GEMS before programming the memory card, the number should be defined in Setup immediately after programming memory cards.

1. To change the phone number used in modem transmission, press YES when

   ![CHANGE PHONE NUMBER?](image)

   is displayed.

2. 

   ![T261-5714 PHONE NUMBER OKAY?](image)

   is now shown, where 261-5714 is a sample phone number using a tone line. Press NO. Press NO to increment each digit to the correct value and press YES when digit is correct.

3. After correctly entering the entire phone number

   ![T261-5714 PHONE NUM. OKAY?](image)

   is re-displayed. Press NO if the phone number is correct. If the number needs to be revised again, press NO to revise the phone number.

### 15.3. Telephone numbers

If the election central telephone number was not specified in GEMS' Vote Center Editor and downloaded to the memory card with the vote center data, it should be defined in Setup Mode and copied onto all Memory Cards to be used with modem transmission immediately after programming Memory Cards.

The AccuVote-OS retains the phone number defined for the first Memory Card after being powered on. While the unit remains powered on, this phone number may be copied to each of the following Memory Cards loaded into the unit using the Save Settings option in Supervisor Functions.

When the AccuVote-OS has been loaded with a Memory Card with the correct phone number, select Supervisor Functions and press YES in response to

![CHANGE SETUP PARAMETERS?](image)

Press NO until the following prompt appears:
SAVE SETTINGS
TO MEMORY CARD?

Pressing YES will permanently save the phone number to the Memory Card.

SAVE SUCCESSFUL
SAVE TO ANOTHER?
is then displayed. Continue loading the AccuVote-OS with each of the Memory Cards to be programmed with the phone number.

To program another phone number onto Memory Cards, power the unit off and then on again. Take the unit into Change Setup Parameters, and perform the above instructions for all Memory Cards that are to have the same number. Repeat the entire procedure for each phone number being used.

Only one phone number needs be programmed onto all Memory Cards if cascading phone lines are being used, otherwise separate the AccuVote-OS units into groups of equal size, where the number of groups corresponds to the number of phone lines to be used at election central. Program each group of units with one of the phone numbers to be used at election central.

Telephone numbers defined either at the point of results transmission or memory card programming are lost when the AccuVote-OS is powered off. For this reason the above procedure to program telephone numbers onto Memory Cards should be used.

15.3.1. Telephone Number Options

In addition to entering a telephone number indicate the type of line used. The following information may also be entered:

- an external access digit such as 9, which may be necessary to dial outside of the PBX
- a long distance dialing code
- an area code
- a security code necessary for entering a telephone system
- an extension number
- an account code, which may be necessary at the end of the telephone number if dialing long distance

Ensure that any additional options are entered in the order necessary. Note that the phone number entered may not exceed 20 characters.

15.3.2. Composing the Phone Number

1. Press YES in response to

CHANGE PHONE
NUMBER?

in Setup Mode.

2. 

PHONE NUM. OKAY?

is displayed if no phone number has yet been defined. Press NO.

3. 

IS DIGIT OKAY?

is displayed, with the cursor positioned in the left-most digit of the phone number. This position is reserved for the line type indicator, which must be one of:

- **T** phone lines use the tone signal
- **P** phone lines use the pulse signal, as used by rotary dial phones

Pressing NO will cycle through the two options—when the correct choice has been made, press YES. Note that the line type indicator is mandatory.

4. 

_T_ IS DIGIT OKAY?

is displayed after the appropriate line type indicator has been chosen. Press NO to indicate that a phone number must be entered.

5. 

T2_ IS DIGIT OKAY?

Press the NO to step through the available numbers—press YES after the correct digit in this position has been chosen. Note that the numbers and characters available for the definition of a phone number are:

```
0 1 2 3 4 5 6 7 8 9 -, w @
```

For more information on the non-numeric characters refer to **Dial command options** below.

6. 

T261- IS DIGIT OKAY?

Press NO to step through the available numbers in every subsequent digit position that needs to be defined. Press YES after the correct digit in the position has been chosen.

Up to 20 characters may be entered in a phone number. Note that dashes may be used to delimit groups of digits in the phone number, although the dash is not interpreted. Blanks spaces can not be embedded in a phone number.
7. After the full phone number has been entered, press YES in response to the above prompt.

8. is now displayed. Press YES if the phone number is correct. If the number needs to be revised, press NO and step through each digit in the phone number if necessary, beginning with

The cursor will be repositioned at the beginning of the phone number.

15.3.3. Dial Command Options

In addition to the digits between and including 0 and 9, these special characters may be included in a telephone number -, , w, and @.

- Comma indicates a 2 second pause. Entering a multiple number of commas causes a corresponding number of 2-second delays.

- Dashes may be used to delimit groups of digits in a phone number. They are not mandatory and are purely cosmetic.

@ This symbol currently does not perform any function and is ignored.

@ Wait for 5 seconds of silence. This code is used to continue dialing after an anticipated voice prompt. The modem waits until the voice prompt is finished, waits for another five seconds of silence and continues dialing.

15.3.4. Sample telephone numbers

The examples provided indicate possible forms of dialing and do not necessarily conform to local requirements. The phone numbers are provided as examples.

1  

<table>
<thead>
<tr>
<th>T9-1-604-261-5714</th>
</tr>
</thead>
<tbody>
<tr>
<td>T</td>
</tr>
<tr>
<td>Indicates a tone line is used</td>
</tr>
<tr>
<td>9</td>
</tr>
<tr>
<td>Places the call outside of the local phone exchange</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>Indicates a non-local call</td>
</tr>
<tr>
<td>604</td>
</tr>
<tr>
<td>Area code</td>
</tr>
<tr>
<td>261-5714</td>
</tr>
<tr>
<td>Telephone number.</td>
</tr>
</tbody>
</table>

2  

<table>
<thead>
<tr>
<th>T1415-893-5493@410</th>
</tr>
</thead>
</table>

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15.4. Attaching the AccuFeed

Usage of the AccuFeed must be electronically defined to the AccuVote-OS by pressing YES in response to

```
CHANGE BALLOT FEED METHOD?
```

Repeatedly pressing NO causes the display to alternate between

```
USE MANUAL BALLOT FEED?
```

and

```
USE AUTO BALLOT FEEDER?
```

If YES is pressed when “User Auto Ballot Feeder” is displayed,

```
FEEDER SORT DISABLED?
```

appears. Press NO if ballot sorting is disabled, otherwise, press YES. The following screen appears
Press YES.

Defining the AccuFeed ballot feeder as being installed in the AccuVote-OS causes the ≈ symbol to be displayed in the top right hand corner of the ballot counting display in Pre-Election and Election Mode. Note that if the AccuFeed symbol is displayed, no ballot separation or non-separation symbols will appear as they would otherwise in ballot counting mode.

The AccuFeed symbol is also displayed in the bottom left hand corner of the ballot scanning display in the Ballot Reader Test in Diagnostics Mode. The symbol will appear only when the AccuFeed has been specified as in use prior to scanning ballots.

15.5. Redirecting Output Devices

This feature is useful in some instances of equipment testing. However, we recommend that it not be used as it may result in changed factory equipment settings and the system may not work as intended.

The following may be redirected:

Memory Card labels

• Zero Total reports
• Election Results reports.

to any one of the:

• Built-in printer
• Main serial input/output port
• Auxiliary serial input/output port
• Null device
• LCD display.

and

• Direct communication
• Modem communication.

to one of the

• Main serial input/output port
• Auxiliary serial input/output port.

Direct communication refers to the mode of transferring information between the AccuVote-OS and the host computer when directly programming Memory Cards or transmitting election results to the host computer. Modem communication refers to the mode of transferring information by modem. By default, direct transmission uses the AccuVote-OS’s main serial port and transmission by modem uses the AccuVote-OS’s auxiliary serial port.

Sending information to the null device causes the information to be dropped—it is not printed, displayed, or transmitted.
Step through all options by pressing NO after each prompt. Press YES to make the appropriate selection.

Current AccuVote-OS settings are taken from the first Memory Card inserted into the machine. Original settings will be displayed even after removing a Memory Card and inserting another Memory Card with different settings—for the AccuVote-OS to recognize the settings of the current Memory Card, the unit must be powered off and then on again. Pressing YES after

**CHANGE OUTPUT DEVICES?**

leads to

**SEND LABELS TO BUILTIN PRINTER?**

**ZERO TOTALS TO BUILTIN PRINTER?**

**RESULTS RPT TO BUILTIN PRINTER?**

**DIRECT COM TO MAIN SIO PORT?**

**USE CURRENT PARAMETERS?**

**MODEM COM TO AUX SIO PORT?**

**USE CURRENT PARAMETERS?**
Once the cycle through all prompts has been completed, Supervisor Functions or regular election mode prompts return, depending on the mode of entry.

15.5.1. Memory Card Labels

The Memory Card label is printed after a Memory Card is programmed or optionally, after a Memory Card copy is made. Press NO in response to

```
SEND LABELS TO BUILTIN PRINTER?
```

to route the labels normally printed on the AccuVote-OS printer to a different location. The Memory Card labels may be sent to the main serial input/output port, or

```
SEND LABELS TO MAIN SIO PORT?
```

to the auxiliary serial input/output port.

```
SEND LABELS TO AUX SIO PORT?
```

Nothing may be done with the labels, or

```
SEND LABELS TO NULL DEVICE?
```

the labels may be sent to the AccuVote-OS LCD.

```
SEND LABELS TO LCD DISPLAY?
```

15.5.2. Zero Total Report

The Zero Total report may be printed after a Memory Card is programmed, before counting test ballots in Pre-Election Mode, and before counting ballots in Election Mode. Press NO in response to

```
ZERO TOTALS TO BUILTIN PRINTER?
```

to route the Zero Total report normally printed on the AccuVote-OS printer to a different location. The Zero Totals report may be sent to the main serial input/output port, or
15.5.3. **Election Results Report**

The Election Results report is always printed after electronically locking the AccuVote-OS in Election Mode, and may optionally be printed in Pre-Election and Post-Election Modes. Press NO in response to

**RESULTS RPT TO BUILTIN PRINTER?**

to route the Election Results report normally printed on the AccuVote-OS printer to a different location. The Election Results report may be sent to the main serial input/output port, or

**RESULTS RPT TO MAIN SIO PORT?**

Nothing may be done with the Election Results report, or

**RESULTS RPT TO AUX SIO PORT?**

**RESULTS RPT TO NULL DEVICE?**

the Election Results report may be sent to the AccuVote-OS LCD.
15.5.4. Direct Communication

Memory Cards may be programmed and election results transmitted to the host computer either directly or by modem. Direct communication takes place by default over the main serial port, and may alternatively be performed using the auxiliary serial port, normally used for modem communication. Press NO in response to

**DIRECT COM TO MAIN SIO PORT?**

After specifying where direct communication is to be sent, communication parameters may be changed by pressing YES in response to

**USE CURRENT PARAMETERS?**

See *Current parameters* for more information on setting communication parameters.

15.5.5. Modem Communication

Memory Cards may be programmed and election results transmitted to the host computer either directly or by modem. Modem transmission takes place by default over the auxiliary serial port and may alternatively be performed using the main serial port, normally used for direct communication. Press NO in response to

**MODEM COM TO AUX SIO PORT?**

So route modem communication to the main serial port.

**MODEM COM TO MAIN SIO PORT?**
Once the destination for modem communication has been specified, communication parameters may be customized by pressing YES in response to

**USE CURRENT PARAMETERS?**

See *Current parameters* below for more information on setting communication parameters.

