



**PREMIER™**  
ELECTION SOLUTIONS

PREMIER

ELECTION SOLUTIONS, INC.

P.O. Box 1019

Allen, TX

75013

tel 800.433.8683

fax 214.383.1596

www.premierelections.com

October 29, 2008

Attn: Brian Hancock  
Director of Voting System Testing & Certification  
U.S. Election Assistance Commission  
1225 New York Avenue, NW, Ste. 1100  
Washington, DC 20005  
Email: [bhancock@eac.gov](mailto:bhancock@eac.gov)

RECEIVED  
U.S. ELECTION ASSISTANCE  
COMMISSION  
2008 OCT 31 AM 11:03

RE: Permission to replace SysTest Labs.

Dear Mr. Hancock:

We were informed on October 29, 2008 that EAC intends to suspend our selected VTSL, SysTest Labs, based on the suspension of this laboratory's accreditation by NIST/NVLAP. As a result, we are requesting written permission to replace SysTest Labs with iBeta Quality Assurance, an accredited VTSL. Your written permission for this change is required, as cited in section 4.3.1.2., *Selection of Accredited Laboratory*, of the EAC Voting System Testing and Certification Program Manual.

As SysTest Labs was in the midst of testing our ASSURE 1.2 products, your prompt attention to this matter would be greatly appreciated.

Sincerely:

Talbot Iredale, P.Eng.  
Director, Research & Development  
Premier Election Solutions, Inc.

Application Package for Assure 1.2 contains the following:

- Application Form
- Implementation Statement
- Functional Diagram
- System Overview



U.S. Election Assistance Commission

Print Form

Submit by Email

# Application for Voting System Testing

OMB Control # 3265-0004

- 1. Manufacturer Name: Premier Election Solutions, Inc.
- 2. Manufacturer Code: DBD
- 3. Version of Standards to be Used for Testing: 2002 Voting System Standards (VSS) April 2002
- 4. Voting System Name: ASSURE
- 5. System Model/Version Number: 1.2
- 6. EAC Accredited VSTL: iBeta Quality Assurance
- 7. Requested EAC Certification number: DBD-Assure 1.2

8. Brief Description of System or system modification:

see attached

Signature: 

Date: Oct 29, 2008

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## Instructions

This form provides manufacturers with the means to apply for a certification of a voting system. Completion of a voting system application is a required step in the EAC Voting System Testing and Certification Program. This form is prescribed by Section 4.3 of the Manual. For more information on registration requirements please see Section 4.3.

This form is generally self-explanatory, however the numbers and the instructions below correspond to the numbered sections of the form.

1. **Manufacturer Name:** Full legal name of the manufacturer.
2. **Manufacturer Code:** The three letter identification code provided by the EAC upon manufacturer registration.
3. **Version of Standards to be Used for Testing:** Select the version of the EAC approved voting system standards to which the candidate system or modification is to be tested and certified.
- 4-5 Provide information as requested.
6. **EAC Accredited VSTL:** Provide the name of the EAC accredited voting system test laboratory that will perform testing on the candidate system.
7. **Requested EAC Certification Number:** Provide the certification number to be carried by the candidate system following certification. This number must begin with the three letter manufacturer identification code and be unique only to the specific candidate voting system. The number may be alpha-numeric and contain no more than 20 characters.
8. **Brief Description of the System or System Modification:** Describe the system, carefully listing all components submitted for certification.

This information is required for the EAC to provide for the certification of voting systems as required by 42 U.S.C. Section 15371. This information will be used solely to administer the EAC Testing and Certification Program. This program is voluntary, however, individuals who wish to participate must meet the requirements of the Program. This information will be made public consistent with the requirements of the Freedom of Information Act, the Trade Secrets Act, and any other applicable Federal law or regulation. Public reporting burden for this collection of information is estimated to average about 27 hours for completion of this form. This estimate includes the time for reviewing the instructions, gathering information and completing the form. Send comments regarding this burden estimate to the Testing and Certification Program Director, U.S. Election Assistance Commission, 1225 New York Avenue, N.W., Suite 1100, Washington, DC 20005. Notwithstanding any other provision of law, no person is required to respond to, nor shall any person be subject to a penalty for failure to respond to, or comply with, a collection of information subject to the requirements of the Paperwork Reduction Act, unless that collection of information displays a currently valid OMB Control Number.

## Application for Voting System Testing (For EAC Use only)

Application Number: \_\_\_\_\_

Application Received      Date/Time      \_\_\_\_\_

Lead Technical Reviewer \_\_\_\_\_

Test Plan       Received      Date/Time      \_\_\_\_\_

Accepted       Not Accepted      If Not Accepted, provide attachment for file containing explanation.

---

Test Report       Received      Date/Time      \_\_\_\_\_

Estimated Date for Completion of Report Review: \_\_\_\_\_

Approved       Not Approved      If Not Approved, provide attachment for file containing explanation.

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System Certification Date: \_\_\_\_\_

System Certification Number: \_\_\_\_\_

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**8. Brief Description of System or system modification:****Product Components****ASSURE™ 1.2**

<b>Software</b>	<b>Hardware</b>
GEMS® 1.21.1	PC with MS Windows 2000/2003/XP (COTS)
AccuVote®-OS Precinct Count 1.96.11	AccuVote-OS Models A,B,C,D
AccuVote-OS Central Count 2.0.13	AccuVote-OS Models A,B,C,D AccuFeed Model A - optional
AccuVote-OSX 1.2.1	AccuVote-OSX Model A BL 1.3.10 and WinCE 500
BallotStation® 4.7.3	AccuVote-TS R6 Models A,B BL 1.3.10 and WinCE 300 OSAA Model A - optional UAID™ Model A - optional
	AccuVote-TSX Models A,B,C,D BL 1.3.10 and WinCE 410 AVPM Model A - optional OSAA Model A - optional UAID Model A - optional
Key Card Tool™ 4.7.2	PC with MS Windows 2003/XP (COTS)
VCProgrammer™ 4.7.2	PC with MS Windows 2003/XP (COTS)
Voter Card Encoder 1.3.3	Voter Card Encoder (COTS)
ExpressPoll® CardWriter 1.1.6	Express Poll 2000 (COTS), 4000 (COTS), 5000 (COTS)
Premier Central Scan 2.2.1	PC with MS Windows XP (COTS) AccuVote-OS Models A, B, C, D DRS PhotoScribe PS900 iM2 (COTS), PS960 (COTS)
ASSURE Security Manager 1.2.1	PC w/ MS Windows XP (COTS)
AutoMARK™ AIMS 1.3 (P) (Build 1.3.552)	PC with MS Windows XP (COTS)
AutoMARK VAT 1.3 PAVR (Build 1.3.2925) AutoMARK VAT 1.3 PVR (Build 1.3.2925)	AutoMARK VAT Models A100, A200, A300
<b>Support Files</b>	
ABasic Report Files 2.2.4	Used by AccuVote-TS/TSX/OS/OSX
<b>Support Files</b>	
BootLoader 1.3.10	Used by AccuVote-TS/TSX/OSX
WinCE 300.3.5	Used by AccuVote-TS
WinCE 410.3.10	Used by AccuVote-TSX
WinCE 500.4.1	Used by AccuVote-OSX
WinCE 5.0.0.17	Used by AutoMARK VAT
AVPM 3.0.3	Used by AVPM

**Declaration of Supported Voting Variations & Languages**

**Vendor Name:** Diebold Election Systems Inc      **Preparer:** Diebold Election Systems Inc

**Date Prepared:** February