15.5.6. **Current Parameters**

In addition to re-routing AccuVote-OS output, the following data communication parameters may be changed:

- baud rate
- frame size
- flow control
- ending lines with LF

The parameters defined for direct transmission do not affect those set for modem transmission, and vice versa. *Transmission parameters should only be used by qualified technical staff, with the approval of Diebold Election Systems.*

Press NO in response to

**USE CURRENT PARAMETERS?**

to access to the following prompts:

**SET BAUD RATE TO 9600**

**USE 8 BIT FRAME SIZE?**

**USE XOFF FLOW CONTROL?**

**END LINES WITH LF ON OUTPUT?**
15.5.6.1. Setting the Baud Rate

The *baud rate* refers to the data transmission speed. The main serial port used for direct programming and results transmission operates at a default baud rate of 9600.

SET BAUD RATE TO 9600

is displayed initially when changing the default parameters of the main serial port.

The auxiliary serial port used for programming and results transmission by modem currently operates at a default baud rate of 2400, but may also employ a higher transfer rate.

SET BAUD RATE TO 2400

is displayed initially when changing the default parameters of the auxiliary serial port.

Press NO after each Set Baud prompt to select the next higher speed—valid transmission speeds are 2400, 9600, 19200 and 38400.

15.5.6.2. Frame Size

*Frame size* refers to the smallest unit of data employed in data communication. The AccuVote-OS commonly communicates with the GEMS PC with an 8-bit frame size, although some older computer systems may use a 7-bit frame size.

Press YES to use an 8 bit frame size in response to

USE 8 BIT FRAME SIZE?

Otherwise select a 7 bit frame size by pressing NO, whereupon

USE 7 BIT FRAME SIZE?

is displayed. After pressing YES

DISABLE PARITY CHECKING?

is displayed. Parity checking would normally be used only in case of a 7-bit frame size. Pressing NO will display
ENABLE PARITY CHECKING?

If parity checking has been requested,

USE ODD PARITY?

is displayed—if you wish to use odd parity, press YES, otherwise press NO.

15.5.6.3. Flow Control

XON/XOFF flow control is a software tool used to balance varying rates of data flow capacity between devices. For instance, if the AccuVote-OS generates information at 9600 baud and an attached printer operates at 2400 baud, the printer uses XON/XOFF to reduce the speed of the incoming data stream. Normally, the AccuVote-OS employs XOFF flow control.

Press NO if XON/XOFF flow control is being used,

USE XOFF FLOW CONTROL?

press NO otherwise, in which case

USE NO FLOW CONTROL?

is displayed. Pressing NO again rediscovers the original prompt.

15.5.6.4. Ending Lines with LF

LF and CR-LF are used to signal placement of new lines on a printout. A printer attached to the AccuVote-OS may employ either one of the two. LF is used by the AccuVote-OS by default and must be converted to CR-LF if it is required.

Press YES in response to

END LINES WITH LF ON OUTPUT?

to end ballots with LF, otherwise press NO to display
15.6. Saving Settings

The Save Settings function allows to save the specifications made in Setup Mode to as many Memory Cards as required, in one simple procedure.

All settings saved to the Memory Card using the Save Settings option remain in effect once the AccuVote-OS is powered off or the Memory Card is removed from the AccuVote-OS, until Setup Mode features are redefined. Saving Settings is only available from Supervisor Functions.

Press YES in response to

**SAVE SETTINGS TO MEMORY CARD?**

...to save to the Memory Card any of the settings defined in Setup Mode. After the settings have been saved, the following prompt will appear:

**SAVE SUCCESSFUL**

**SAVE TO ANOTHER?**

Press YES to save the settings just defined to another Memory Card.

**INSERT NEXT MEMORY CARD**

...is then displayed—remove the Memory Card and insert the next Memory Card on which to save the settings.

**SAVE SUCCESSFUL**

**SAVE TO ANOTHER?**

...is redisplayed. Note that none of these Memory Cards need be in the same mode—however, the settings may not be saved to a blank Memory Card. Also, the settings may be saved to Memory Cards of varying sizes. Saving settings to Memory Cards does not affect the existing contents of the Memory Cards.
16. Diagnostics Mode

Diagnostics Mode is used to set the AccuVote-OS clock and test all internal components of the AccuVote-OS. Powering the AccuVote-OS on while pressing the YES and NO buttons accesses diagnostics Mode.

The Memory Card Test is the only function in Diagnostics Mode requiring a Memory Card.

If any of the AccuVote-OS components experience a failure that cannot be resolved, contact a Diebold Election Systems representative for service.

Many of the Diagnostics Tests feature continuous testing options that permit isolation of problems that AccuVote-OS components may experience on an intermittent basis.

16.1. DEFINITIONS

ballot reader  The mechanism housed in the AccuVote-OS through which ballots pass. 34 sensors on each of the upper and lower sides of the ballot reader scan all possible voting positions on each ballot.

channel  A column of voting positions on a ballot scanned by a particular sensor in the ballot reader.

idler-side  The upper side of the two-sided ballot reader.

driver-side  The lower side of the two-sided ballot reader.

loopback connector  A plug that fits into the COMM. PORT jack at the back of the AccuVote-OS, causing transmissions sent out over the main serial port to be directed back to the AccuVote-OS.

16.2. Diagnostics Mode Prompts

This section lists all the Diagnostics Mode prompts. To view all prompts, power the AccuVote-OS on while pressing the YES and NO buttons.

```
DIAGNOSTICS
TEST MODE
```

appears briefly, followed by

```
SET SYSTEM
CLOCK?
```

Press NO after each prompt to view the next one. The first prompt will be redisplayed after this list is completed.

```
DUMP MEMORY
CARD IMAGE?
```
16.3. Setting the System Clock

The system clock keeps the date and time and does not require that the AccuVote-OS be powered on to operate. Set the system clock to the correct time on Election Day, taking into account any time zone and daylight savings time changes.

The Set System Clock prompt does not appear if a SmartWatch ROM chip is not installed or if a SmartWatch ROM chip is installed but is not working.
Setting the system clock involves setting both the date and the time. Setting the date consists of setting the:
- Month
- Day
- Year

and setting the time consists of setting the:
- Hour
- Minutes
- Seconds.

The NO button is used for incrementing—the number in question will increment each time the button is pressed. Once a number is correct, press YES in response to continue.

1. Press YES in response to

   SET SYSTEM CLOCK?

16.3.1. Setting the date

2. Press NO in response to

   DATE: 01/05/96
   IS DATE OK?

   to change the date, otherwise press YES to indicate that the date is correct and continue with step 7 in Setting the Time. Note that the date is displayed in mm/dd/yy format.

3. Continue with the following prompt if NO was pressed in 2.

   DATE: 01/05/96
   IS MONTH OK?

   Press YES if the month represented by the two flashing digits is correct, otherwise press NO until the desired month number is reached. The month will continue with 1 after reaching 12. Press YES to continue once the correct month has been specified.

4. DATE: 01/05/96
   IS DAY OK?
Press YES if the day represented by the two flashing digits is correct, otherwise press NO until the desired day number is reached. The day will continue with 1 after reaching the last day of the current month. Press YES to continue once the correct day has been specified.

5

DATE: 01/05/96
IS YEAR OK?

Press YES if the year represented by the two flashing digits is correct, otherwise press NO until the desired year number is reached. The year will continue with 1 after reaching 99. Press YES to continue once the correct year has been specified.

6 After the year has been accepted,

DATE: 01/05/96
IS DATE OK?

is redisplayed. Press YES if the date is correct and continue to step 7, otherwise press NO to repeat the date correction and continue with step 3.

16.3.2. Setting the time

7 Press NO in response to

TIME: 14:10:08
IS TIME OK?

to change the time, otherwise press YES to indicate that the time is correct and continue with section 16.4 Testing the LCD. Note that the time is displayed in hh:mm:ss format.

8

TIME: 14:10:08
IS HOUR OK?

is displayed if NO was pressed in 7. Press YES if the hour represented by the two flashing digits is correct, otherwise press NO until the desired hour is displayed. The hour will restart at 0 after reaching 23. Press YES to continue once the correct hour has been specified.

9

TIME: 14:10:08
IS MINUTE OK?

Press YES if the minute represented by the two flashing digits is correct, otherwise press NO until the desired minute is reached. The minute counter will restart at 0 after reaching 59. Press YES to continue once the correct minute has been specified.
TIME: 14:10:08
IS SECOND OK?

Press YES if the second represented by the two flashing digits is correct, otherwise press NO until the desired second is reached. The second will restart at 0 after reaching 59. Press YES to continue once the correct second has been specified. Note that the second will change at regular intervals as it is being changed.

After the second has been accepted,

TIME: 14:10:08
IS TIME OK?

is redisplayed. Press YES if the time is correct, otherwise press NO to repeat the time correction and continue with step 8.

16.4. Dump Memory Card Image

This option allows memory card data from corrupt memory cards to be uploaded to Hyperterminal or other common terminal emulators for analysis. This option should be used by qualified Diebold Election Systems technicians only.

The memory card image may be transmitted either by modem, or directly.

1. Press YES in response to

DUMP MEMORY CARD IMAGE?

SEND RESULTS BY TELEPHONE?

2. Press YES to send the memory card image by telephone and proceed to section 16.4.1, Sending a Memory Card Image by Telephone, or press NO to advance to

SEND RESULTS BY DIRECT MODE?

3. Press YES.

The AccuVote-OS now begins transmission of the memory card image to the host computer. The following messages are displayed:
4. If additional memory card images are to be transmitted from more than one Memory Card, press YES, remove the uploaded card, then insert the next card to upload. If no more cards are to be uploaded, press NO.

**16.4.1. Sending a Memory Card Image by Telephone**

5. 

**SEND RESULTS BY TELEPHONE?**

The designated modem’s telephone number for transmitting data is now displayed. Press YES to accept the phone number.

If no phone number is displayed, or an incorrect phone number is displayed, enter a number or change the existing one. Refer to the section titled **15.3 Telephone numbers** for more information on defining phone numbers on the AccuVote-OS.

**T6046779657**

**PHONE NUM. OKAY?**

6. Press YES in response to

**READY TO DIAL HOST?**

7. The AccuVote-OS now begins data transmission to the host computer. The following messages are displayed:
8. If memory card images of additional memory cards must be sent to the host computer, remove the memory card currently installed in the AccuVote-OS and insert the next one.

16.5. Testing the LCD

Press YES in response to

TEST LCD DISPLAY?

to test the LCD. This test displays all possible characters including numbers on the LCD—testing concludes as
0123456789
TEST CONTINUOUS?

The LCD may be tested continuously by pressing YES. The LCD test is repeated automatically until terminated by pressing NO.

TEST #: 2
PRESS NO TO STOP

is displayed with the correct number of every subsequent test performed.

16.6. Testing the System Memory

The System Memory Test involves writing data to AccuVote-OS memory and reading it back again. The test is successful only if the data read is identical to the data initially written to memory.

Pressing YES in response to

TEST SYSTEM MEMORY?

causes

TESTING SYSTEM MEMORY

followed by

MEM:128+128K? OK TEST CONTINUOUS?

to be displayed after the memory has been successfully tested. The System Memory Test may also be tested continuously, whereby the test is repeated automatically until the NO button is pressed.

TEST #: 2
PRESS NO TO STOP

will be displayed for every subsequent test, with the corresponding test number.
If the memory test is unsuccessful,

```
MEMORY FAILED
REPEAT TEST?
```

is displayed on the AccuVote-OS LCD.

### 16.7. Testing the Memory Card

Testing the Memory Card involves writing data to the Memory Card and reading it back again. The test is successful only if the data read is identical to the data initially written to the Memory Card.

*Testing a Memory Card causes the Memory Card contents to be erased!*

Press YES in response to

```
TEST MEMORY CARD?
```

If the AccuVote-OS is not loaded with a Memory Card,

```
INSERT MEMORY CARD TO TEST
```

is displayed. Insert the Memory Card to be tested.

```
CARD PROGRAMMED CLEAR?
```

is displayed if the card is in Pre-Election Mode—press YES to clear the card. If the card is in Election or Post-Election Mode and has not been audited,

```
CARD NOT AUDITED CLEAR?
```

is displayed, followed by a password prompt, otherwise

```
CARD AUDITED CLEAR?
```
is displayed, and

![TESTING MEMORY CARD](image)

is shown on the LCD while the Memory Card is being tested.

![32K CARD OKAY](image)

indicates that the Memory Card Test has been successful for the 32K Memory Card—a continuous Memory Card Test may be performed by pressing YES. The Memory Card Test is automatically repeated until you press NO to terminate it.

![TEST #: 2 PRESS NO TO STOP](image)

is displayed at the completion of each Memory Card Test. At the completion of a Memory Card test, another Memory Card may be tested by pressing YES in response to

![TEST ANOTHER MEMORY CARD?](image)

remove the current Memory Card and insert the next one.

16.7.1. Card Test Failure

Note that the Memory Card Test will fail if the Memory Card is write-protected but will not necessarily fail without a battery installed.

![CARD TEST FAILED TEST ANOTHER?](image)

is displayed if the Memory Card Test failed. Press YES to repeat the test, otherwise press NO.

16.8. Testing the Printer

A subset of the standard character set is printed in continuous form on the AccuVote-OS printer until each character has been printed in each horizontal position on the printer tape.

Press NO in response to
to begin the Printer Test.

is displayed while the Printer Test is in progress. When the Printer Test has finished,

is displayed. To perform a continuous Print Test—press YES and

is displayed for every continuous Printer Test, with the corresponding test number. Press NO at any time to terminate the test. The following prompt will be displayed

while the Printer Test prints the remaining lines on the printer tape. The printer test also may be terminated by powering the AccuVote-OS off and then on again while pressing the YES and NO buttons, which will return the unit to Diagnostics Mode.

16.9. Testing the Main Serial Port

The main serial port is used for direct Memory Card programming and election results transmission to the host computer. To test the main serial port, a loopback connector must be attached to the COMM. PORT jack at the back of the AccuVote-OS.

Press YES in response to

When
is displayed, connect the loopback connector to the COMM. PORT jack at the back of the AccuVote-OS. Press either the YES or NO button to begin testing. Testing starts at

![TESTING: 1](image)

and rapidly increases to

![TESTING: 128](image)

as 128 test transmissions are sent and received over the main serial port.

**16.9.1. Test Is Successful**

If all transmissions are successful

![SER. PORT PASSED TEST CONTINUOUS?](image)

is displayed. Press YES to perform a continuous test. Whereby the test will automatically continue until the NO button is pressed.

![TEST #: 2 PRESS NO TO STOP](image)

is displayed for every one of the subsequent continuous tests, with the corresponding test number.

**16.9.2. Test Is Unsuccessful**

![TESTING: nn](image)

is displayed if nothing is received back over the main serial port. Check that the loopback connector is properly installed.

Failure of the main serial port test is indicated with the display of
FAIL s=1  r=-1
PRESS ANY BUTTON

where s=1 represents an example of a value transmitted and r=-1 an example of a value received in the test. Pressing either YES or NO brings up

SER. PORT FAILED
REPEAT TEST?

Press YES to repeat the test, otherwise press NO.

16.10. Testing the Auxiliary Serial Port

The auxiliary serial port is used for Memory Card programming and election results transmission by modem. This test is performed on the AccuVote-OS’s internal modem. The modem is automatically set to loopback mode before testing is performed and it is not necessary to use an external loopback connector.

Press YES in response to

TEST AUXILIARY SERIAL PORT?

SETTING MODEM LOOPBACK MODE

is displayed, followed by

TESTING: 1

which rapidly increases to

TESTING: 128

as 128 test transmissions are sent and received over the auxiliary serial port. If all are successful,
16.10.1. **Test Is Unsuccessful**

The modem is not working properly if

![MODEM INIT FAIL CONTINUE TEST?]

is displayed and will fail if the test continues.

The test has failed if

![FAIL s=1 r=-1 PRESS ANY BUTTON]

is displayed, where s=1 represents an example of a value transmitted and r=-1 an example of a value received in the test. Pressing either YES or NO brings up

![SER. PORT FAILED REPEAT TEST?]

Press YES to repeat the test, otherwise press NO.

16.11. **Testing the Ballot Deflector**

The following procedure may be used to test the ballot deflector:

1. Install the AccuVote-OS in a ballot box according to Setting up the AccuVote-OS for ballot processing in Chapter 7, *Setting up the AccuVote-OS in the AccuVote-OS Hardware Guide*.

2. Leave the retaining door of the ballot box lid open. Do not push the AccuVote-OS all the way to the back of the ballot box lid to allow access to the unit’s power switch.

3. Power the machine on while pressing the YES and NO buttons to enter Diagnostics Mode. Slide the unit to the back of the ballot box lid.

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4. Advance to the Ballot Deflector Test by pressing NO 7 times until reaching

```
TEST BALLOT
DEFLECTOR?
```

5. Pressing YES will display

```
OPENING
RIGHT BIN
```

followed by

```
OPENING
LEFT BIN
```

in succession as the AccuVote-OS electronically shifts the deflector from one bin to the other.

6. Close and lock the retaining door.

7. Open the ballot box lid and support it on the ballot box lift arm.

8. Observe that the deflector rotates correctly from one side to the other, corresponding to the bins indicated on the AccuVote-OS LCD.

9. Once it is verified that the deflector is working, close and lock the ballot box lid. Unlock and open the retaining door, and depress the NO button for several moments. This will terminate the Ballot Deflector Test.

See Figure 16-1.

---

**Figure 16-1. View of AccuVote-OS Ballot Deflector**
16.12. Testing the Ballot Reader

Each ballot passing through the ballot reader is scanned by 34 sensors on the idler side and 34 sensors on the driver side of the reader. The idler side reads the upper face and the driver side reads the lower face of the ballot. Each column of voting positions on a ballot is read by exactly one sensor—the first and last sensors on each side read timing marks only. The intersection of each of the remaining second to thirty third columns with each row of timing marks on the side of the ballot represents all the possible voting positions on a ballot.

The Reader Diagnostics Test report summarizes voting positions by channel for all ballots read in the test. A log of the voting positions marked may also be displayed or printed to an external serial device using the Display Data on Terminal.

The Reader Diagnostics Test should be performed using Diagnostic ballots only, although Ballot Reader Test results using live election ballots will not show any recognizable errors. Election ballots may be from any election, any precinct, and of any size. However, all ballot cards used in each test must be of the same length. The first ballot card read determines the length to be accepted in the test and any following cards that do not correspond in length will be rejected.

The ballot reader may be tested in Diagnostics Mode either by:

- Feeding ballots with the AccuFeed
- Feeding ballots by hand
- Recirculating a ballot.

16.12.1. Performing the Ballot Reader Test

1. Press YES in response to

   TEST BALLOT READER?

2. The next message displayed is

   TEST WITH AUTO FEEDER?

Press NO if the AccuFeed is not being used and continue with step 3. Normally, the AccuFeed is not used in the Reader Diagnostics Test.

3. The next option is ballot recirculation. Press NO in response to

   RECIRCULATE BALLOTS?

as it is not recommended that the Reader Diagnostics Test be performed in this mode. Note that this prompt does not appear in AccuFeed mode, as it is not possible to recirculate ballots with the AccuFeed in use.
Proceed to section 16.11.4 Recirculating Ballots if NO has been chosen in response to this prompt.

4. If Reader Diagnostics Test is not to be recirculated, ballots may be assigned to the alternate ballot box compartment using the

**SORT BALLOTS?**

option. Press YES to use this feature and proceed to section 16.11.5 Ballot Sorting, or press NO to continue with step 5. Note that this prompt does not appear when the AccuFeed is in use, as it is not possible to use the ballot box and the AccuFeed at the same time.

5. It is possible to display Diagnostics information on an ASCII terminal, but is appropriate only for technical staff. Press NO in response to

**DISPLAY DATA ON TERMINAL?**

Proceed to section 16.11.3 Displaying data on a terminal below for more information.

6. **INITIALIZING PLEASE WAIT** is displayed, followed by,

**INSERT BALLOT IN READER**

which indicates that the ballot reader is ready to accept hand fed ballots.

7. **CARDS READ: 1 _ NOT READ: 0** is displayed once the first ballot card is read. CARDS READ increments for each of the cards successfully read and NOT READ increments for each of the ballot cards unsuccessfully read. Note that ballot cards differing in length from the first card read in the test will be considered unsuccessfully read.

To print the Reader Diagnostics Test report while a ballot is being scanned, press YES. If the results are displayed on a terminal, keep the YES button depressed as long as
8. Press NO to end the Reader Diagnostics Test.

16.12.2. Diagnostic Ballots

Figure 16-2 below is a representation of a diagnostic Ballot (Type 3) Oval Side.

Diebold Election Systems provides Diagnostic ballots (Type 3) to be used for the Reader Diagnostics Test. These ballots feature a full grid of blank voting ovals in all possible voting positions on the oval side of the card and 1/32" wide horizontal lines connecting all of the timing marks on the marked side of the card. A single pass of an unmarked diagnostic ballot should register 100 percent of voting positions marked on the marked side and 0.00 percent of voting positions marked in each column on the oval side.

Diagnostic ballots come in several different styles. Currently, the Type 3 Diagnostic ballot is the recommended style. The Reader Diagnostics Test report is valid only for Diagnostic ballots.

The marked side of the Diagnostic ballot is displayed in Figure 16-3.
16.12.3. Displaying Data on a Terminal

The results of the Reader Diagnostics Test may be displayed on an external display device using the main serial port—note that this feature is for technical staff only.

The COMM. PORT jack at the back of the AccuVote-OS should be plugged into the external display device by means of an RS232 serial cable, as shown in Figure 16-4. Configure the port on the external device for 9600 baud and 8-bit, no-parity transmission.

Ballot markings are displayed on the terminal in two groups of 32-column rows, each row corresponding to the possible voting positions on a ballot. The display is coded as follows:

0 Blank voting position
1. Mark in voting position
?
Undefined mark in voting position.

The left-hand group of 32 column rows represents the idler side of the ballot reader and the right-hand 32 columns represent the driver side of the ballot.

DISPLAYING CARD MATRIX

is displayed on the AccuVote-OS as the results of each ballot card are transmitted to the terminal.

16.12.4. Recirculating Ballots

The following procedure is used for performing the Card Reader Diagnostics Test in Recirculate Mode.

1. To recirculate ballots, press YES in response to

   **RECIRCULATE BALLOTS?**

2. **DISPLAY DATA ON TERMINAL?**

   Press NO.

3. **INITIALIZING PLEASE WAIT**

   is displayed as the ballot deflector is initialized, followed by

   **INSERT BALLOT IN READER**

4. After the Diagnostic ballot to be re-circulated has been inserted the

   **CARDS READ: 1**
   _ NOT READ: 0

   is displayed—CARDS READ is incremented each time the ballot is successfully scanned and NOT READ is incremented each time the ballot is unsuccessfully scanned.
Terminate Ballot re-circulation by pressing the NO button. Temporarily pause the test by firmly gripping and removing the ballot as it is returned from the reader. Reinsert the ballot in the same orientation to continue the test. If the ballot is turned from its original orientation, the printer test results will be invalid.

16.12.5. Ballot Sorting

This test may be performed to verify that the ballot deflector functions properly without feeding blank or write-in ballots.

1. Install the AccuVote-OS in the ballot box according to Setting up the AccuVote-OS for ballot processing in Chapter 7, Setting up the AccuVote-OS in the AccuVote-OS Hardware Guide. Remember to remove the security plate from the ballot entry slot and place it in the security plate recess in the ballot box lid.

2. Leave the retaining door open. Do not push the AccuVote-OS all the way to the back of the ballot box lid to allow access to the power switch.

3. Power the AccuVote-OS on while pressing the YES and NO buttons to enter Diagnostics Mode. Slide the unit to the back of the ballot box lid.

4. Press NO 8 times to reach

   TEST BALLOT READER?

5. Press YES, then press NO two times. Press YES once

   SORT BALLOTS?

   is displayed.

6. 

   SORT ONE OF 1 BALLOTS?

   is now shown on the LCD. Every ballot will be dropped into the alternate ballot box compartment. Press NO to increment the number of ballots to choose from.

7. The prompt will change to

   SORT ONE OF 2 BALLOTS?

Now one out of every two ballots is placed in the alternate ballot box compartment.

8. Continue incrementing the total number of ballots from which to select using the NO button. When the desired number is reached, press YES.
9. Close and lock the retaining door on the ballot box lid.

10. **OPENING RIGHT BIN** is displayed, initializing the ballot deflector, followed by **DISPLAY DATA ON TERMINAL?**

    Press NO.

11. **INITIALIZING PLEASE WAIT** is displayed, followed by **INSERT BALLOT IN READER**

    Feed the test deck of ballots into the AccuVote-OS. Note that the total sort amount includes ballots unsuccessfully read.

    The number of ballots scanned is recorded in the following LCD message:

    **CARDS READ: 10**
    **NOT READ: 0**

    In this example, all 10 ballots have been successfully read. The symbol in the bottom left hand corner of the LCD indicates that ballots are being separated in the ballot box.

12. After the ballots have been read, unlock and open the retaining door. Press NO to terminate ballot counting on the AccuVote-OS.

13. If the ballot box being used has a back door, open the door and remove ballots from both compartments. If the ballot box has a rear door, close and lock the retaining door and unlock and open the ballot box lid, while supporting the lid with the lift arm. Carefully remove ballots from both compartments, then close and lock the ballot box lid. See Figure 16-5.
16. To repeat the test for a different selection amount, repeat this procedure beginning at step 4.

16.13. Reader Diagnostics Test Report

The Reader Diagnostics Test report provides a summary of voting positions marked on ballots on the idler and driver sides of the ballot reader for all ballots read in the Reader Diagnostics Test. The report includes:

- Time
- Date
- Idler and driver card reader type
- Card length, in rows
- Number of cards read in the test
- Number of cards not processed
- Number of ballots with an odd-length (an odd number of rows)
- Number of voting positions with long marks
- Number of voting positions with undefined marks.

The body of the report lists the percentage of voting positions marked on all ballots in each channel. These figures are separated for the idler and the driver sides of the ballot reader.

*Note that the statistics printed are based on the total number of ballots tested.* Each ballot pass is averaged with previous ballot passes to produce the percentages printed in the report.

The Reader Diagnostics Test report is based on eight channel readings only if using the AccuFeed—channels 1, 8, 9, 16, 17, 24, 25 and 32.
16.13.1. Printing the Reader Diagnostics Test Report

The Reader Diagnostics Test report is printed by pressing YES while a ballot is being scanned. The report is also automatically printed when 500 ballots (in some cases less) have been read. Note that the report is only valid for Diagnostic ballots.

PRINTING READER TEST COUNTERS

appears on the LCD as the report is printed. Once the report has been printed, CARDS READ and NOT READ are reset to zero.

A sample of the Reader Diagnostics Test report is shown in Figure 16-6. This report reflects the results of scanning marked/oval Diagnostic ballots an equal number of times face up and face down.
**Figure 16-6. Reader Diagnostic Test Report**
17. AccuVote-OS Messages

This chapter lists possible AccuVote-OS error messages in alphabetical order. LCD error messages are listed in alphabetical order followed by the probable error causes and recommended solutions. Chapter 8: Analyzing Unaccepted Ballots in this guide lists all error messages that may occur in ballot testing.

**Aborted by Admin Message**

**Probable Cause**
Abort or Halt were selected in the AccuVote-OS Server 1 console in GEMS either while programming Memory Cards or transmitting election results to the host computer.

**Solution**
To continue, restart the transmission from GEMS. Press either the YES or NO button on the AccuVote-OS.

**Aborted By User Message**

**Probable Cause**
The NO button on the AccuVote-OS was pressed while Memory Card programming or results transmission was in progress.

**Solution**
Repeat Memory Card programming or election results transmission if necessary—do not press the NO button while the transmission is in progress unless the transmission is to be aborted.

**Already Sent Message**

**Probable Cause**
An attempt is being made to transmit election results from a Memory Card whose results have already been received in GEMS.

**Solution**
Remove the Memory Card, as it is not possible to re-transmit election results unless the memory card has been reset in GEMS. Press either the YES or NO button on the AccuVote-OS to continue.
Cand Qty Error Message

CAND QTY ERROR
PRESS ANY BUTTON

Probable Cause
More candidates are being programmed onto the Memory Card than were originally defined for the precinct.

Solution
Errors may be occurring in the jurisdictional information. Attempt to reprogram the Memory Card – if the error persists, contact your Diebold Election Systems representative.

Press either the YES or NO button on the AccuVote-OS to continue.

Card Protected Message

CARD PROTECTED
PRESS ANY BUTTON

Probable Cause
The inserted Memory Card is write-protected. NO activity may be performed on the AccuVote-OS using this Memory Card.

Solution
Remove the Memory Card—the card is not usable until it is write-enabled, meaning that all of the above activities may be performed. Refer to The AccuVote-OS Hardware Guide for more information.

Press either the YES or NO button on the AccuVote-OS to continue.

Card Test Failed Message

CARD TEST FAILED
CONTINUE TEST?

Probable Cause
An error has been detected in the Memory Card Test in Diagnostics Mode while performing a Continuous Test.

Solution
Record the failure and continue the test. If several Memory Cards fail this test, the AccuVote-OS should be sent in for servicing.

Press the YES button to continue testing the Memory Card, otherwise press NO and remove the Memory Card. If the Memory Card test fails with this Memory Card only, it is faulty and should be replaced.
Card Test Failed Message

CARD TEST FAILED
TEST ANOTHER?

Probable Cause
An error has been detected in the Memory Card Test in Diagnostics Mode.

Solution
The Memory Card should be serviced before being subjected to further use. If several Memory Cards fail this test, the AccuVote-OS should be sent in for servicing.

Press the YES button to test another Memory Card, otherwise press NO and remove the Memory Card. If the Memory Card test fails continuously with this card only, it is faulty and should be replaced.

Closing Communication Message

CLOSING
COMMUNICATIONS

Probable Cause
This message is displayed at the end of Memory Card programming or election results transmission. If this message is displayed for more than a few minutes, it is likely that the activity did not complete successfully.

Solution
Retry programming the Memory Card or transmitting election results. Power the unit off and then on again, or press the NO button. If communication failure persists, the AccuVote-OS should be serviced.

If programming Memory Cards or transmitting results at election central, use another AccuVote-OS to transmit results. If transmitting results from a polling place, send the unit to election central and directly send results to the host computer.

Com Error Message

COM ERROR
PRESS ANY BUTTON

Probable Cause
A communication error was encountered between GEMS and the AccuVote-OS unit.

Solution
Press either the YES or NO button on the AccuVote-OS to continue. Restart Memory Card programming or election results transmission. If the communication problem persists, the unit should be serviced.

If programming Memory Cards or transmitting results at election central, use another AccuVote-OS to transmit results. If transmitting results from a polling place, send the unit to election central and directly send results to the host computer.
Com Interrupted Message

COM INTERRUPTED
PRESS ANY BUTTON

Probable Cause
The NO button was pressed on the AccuVote-OS or the Memory Card was removed during programming or election results transmission.

Solution
Restart Memory Card programming or election results transmission. Press either the YES or NO button on the AccuVote-OS to continue.

Connect Failed Message

CONNECT FAILED
PRESS ANY BUTTON

Probable Cause
The AccuVote-OS modem has failed to connect with the host computer’s modem while performing Memory Card programming or election results transmission by modem.

Solution
Press either the YES or NO button to repeat the Memory Card programming or election results transmission attempt. Ensure that telephone lines are properly connected at the polling place and at election central. Verify that the correct telephone number is defined to the Memory Card.

If communication failure persists, the unit should be serviced. If programming Memory Cards or transmitting results at election central, use another AccuVote-OS to transmit results. If transmitting results from a polling place, send the unit to election central and directly send results to the host computer.

Copy Aborted Message

COPY ABORTED
REMOVE CARD

Probable Cause
Pressing the NO button in the course of Memory Card copying has caused the process to abort.

Solution
Remove the Memory Card. Restart the Memory Card copy procedure as necessary.

Copy Failed Message

COPY FAILED
TRY AGAIN?

Probable Cause
Memory Card copying has failed.
Solution
Press YES to repeat the attempt to copy the Memory Card. If the Memory Card copy failure is repeated, copy to another Memory Card.

If failure persists, the source Memory Card may have become corrupted and should be re-programmed onto a fresh Memory Card before copying onto other Memory Cards.

Corrupt Count Message

Probable Cause
Incorrect data was detected on the Memory Card by means of an internal check performed by the AccuVote-OS. This error occurs only during counting and causes the unit to stop operating. Static electricity or a faulty power source usually causes the error.

Solution
Power the AccuVote-OS off and then on again, placing the Memory Card into Post-Election Mode. If the data is still incorrect, a prompt to re-insert the Memory Card will appear. Two more prompts to continue will follow. The results will not upload, but the Election Results report and the Audit report will print.

To continue the election, recount all ballots using a new Memory Card. Supervisor Functions may be used to clear the problem Memory Card, but the card should be tested thoroughly before being used.

It is recommended that Memory Card and AccuVote-OS unit numbers be recorded, as well as a description of the conditions in which the message occurred in a log. Note that a defective Memory Card or a defective AccuVote-OS unit may corrupt the election data.

Counter Error Message

Probable Cause
The internal checks on the race and candidate counters failed, indicating that bad data has been found on the Memory Card.

Solution
To terminate the internal checks, press the NO button on the AccuVote-OS. Remove the Memory Card and have it serviced.

To continue, press the YES button. Although it may be possible to print some reports, the card still contains erroneous data and should be serviced.

Failed @ Message
Probable Cause
The System Memory Test has failed in Diagnostics Mode. Each X may be a digit between 0 and 9 or a letter between A and F, the entirety of which represents an internal memory address.

Solution
Power the unit off and then on again and repeat the test. If the message reappears, the unit must be serviced by Diebold Election Systems.

*Device Failed To Open Message*

**DEVICE**
**FAILED TO OPEN**

Probable Cause
An error has occurred in AccuVote-OS functioning.

Solution
Power the unit off and then on again and repeat the process during which the failure occurred. If the problem persists, have the unit serviced by Diebold Election Systems.

*Hang Up Failed Message*

**HANG UP FAILED**
**PRESS ANY BUTTON**

Probable Cause
The AccuVote-OS has failed to hang up when performing Memory Card programming or election results transmission by modem.

Solution
Press either the YES or NO button to repeat Memory Card programming or election results transmission. If the problem persists, the modem may be experiencing timing problems and should be replaced.

Ensure that the AccuVote-OS is properly connected from the Line jack at the back of the AccuVote-OS to the designated site RJ-11 jack.

*Invalid Password Message*

**INVALID PASSWORD**
**PRESS ANY BUTTON**

Probable Cause
The Supervisor password has been changed after a Memory Card has been programmed, inhibiting the subsequent transmission of election results. The AccuVote-OS will detect that GEMS uses a different password and will not transmit results.

Solution
Change the password back to the original value in the AccuVote-OS Options window in GEMS.

Press either the YES or NO button on the AccuVote-OS to continue.
Call For Service Message

ISRnn: dddd:dddd
CALL FOR SERVICE

Probable Cause
The AccuVote-OS has failed to complete the current activity. This message may display a number between 0 and 31 in NN and each X will be a digit between 0 and 9 or a character between A and F, the entirety representing an internal computer address.

Solution
When one of these messages appears, record the message, taking special note of the number, and write a brief description of what was being done on the system at the time that the message appeared.

As this message may be caused by static or power surges, turn the unit off and try again. If the same error recurs, have the unit serviced.

Memory Card Bad Message

MEMORY CARD BAD
PLEASE REMOVE

Probable Cause
The Memory Card currently installed has an invalid status or failed in a Memory Card test.

Solution
Remove the bad Memory Card, mark it as suspect, and test it again. The test may have failed due to improper insertion or dirty Memory Card contacts. If it fails repeatedly, replace the card.

Mem Card Removed Message

MEM CARD REMOVED
COUNTING ABORTED

Probable Cause
The Memory Card was removed from the AccuVote-OS during the ballot counting process. The AccuVote-OS unit cannot count ballots unless a Memory Card is installed.

Solution
Reinsert the Memory Card into the AccuVote-OS. Power the unit off and then on again before bringing the machine into ballot counting mode.

Mem Card Removed Message

MEM CARD REMOVED
PRESS ANY BUTTON
Probable Cause
The Memory Card has been removed in the course of Memory Card programming or election results transmission.

Solution
Reinsert the Memory Card into the AccuVote-OS, power the AccuVote-OS off and then on again, and repeat Memory Card programming or election results transmission.

Memory Failure Message

MEMORY FAILURE
PRESS ANY BUTTON

Probable Cause
A memory error has occurred in the course of report printing.

Solution
Power the unit off and then on again. If the problem persists, the printer must either be repaired or replaced—this work must be performed by qualified Diebold Election Systems staff only.

Missing Cands Message

MISSING CANDS
PRESS ANY BUTTON

Probable Cause
It appears that fewer candidates are being programmed than are supposed to be programmed.

Solution
Repeat the download attempt. If the error message persists, contact your Diebold Election Systems representative. Press either the YES or NO button on the AccuVote-OS to continue.

Missing Cards Message

MISSING CARDS
PRESS ANY BUTTON

Probable Cause
The precinct information being programmed onto the Memory Card reports fewer ballot cards than there are supposed to be.

Solution
Attempt to re-download the vote center. If the error message persists, contact your Diebold Election Systems representative. Press either the YES or NO button on the AccuVote-OS to continue.
**Modem Init Fail Message**

**MODEM INIT FAIL**

**CONTINUE TEST?**

**Probable Cause**
The AccuVote-OS has failed to initialize the modem properly before performing the Auxiliary Serial Port Test in Diagnostics Mode.

**Solution**
The auxiliary serial port cannot be tested properly unless the modem can be initialized for a loopback test. Turn the unit off and then repeat the test. Continued failure indicates a problem in the serial port or in the modem, which will require servicing.

**No Memory Card Message**

**NO MEMORY CARD**

**PRESS ANY BUTTON**

**Probable Cause**
The Memory Card has been removed while performing some function on the AccuVote-OS other than ballot counting, which requires an installed Memory Card.

**Solution**
Press either the YES or NO button on the AccuVote-OS and install the Memory Card.

**No Room For Cand Message**

**NO ROOM FOR CAND**

**PRESS ANY BUTTON**

**Probable Cause**
Not enough space has been found for the vote center's candidates as the Memory Card is being programmed. This problem may occur with absentee precincts or large vote centers.

**Solution**
Either:
- Use a larger Memory Card
- Reduce the number of ballot cards used in the vote center and re-program the vote center
- If absentee ballots are counted at absentee precincts and the problem has occurred in programming the absentee precincts, create smaller absentee precincts and allocate each absentee precinct to a separate vote center before repeating Memory Card programming
- If absentee ballots are counted at absentee vote centers, and the problem has occurred in programming absentee vote centers, create smaller absentee vote centers before repeating Memory Card programming.
No Room For Crds Message

NO ROOM FOR CRDS
PRESS ANY BUTTON

Probable Cause
Insufficient space has been found on the Memory Card for ballot card information as a Memory Card is being programmed. This problem might occur with absentee precincts or large vote centers.

Solution
Either:

- Use a larger Memory Card
- Reduce the number of ballot cards used in the vote center and re-program the vote center
- If absentee ballots are counted at absentee precincts and the problem has occurred in programming the absentee precincts, create smaller absentee precincts and allocate each absentee precinct to a separate vote center before repeating Memory Card programming.
- If absentee ballots are counted at absentee vote centers, and the problem has occurred in programming absentee vote centers, create smaller absentee vote centers before repeating Memory Card programming.

No Room For Race Message

NO ROOM FOR RACE
PRESS ANY BUTTON

Probable Cause
Insufficient space has been found on the Memory Card for race information as a Memory Card is being programmed. This problem might occur with absentee precincts or large vote centers.

Solution
Either:

- Use a larger Memory Card
- Reduce the number of ballot cards used in the vote center and re-program the vote center
- If absentee ballots are counted at absentee precincts and the problem has occurred in programming the absentee precincts, create smaller absentee precincts and allocate each absentee precinct to a separate vote center before repeating Memory Card programming.
- If absentee ballots are counted at absentee vote centers, and the problem has occurred in programming absentee vote centers, create smaller absentee vote centers before repeating Memory Card programming.
**No Room For Vpos Message**

**Probable Cause**
Insufficient space has been found on the Memory Card for ballot card information as a Memory Card is being programmed. This problem might occur with absentee precincts or large vote centers.

**Solution**
Either:
- Use a larger Memory Card
- Reduce the number of ballot cards used in the vote center and re-program the vote center
- If absentee ballots are counted at absentee precincts and the problem has occurred in programming the absentee precincts, create smaller absentee precincts and allocate each absentee precinct to a separate vote center before repeating Memory Card programming
- If absentee ballots are counted at absentee vote centers, and the problem has occurred in programming absentee vote centers, create smaller absentee vote centers before repeating Memory Card programming.

**Not Blank Message**

**Probable Cause**
The Memory Card to receive the copied data is not blank. Data may only be copied onto a blank Memory Card.

**Solution**
Remove the card and insert a blank Memory Card. Clear the card in Supervisor Functions if it is the card to be copied to.

**Not Master Message**

**Probable Cause**
64K and 128K Memory Cards are copied in several installments. Inserting a Memory Card other than the master to perform the second part of the copy process results in this message being displayed.
Solution
Remove the installed Memory Card and insert the card being copied from into the AccuVote-OS unit. Press either the YES or NO button on the AccuVote-OS to continue.

_Not Programmed Message_

**NOT PROGRAMMED**
**REMOVE MEM CARD**

_Probable Cause_
You have attempted to save settings to a blank Memory Card in Setup Mode.

_Solution_
Remove the Memory Card and continue saving settings to programmed Memory Cards only.

_Pct Data Error Message_

**PCT DATA ERROR**
**OK TO CONTINUE?**

_Probable Cause_
Erroneous data was found by means of an internal check performed by the AccuVote-OS unit.

_Solution_
To terminate the check, press the NO button and remove the Memory Card. To continue the check, press the YES button. Some reports may print. It is recommended that the Memory Card and AccuVote-OS unit numbers be recorded in a log, as well as a description of the conditions in which the problem occurred. This log will help track recurring problems. The Memory Card should be subjected to further testing. If it proves to be faulty, it should be replaced.

_Pct Not Received Message_

**PCT NOT RECEIVED**
**PRESS ANY BUTTON**

_Probable Cause_
The vote center for which an attempt is being made to transmit results to the host computer has not yet been programmed onto a Memory Card. It is likely that the ballots have changed since the Memory Card was programmed—the Memory Card should be re-programmed.

_Solution_
The vote center must first be programmed to the memory card prior and ballots counted prior to uploading.

_Port Error Message_

**PORT ERROR**
**PRESS ANY BUTTON**
Probable Cause
Communication between the AccuVote-OS and the host computer has been disrupted.

Solution
The AccuVote-OS was waiting for the host computer to allow it to send more data when the NO button was pressed, aborting communications.

Restart either Memory Card programming or election results transmission by modem. If the transmission does not progress beyond the display of the message, verify that the ports and cables are properly set up.

*Initializing Communications Message*

Probable Cause
The AccuVote-OS uses an XON/XOFF flow control and stops sending data when it receives an XOFF character. The AccuVote-OS will then wait until it receives an XON character or the NO button is pressed.

Solution
If the problem persists, contact your local Diebold Election Systems support representative for servicing.

*Power Fail Message*

Probable Cause
Power failure causes rejection of the currently being scanned ballot.

Solution
Verify that power cables are properly inserted. Use an extension cord to access an alternate site power jack if the one currently in use is failing. Either AC power may return to the AccuVote-OS or operation will continue on battery power. Reinsert the ballot to continue.

*Print Test Fail Message*

Probable Cause
The printer motor has failed while printing the Printer Test report in Diagnostics Mode.

Solution
Power the unit off and then on again while pressing both AccuVote-OS buttons. Attempt the Printer Test again. If the problem persists, the unit must be serviced by Diebold Election Systems.
Printed Failure Message

PRINTER FAILURE
PRESS ANY BUTTON

Probable Cause
A printer failure has occurred in the course of report printing.

Solution
Power the unit off. The printer must either be repaired or replaced—only qualified Diebold Election Systems staff may perform this task.

Read Aborted Message

READ ABORTED
BY USER

Probable Cause
The NO button was pressed for more than three seconds while the AccuVote-OS was either in Pre-Election or Election Mode.

Solution
The purpose of pressing the NO button while reading a ballot is to verify whether the AccuVote-OS main processor is responding properly while the unit is in either the Pre-Election or Election Mode. Display of this message indicates that the main processor is functioning properly—if this message is not displayed, the AccuVote-OS main processor must be serviced or replaced by Diebold Election Systems.

Receive Failed Message

RECEIVE FAILED
TRY AGAIN?

Probable Cause
An error was encountered in Memory Card programming and the process was aborted. More information as to the cause of the programming failure will have appeared in prior messages.

Solution
Ensure that all cables are properly attached and repeat the programming. Press the YES button to continue—press NO to terminate Memory Card programming.

Remove Card message

REMOVE CARD
WRONG STATUS

Probable Cause
The status of the installed Memory Card is incorrect for the mode that the AccuVote-OS unit is in.
Solution
Remove the card and insert a card with the correct status, or power the unit off and then on again to put the AccuVote-OS unit into the correct mode for the installed Memory Card.

Remove Corrupt Memory Card Message

**REMOVE CORRUPT MEMORY CARD**

Probable Cause
The *Wrong Format* button was pressed in response to either one of the following prompts:

**PCT DATA ERROR**
**OK TO CONTINUE?**

**TEXT CHECK ERROR**
**OK TO CONTINUE?**

Solution
Remove the Memory Card, then press YES which will allow partial usage of the Memory Card, or follow the procedures indicated for corrupt Memory Cards.

Remove Mem Card

**REMOVE MEM CARD**
**WRONG FORMAT**

Probable Cause
This message is displayed if the NO button is pressed in response to the Memory Card format prompt.

Solution
The AccuVote-OS will display a prompt format the Memory Card if it is either blank or has been programmed in an incompatible version. *Note that all information programmed to the Memory Card will be lost if the card is formatted.*
If the Memory Card is not to be reformatted, remove the Memory Card from the AccuVote-OS and insert either:

- a Memory Card programmed with a compatible version
- a blank Memory Card
- a Memory Card which may be cleared.

**Remove Write Protected Card message**

**Probable Cause**
The inserted Memory Card is write-protected and the AccuVote-OS will not accept it. The AccuVote-OS must write an audit log entry every time the card is inserted and it can’t accept a write-protected card.

**Solution**
Remove this card and insert a Memory Card that is not write-protected. Refer to *The AccuVote-OS Hardware Guide* for more information.

**Remove Wrong Memory Card message**

**Probable Cause**
64KB and 128KB Memory Cards are copied in several installments. After the first stage of Memory Card copying is complete, the source Memory Card must be re-inserted, followed by repeating the copy. This message is displayed if a Memory Card that is not the copy is re-inserted.

**Solution**
Remove the Memory Card and re-insert the Memory Card copy.

**Report Failure Message**

**Probable Cause**
An AccuBasic error has occurred while printing a report.

**Solution**
The AccuBasic code must be corrected—contact the local Diebold Election Systems support representative, if necessary.
Reports Error Message

REPORTS ERROR
TRY AGAIN?

Probable Cause
An error occurred while printing an AccuVote-OS report.

Solution
The AccuBasic report program in use contains errors and should be revised. Also, the Memory Card may have been removed while the report was printing.
Press either the YES or NO button to continue.

Send Failed Message

SEND FAILED
TRY AGAIN?

Probable Cause
The AccuVote-OS unit encountered an error in the course of transmitting results and the process was aborted. Prior messages provide details of the error.

Solution
Press YES to repeat election results transmission, press NO to terminate transmission. If you press NO, the following message in this list is displayed.

Send Failed Message

SEND FAILED
TURN UNIT OFF?

Probable Cause
Election results transmission has failed—this message is displayed when the NO button is pressed in response to the preceding prompt in this list.

Solution
Press YES and power the unit off.

TCAND Overflow

TCAND OVERFLOW
REMOVE MEM CARD

Probable Cause
The AccuVote-OS stores temporary candidate counter information in its Random Access Memory while counting ballots. This message is displayed if not enough space is found in the RAM for storing candidate counters.
Solution

Try to reduce one or all of the following:

- Number of races on the ballot
- Number of ballots valid in the vote center
- Number of precincts in the vote center.

**TCONT Overflow Message**

TCONT OVERFLOW
REMOVE MEM CARD

Probable Cause

The AccuVote-OS stores temporary race counter information in its Random Access Memory while counting ballots. This message is displayed if not enough space is found in the RAM for storing race counters.

Solution

Try to reduce one or all of the following:

- the number of races on the ballot
- the number of ballots valid in the vote center
- the number of precincts in the vote center.

**Test Check Error Message**

TEST CHECK ERROR
OK TO CONTINUE?

Probable Cause

An internal check performed by the AccuVote-OS unit determined that erroneous information was found on the Memory Card.

Solution

To terminate the internal check, press the NO button and remove the Memory Card. To continue with the check, press the YES button.

It is possible to continue counting ballots and print AccuVote-OS reports even though the message appears regularly on the LCD and on reports. It is recommended that Memory Card and AccuVote-OS unit numbers be recorded in a log, as well as a description of the conditions under which the problem occurred. This log will help track recurring problems.

The Memory Card should be tested further and, if it proves to be faulty, should be replaced.

**Too Small Remove Card Message**

TOO SMALL
REMOVE CARD
Probable Cause
An attempt is being made to copy a 64KB or 128KB Memory Card to a smaller Memory Card. Memory Cards may only be copied to Memory Cards of the same or larger capacity.

Solution
Remove the Memory Card to be copied to and insert a Memory Card of equivalent or larger size. For example, if the source Memory Card is 64KB, insert a 64KB or 128KB Memory Card.

Unknown Status Message

UNKNOWN STATUS
CLEAR?

Probable Cause
The AccuVote-OS doesn’t recognize the status of the Memory Card. The Memory Card may have become corrupted.

Solution
Press YES if you wish to clear the Memory Card, otherwise press NO.

Wrong Election Message

WRONG ELECTION
PRESS ANY BUTTON

Probable Cause
The Memory Card from which an attempt is being made to transmit election results represents an election other than the one currently active in GEMS.

Solution
Either select a Memory Card that corresponds to the election currently being worked on or select the election in GEMS that corresponds to the Memory Card. Press either the YES or NO buttons to continue.

Wrong Password Message

WRONG PASSWORD
ACCESS DENIED

Probable Cause
This message is displayed if an incorrect Supervisor Password is entered.

Solution
Enter the correct password, as defined in the AccuVote-OS Options window in GEMS.

Wrong Version message

WRONG VERSION
PRESS ANY BUTTON
Probable Cause
The installed Memory Card is not the most recently programmed version of the vote center information. Only the most recently programmed Memory Card or copy thereof is valid—earlier versions are considered obsolete.

Solution
Use the most recently programmed Memory Card.
18. Election Day

This chapter describes possible Election Day AccuVote-OS and Memory Card problem scenarios, as well as recommended resolution activities.

If no voice line is available near the AccuVote-OS, and cost permitting, every polling place should be equipped with a portable phone. Equipment problems are resolved more quickly and efficiently if election workers need not shuttle between the AccuVote-OS and telephones in the course of problem resolution.

Ensure that the AccuVote-OS unit is always powered off prior to servicing components.

18.1. Election Day Troubleshooting

This section describes some of the most common problems that arise at the polling places on Election Day. Each problem is accompanied by a recommended solution.

*AccuVote-OS LCD is Blank*

Pollworkers should verify that the AccuVote-OS unit is powered on. The ballot box retaining door should be unlocked and opened and the AccuVote-OS slid forward on the guide rails but not removed from the ballot box lid. Pollworkers should then verify that the power cord is firmly plugged into the power jack at the back of the unit as well as the designated wall power socket or power bar. See Figure 18-1.

If the unit still does not receive any power, the power cord should be plugged into another wall socket, using an extension cord if necessary.

![Figure 18-1. View of AccuVote-OS Ballot Box Retaining Door](image)

If the LCD remains blank the unit must be serviced. Ballots should be placed in the side compartment until the unit can be replaced.

*Unit Can Not Read Ballots*

If the first several ballots read after the polls open are returned continuously with the message

```
BALLOT NOT READ
PLEASE RE-INSERT
```

either:

- Security plate is still in the ballot entry slot
- Metal tongue that locks the security plate into place is in vertical position
- Ballot box chute is blocked
- Ballot box is full.

The ballot box retaining door should be unlocked and opened and the AccuVote-OS slid partially off the ballot box lid without being removed from the lid. See Figure 18-2.

If it is still in the ballot entry slot, the security plate should be unlocked, removed, and placed into the security plate recess on the ballot box lid; the AccuVote-OS slid to the back of the ballot box lid; and the retaining door closed and locked.

Figure 18-2. View of AccuVote-OS Ballot Box Interior

If the security plate is not in the ballot entry slot, Pollworkers should look into the ballot entry slot and verify whether the metal tongue that locks the security plate into place is in a vertical position. If it is, it should be turned to the horizontal position with one of the ballot box keys—the AccuVote-OS should be returned to the back of the lid and the retaining door closed and locked.

Note that it should be difficult to lock the retaining door if the security plate has not been removed from the ballot entry slot.

If neither the security plate nor the metal tongue is obstructing the ballot feed path, pollworkers should verify that the chute is not blocked by opening the rear door of the ballot box and looking up into the chute area. Remove any ballots jammed in the chute area and arrange ballots in an orderly manner in the ballot box to allow the continued flow of ballots into the box.

If the ballot box is full, either ballots should be removed from the ballot box or the ballot box should be replaced.

Power Fail

If

** POWER FAIL **

message flashes on the AccuVote-OS LCD alternating with the election mode prompts, the unit is not receiving AC power. Pollworkers should unlock and open the retaining door, slide the unit forward, and verify that the power cord is properly plugged in. They should also verify that the power cord is properly connected to AC power. If necessary, replace the power cord and extension cord (if used), and connect the unit to another AC power outlet.
If the message persists, the unit must be serviced, but may operate for up to two hours on battery power, assuming that it has been sufficiently charged. A spare AccuVote-OS should be sent from election central to replace the problem unit.

**Incorrect Prompts Appear**

When the AccuVote-OS is powered on before the polls open, an Election Zero report should be automatically printed after which the unit enters ballot counting mode.

If

```
TEST BALLOT CARDS?
```

appears on the LCD, the unit is in Pre-Election Mode and must be set to Election Mode. The Memory Card should be set to Election Mode using the instructions detailed in *Preparing for the election* in Chapter 4: *Pre-Election Mode*.

**Blank Voted Ballots**

If ballots are being returned with the message

```
BLANK VOTED CARD
SEE OFFICIAL
```

even though they have been marked, incorrect marking instruments are being used with infrared AccuVote-OS units.

The only marking instruments that may be used to mark ballots with these units are:

- Berol “7700”
- Sanford “Sharpie”
- Sanford “Powermark”
- Type 2 pencils.

If no such marking instruments are available at the poll, store voted ballots in the side compartment of the ballot box until proper marking instruments are delivered to the poll. *Do not override ballot rejection on the AccuVote-OS since no candidate selections will be recognized!* The ballots may either be read on a visible light unit or remarked with correct pens.

**Undefined Marks**

If ballots are being returned with the message

```
UNDEFINED MARK
SEE OFFICIAL
```

voters are marking ballots with checks, Xs, or other marks that fill less than 15 percent of the voting oval. Ballots should be returned to the voter to completely fill in voting ovals to be properly read by the AccuVote-OS.
Election Results Transmission Fails

If the

**DIALING CENTRAL COMPUTER**

prompt does not proceed to

**REQUESTING COMMUNICATION**

when transmitting election results by modem, Pollworkers should verify that the RJ-11 cord is properly connected to the Line jack at the back of the AccuVote-OS as shown in Figure 18-3 as well as the designated RJ-11 site jack. It may be necessary to replace the telephone cable if it is faulty.

Pollworkers should power the AccuVote-OS off, wait five seconds, power the unit on again, and repeat results transmission. Transmission should only be performed using the telephone line designated for election results transmission.

If the problem persists, Pollworkers should replace RJ-11 cabling and retry the transmission. If the transmission continues to fail, Pollworkers should attempt the transmission using an alternate telephone jack. If it is still not possible to send results to the host computer, the AccuVote-OS must be serviced—the unit and Memory Card should be sent to election central, where election results may be directly transmitted to the host computer.

---

**Figure 18-3. View of Connector Ports at back of AccuVote-OS**

Incorrect Telephone Number

If the results transmission does not progress any further than the display of
REQUESTING COMMUNICATION

or the AccuVote-OS LCD displays

DIALING CENTRAL COMPUTER

which changes to

REDIALING CENTRAL COMPUTER

followed by

HANGING UP PHONE

an incorrect telephone number may be defined to the Memory Card, or necessary prefix codes are missing. The telephone number must be defined with the necessary long distance dialing codes, PBX dial-out, security, and account codes to successfully perform results transmission.

Note that the unit may have to redial election central several times to communicate with the host computer, as other polls are attempting to transmit results over the same telephone line.

Other indications of a wrong number being dialed are a busy signal when the line at election central is known not to be busy, or voices on the line instead of the usual modem sounds. “Call can not be completed as dialed” broadcasting over the line also indicates an incorrect phone number.

Pollworkers should power the AccuVote-OS off, wait five seconds, power the unit on again, and correct the telephone number as required before repeating results transmission to the host computer. More information on defining telephone numbers is included in section 15.3 Telephone numbers.

On Election Day, we recommend that poll workers report election results to election central using the Election Results report if an incorrect telephone number has been defined to a polling AccuVote-OS, rather than attempting to change the phone number on site.

Modem Dialing But Call Doesn’t Go Through

If

REDIALING CENTRAL COMPUTER

is displayed before the call has gone through when sending results to the host computer, the AccuVote-OS’s internal modem may have locked up. The AccuVote-OS should be powered off...
and powered on again after a five-second wait, and transmission repeated. The Auxiliary Serial Port Test described in Testing the auxiliary serial port in Chapter 16: Diagnostics Mode may be used to test the modem if transmission failure persists—this test should be performed by qualified staff only.

If powering the unit off and on again does not clear the problem, the unit must be serviced. Pollworkers may either report election results by voice to election central or directly transmit election results from the Memory Card to the host computer at election central.

**Transmitting Results From Incorrect Version**

Transmitting election results from an earlier program version Memory Card will result in

```
WRONG VERSION
PRESS ANY BUTTON
```

being displayed after all of the transmission messages have been displayed on the AccuVote-OS LCD.

*Even though all of the Memory Card content transmission messages are displayed, the vote center counters are not updated in GEMS.*

Poll workers should press either YES or NO and

```
SEND FAILED
TRY AGAIN?
```

will be displayed. NO should then be pressed. As election results may only be transmitted from the latest version Memory Card, pollworkers should report results for the polling place to election central using the Election Results report.

**Election Results Have Already Been Transmitted to the host computer**

If

```
ALREADY SENT
PRESS ANY BUTTON
```

is displayed after all of the transmission messages have been displayed on the AccuVote-OS LCD, the vote center’s results have already been transmitted to election central. This may be verified at election central by performing Lookup in the Upload from AccuVote-OS Console screen. The Status field in the Upload console will display ERR: Already uploaded for the port.

Pressing either YES or NO causes

```
SEND FAILED
TRY AGAIN?
```

to be displayed.

Power the unit off and continue with election close procedures.
18.2. AccuVote-OS Failure

The following messages may appear on the AccuVote-OS LCD if the AccuVote-OS becomes inoperable:

ISR99 XXXX:XXXX
CALL FOR SERVICE

or

SYSTEM TEST
*** FAILED ***

In the case of the first message, a number ranging between 0 and 31 will appear in place of 99, and each X will be a digit between 0 and 9 or a letter between A and F, comprising an internal AccuVote-OS memory address. The second message may only appear at the time the AccuVote-OS is powered on.

AccuVote-OS power loss will not disrupt counting, provided the battery has been sufficiently charged prior to the election.

18.3. Resolving AccuVote-OS Failure

If problems occur with an AccuVote-OS unit on Election Day:

- The unit should be powered off and on using the procedure described in Powering the AccuVote-OS off and on below
- If powering the machine off and on does not resolve the problem, replace the unit following the procedure described in Replacing the unit below.

Ballots should be deposited into the side compartment of the ballot box while the problem is being resolved. Once the problem has been corrected, ballots may again be fed into the AccuVote-OS. Designated election officials should process the uncounted ballots from the side compartment as soon as the problem has been resolved and sufficiently few voters are present for the unit to be accessible. Local legislation or procedures may prohibit ballots from being counted in this manner until after election close.

18.4. Power the AccuVote-OS Off and On

1. Unlock and open the AccuVote-OS’s retaining door.
2. Slide the AccuVote-OS unit forward on the ballot box lid but do not remove.
3. Power the unit off, wait five seconds, and power the unit on again.
4. Once the release and system test messages have been displayed, the AccuVote-OS LCD should display either

   POLL:  10.00
   TOT COUNT:  nn

if blank or write-in ballots are being separated into the alternate compartment, or
Verify that the ballot count and vote center number are correct.

If an error message reappears, record the message, the time and date, the AccuVote-OS serial number, the Memory Card serial number (printed on the side of the Memory Card), as well as the ROM release number.

Attempting to service the unit on Election Day is not recommended. Replace the failed unit with a spare unit using the procedure described in Replacing the unit below, and service the unit after the election.

18.5. Replacing the Unit

Use the following procedure to replace the AccuVote-OS in case of failure. This procedure should be performed in the presence of at least two polling officials.

Note that AccuVote-OS failure does not affect the functioning or integrity of the Memory Card, and no further difficulties should be experienced, as ballots are counted using the Memory Card installed in the new AccuVote-OS.

1. The printer cover should be unlocked and opened, the Election Zero report removed, and the printer cover replaced and locked.
2. The ballot box retaining door should be unlocked and opened, and the AccuVote-OS slid forward without being removed from the ballot box.
3. The AccuVote-OS should be powered off and the power cord disconnected from the back of the unit.
4. The Memory Card seal should be cut, the seal number recorded, the Memory Card slot cover rotated 180°, and the Memory Card removed.
5. The failed AccuVote-OS should be slid off the ballot box lid and placed on a clean surface or in an available carrying case.
6. The replacement unit should be removed from its carrying case and slid onto the ballot box lid, along the guide rails half-way to the back of the ballot box lid.
7. The power cord should be plugged into the power jack at the back of the AccuVote-OS, the unit powered on, and slid to the rear of the ballot box lid.
8. The Memory Card should be inserted, the Memory Card slot cover closed and resealed, and the new seal number recorded.
9. The retaining door should be closed and locked.
10. The printer cover of the replacement unit should be unlocked and opened, the Election Zero report that was removed from the problem unit should be placed inside the compartment, and the printer cover returned and locked.

Voters may now continue feeding ballots into the AccuVote-OS.
18.6. Memory Card Failure

It is unlikely, but possible that a Memory Card may experience difficulties requiring replacement and servicing on Election Day. Memory Card trouble will cause the AccuVote-OS LCD to display a message either:

- Upon Memory Card insertion or powering on
- During ballot counting.

Section 18.8 Resolving Memory Card failure provides several alternative solutions to Memory Card failure on Election Day.

18.6.1. Memory Card Insertion/Power On

The following messages occur in the case of Memory Card trouble either when the card is inserted or when the machine is powered on. On election morning, these messages would be displayed when the unit is installed and powered on.

Further information on these messages is provided in Chapter 17: AccuVote-OS Messages.

Either

```
MEMORY CARD BAD
PLEASE REMOVE
```

is displayed, or one of

```
COUNTER ERROR
OK TO CONTINUE?
```

```
PCT DATA ERROR
OK TO CONTINUE?
```

```
TEXT CHECK ERROR
OK TO CONTINUE?
```

Unlock and open the ballot box retaining door and press the NO button on the AccuVote-OS.

```
REMOVE CORRUPT MEMORY CARD
```

will follow.
18.7. Ballot Counting

The following message will be displayed in case of Memory Card corruption on Election Day:

CORRUPT COUNT
SEE OFFICIAL

18.8. Resolving Memory Card Failure

The following alternatives are available in the unlikely event of Memory Card failure:

- Replacing the Memory Card with a Memory Card master, provided the election is being run with Memory Card copies
- Replacing the Memory Card with a newly programmed Memory Card
- Replacing the AccuVote-OS and Memory Card only.

We strongly recommend that the AccuVote-OS and Memory Card be replaced, although replacing the Memory Card only should be sufficient.

Each of these Election Day problem resolution procedures should be performed in the presence of two polling officials. The AccuVote-OS serial number, the Memory Card serial number (printed on the edge of the Memory Card) and firmware release should be recorded, as well as a detailed description of the problem.

Once the problem has been resolved, voters may continue feeding ballots into the AccuVote-OS as before. At the end of Election Day, the ballots placed in the side compartment may be fed into the AccuVote-OS before the AccuVote-OS Ender card is fed into the unit. Local legislation and procedure permitting, these ballots may be counted when the problem has been resolved and few or no voters are present.

Selected portions of the following procedures may be included in the Poll Workers’ Training Guide.

18.9. Replacing the Memory Card with the Master Memory Card

This procedure may be used if copies were made of all Memory Cards during election preparation. Commonly, the copies are used in the election and the master Memory Cards are used to make further copies in case Memory Card difficulties occur on Election Day.

Note that the number of copies of a Memory Card copy will be the same as the original card, and it is not possible to transmit the results of Memory Cards with the same copy number.

The ballot counter will be start at 0 when ballot counting continues with a new Memory Card—re-feeding ballots placed in the side compartment will bring the counter to the current total.

1. If the master Memory Card copy is not already located at the polling place, deliver the card by courier to the polling place from election central.

2. The rear door of the ballot box should be unlocked and opened if ballot boxes with rear doors are being used, and ballots removed from both compartments. If the ballot box does not have a rear door, ballots should be removed from both compartments using the procedure Removing ballots from the ballot box in Chapter 4: Pre-Election Mode. Ballots should then be placed into the side compartment of the ballot box.
These ballots must be recounted once the new Memory Card is loaded into the AccuVote-OS, because the ballot counters may have become corrupted. After ballots have been removed, the back door should be closed and locked.

3. The ballot box retaining door should be unlocked and opened.

4. The Memory Card seal should be broken, the Memory Card cover slot broken, and the Memory Card removed. The problem Memory Card should be placed in a sealed envelope and the number of the broken seal recorded.

5. Pollworkers should slide the AccuVote-OS partially off the ballot box lid so that it remains supported by the guide rails and the power switch at the back of the unit becomes accessible.

6. The unit should be powered off and powered on again after a five-second wait.

7. The AccuVote-OS should be loaded with the master Memory Card. If the Memory Card is not already in Election Mode, press NO until reaching

```
PREPARE FOR ELECTION?
```

after which YES should be pressed.

8. The LCD should now display

```
OKAY TO PREPARE FOR ELECTION?
```

YES should be pressed at this point.

9. Once
10. The Election Zero report is then printed automatically and the unit readied for ballot counting according to the prompts displayed in Chapter 5: Election Mode.

11. The printer cover should be unlocked and removed.

12. Pollworkers should verify that general election and vote center information is correct, that all candidate totals are zero, and sign the report.

13. The printer cover should be closed and locked.

14. The AccuVote-OS should be slid to the back of the ballot box lid.

15. The Memory Card cover slot should be closed and sealed, the ballot box retaining door closed and locked and the Memory Card seal number recorded.

16. Ballot counting may now continue using the prepared unit.

17. At the end of Election Day, the ballots placed in the side compartment must be re-fed.

18.10. Replacing the Memory Card with a Newly Programmed Memory Card

This procedure is used if Memory Card copies have not been made prior to conducting the election. If a blank Memory Card is available at the polling place, the Memory Card may be programmed from election central by telephone—otherwise, the Memory Card should be programmed at election central and sent by courier to the polling place.

18.10.1. Programming the Memory Card at the Polling Place

Perform the instructions detailed in this section if a blank Memory Card is available at the polling place and a telephone line is available.

1. Steps 2 through 5 in section 18.9 Replacing the Memory Card with the Master Memory Card should be performed.

2. The AccuVote-OS should be powered off.

3. The power cord should be disconnected from AC power and threaded out of the power cord tube.

4. The AccuVote-OS should be removed from the ballot box lid and carried to a designated RJ-11 outlet with the power cord attached to the unit.

5. The unit’s Line jack should be connected to the site telephone jack using an RJ-11 cable.

6. The unit should be connected to AC power and the unit powered on.

7. The printer cover should be unlocked and removed.

8. Pollworkers should perform steps 1 through 7 as described in section 10.2 Programming Memory Cards by modem with all of the necessary access, security and area codes. This procedure should be performed in conjunction with the procedure described in section 25.12 In GEMS at election central.
9. The programmed Memory Card should be installed in the AccuVote-OS and the Zero Total report removed and discarded if it has been printed. The unit should be powered off and disconnected from AC power.

10. The RJ-11 cable should be removed from the AccuVote-OS and the site telephone jack.

11. Poll workers should carry the AccuVote-OS back to the ballot box with the power cord attached, and slide the unit halfway onto the ballot box lid, ensuring that the power cord does not obstruct the AccuVote-OS.

12. The power cord should be threaded through the power cord tube and connected to AC power and the unit powered on.

13. The NO button should be pressed until reaching

**PREPARE FOR ELECTION?**

Then YES is pressed.

14. Once

**REMOVE PREPARED MEMORY CARD**

is displayed, the unit powered off and on again after waiting five seconds.

15. The Election Zero report is printed automatically and the unit readied for ballot counting according to the prompts displayed in *Chapter 5: Election Mode*.

16. Pollworkers should verify that general election and vote center information is correct, that all candidate totals are zero, and sign the report.

17. The printer cover should be replaced and locked.

18. The AccuVote-OS should be slid to the back of the ballot box lid.

19. The Memory Card cover slot should be closed and sealed and the Memory Card seal number recorded.

20. The ballot box retaining door should be closed and locked.

**18.11. Programming the Memory Card at Election Central**

Perform the instructions detailed in this section if a blank Memory Card is not available at the polling place.

**18.11.1. At Election Central**

1. Connect an AccuVote-OS to the correct serial port on the host computer using an RS-232C serial cable.

2. Connect the unit to AC power and power on.

3. Perform steps 1 through 4 in section 3.3.1 *Programming Memory Cards directly* in conjunction with the procedure described in *GEMS User’s Guide* section 25.12.
4. Power the AccuVote-OS off, wait five seconds and power the unit on again.

5. Re-insert the Memory Card. Press the NO button until the following message appears:

```
PREPARE FOR ELECTION?
```

then press YES.

6. Once

```
REMOVE PREPARED MEMORY CARD
```

is displayed, power the unit off and remove the Memory Card.

7. Courier the Memory Card to the polling place.

**18.11.2. At the Polling Place**

1. Steps 2 through 6 in section 18.9 Replacing the Memory Card with the Master Memory Card should be performed.

2. The printer cover should be unlocked and removed.

3. The AccuVote-OS should be loaded with the programmed Memory Card and the Memory Card sealed and the seal number recorded.

4. The Election Zero report will be printed automatically. Poll workers should verify that candidate totals are zero before signing the report.

5. The printer cover should be closed and locked.

6. The AccuVote-OS should be slid to the back of the ballot box and the retaining door closed and locked.

**18.12. In GEMS**

This section details the instructions used to re-program Memory Cards in GEMS at election central.

1. Select the vote center to re-program under the Vote Centers tab in the AccuVote-OS Server 1 console.

2. Select the port over which the transmission is to occur under the Ports tab.

3. Click on the Start button.

**18.13. Replacing the AccuVote-OS and Memory Card**

This procedure details the replacement of the AccuVote-OS and Memory Card.

1. Prepare and deliver either the master Memory Card or a newly programmed card to the polling place.

2. The ballot box retaining door should be unlocked and opened.
3. The unit should be slid forward but not removed.

4. The unit should be powered off and the power cord unplugged from the power jack at the back of the unit.

5. The AccuVote-OS should be removed from the ballot box, placed into its carrying case and tagged as being a problem unit.

6. If ballot boxes with rear doors are used, the rear door should be unlocked and opened and ballots removed from both compartments. If ballot boxes are not equipped with rear doors, ballots should be removed from both compartments using the procedure *Removing ballots from the ballot box* in *Chapter 4: Pre-Election Mode*. These ballots should be placed into the side compartment of the ballot box, and recounted at the end of Election Day before electronically locking the AccuVote-OS.

7. The replacement AccuVote-OS should be removed from its carrying case, slid halfway to the back of the ballot box lid so that the power switch at the back of the unit is still accessible.

8. The power cord should be plugged into the power jack at the back of the new AccuVote-OS.

9. The printer cover should be removed.

10. The AccuVote-OS should be loaded with the replacement Memory Card.

11. The unit should be powered on.

12. The Election Zero report will print automatically. Once the report has finished printing, poll workers should verify that candidate totals are zero and sign the bottom of the report.

13. The printer cover should be replaced and locked.

14. The unit should be slid to the back of the ballot box lid and the retaining door closed and locked.
Appendix A: AccuVote-OS Status

This appendix provides a listing of initial AccuVote-OS prompts for each election mode. These prompts may be used to determine the mode a memory card is in.

18.14. Boot

The following prompts are displayed on the AccuVote-OS LCD as the unit is powered on.

```
ACCUVOTE-OS 2000
RELEASE 1.96.4
```

```
SYSTEM TEST
*** PASSED ***
```

If no memory card is installed in the AccuVote-OS,

```
INSERT NEXT MEMORY CARD
```

18.15. Pre-Election Mode

The following prompt is displayed on the AccuVote-OS LCD if the memory card is in Pre-Election Mode.

```
TEST BALLOTS
?
```

18.16. Election Mode

The Election Zero report is automatically printed when the AccuVote-OS is powered on in Election Mode. Initial prompts are

```
GENERATING REPORT ...
```
as the Election Zero report is printed.

18.17. Post-Election Mode

The initial prompt displayed in Post-Election Mode is

SEND RESULTS BY TELEPHONE?

18.18. Formatting

An AccuVote-OS installed with a memory card programmed with an Enhancement level of firmware (ie. 1.94, 1.95, 1.96) different from the one currently installed will attempt to re-format the memory card. Upon insertion of the memory card, the unit displays

OK TO FORMAT THIS MEM CARD?

Press YES in order to format the memory card and continue. Note that this will clear the original contents; if the original contents are to be maintained, do not press NO. Remove the memory card, and use only in conjunction with an AccuVote-OS configured with compatible firmware.

FORMATTING MEMORY CARD

is then displayed as the memory card is formatted.

18.19. Setting AccuVote-OS status

The AccuVote-OS assumes the election mode from the first memory card installed in the unit after the unit is powered on. If a memory card with a differing election mode is subsequently installed,

REMOVE CARD WRONG STATUS

is displayed. Power the AccuVote-OS off, then on again, in order to reset the unit’s election status.
Appendix B: AccuVote-OS Election Day Preparation Checklist

The following is a suggested checklist of Election Day preparation activities for the AccuVote-OS.

☐ Unpack AccuVote-OS from carrying case and verify that AccuVote-OS and ballot box keys as well as the power cord are present.

☐ Inspect AccuVote-OS for possible damage—contact the local Diebold Election Systems representative if the unit needs to be replaced or repaired. Clean the unit with isopropyl alcohol and a lint-free cloth, if necessary.

☐ Prepare test decks

☐ For every ballot style valid in the vote center, set aside a blank ballot and mark a fully marked ballot. Mark a test deck as follows:
  • One ballot with the first candidate in each race marked
  • Two ballots with the second candidate in each race marked
  • Three ballots with the third candidate in each race marked, and so on.

☐ Also mark ballots to take into account straight party voting rules and any other exceptional voting rules.

☐ Prepare a test deck for each ballot style in the election. Include rotations, all ballot cards if ballots include multiple ballot cards and all partisan and non-partisan ballots in case of closed primaries.

☐ Manually tally results for every test deck.

☐ Select the AccuVote-OS and Memory Card that will correspond to a particular vote center.

☐ Perform a Memory Card Test in Diagnostics Mode.

☐ Perform a Ballot Reader Test using oval/marked Diagnostic ballots.

☐ Set the date and time on the AccuVote-OS, taking into account the effect of daylight savings time on Election Day.

☐ Perform a Printer Test in Diagnostics Mode to ensure that all print characters are printable on each column of the paper tape.
Program the Memory Card with the correct vote center and attach the label to the Memory Card.

Print the Zero Total report and verify the following:
- All candidate totals are zero
- All races valid in each precinct are present
- Race title and candidate spelling is as required
- Report content and oath are correct.

Perform an Unvoted Ballot Test. Insert each unvoted ballot card valid in the vote center in each of four orientations and verify that no marks are detected.

Perform a Fully Voted Ballot Test. Inserts each fully voted ballot card validating the vote center in each of four orientations and verify that all voting ovals are detected.

Perform the Count Test. Feed ballots in different orientations. If you are counting absentee ballots at the precinct, use the same deck again in Absentee Ballot Count Mode.

Print the Test Totals report. Verify that all results correspond to those on the manual tally sheet for the test deck—ensure also that the AccuVote-OS tape correctly reports overvotes, undervotes, blank votes, and write-ins.

Perform the Main Serial Port and Auxiliary Serial Port Tests.

If election results are being sent to the host computer by modem:

Program the correct telephone number to the Memory Card, including all necessary codes

Perform a test modem upload from the polling place

Ensure that the polling place telephone lines will be clear and available Election Day evening

Perform the Logic and Accuracy Test, if required.

Set the Memory Card to Election Mode.

Seal the Memory Card into the AccuVote-OS and record the seal number.

Power the AccuVote-OS on. Once the Election Zero report prints for the correct vote center have been verified, power the AccuVote-OS off and tear off the printed portion of the paper tape.
Replace the paper roll and printer ribbon if necessary. Close and lock the printer compartment lid when finished.

Cover the Phone jack at the back of the AccuVote-OS or insert a dummy plug to prevent confusion on which jack to use at time of election results transmission.

Charge the AccuVote-OS batteries overnight—leave the unit powered on while connected to AC power. Ensure that all power and extension cords are properly connected, and that AC power is constant and uninterrupted, as power disruption will cause batteries to be drained rather than be charged.

Pack the AccuVote-OS into its carrying case. Ensure that the following supplies are enclosed:

- Power cord
- Extension cord (if necessary)
- Telephone cabling—include extension cabling as well as a female/female RJ-11 connector if necessary
- AccuVote-OS and ballot box keys
- Two Absentee Count cards (if necessary)
- Two AccuVote-OS Ender cards
- Pollworker instructions
- Cellular telephone, a modem adapter, as well as an AC/DC power jack if cellular phones are used to transmit election results.

Table 18-1. AccuVote-OS election day preparation checklist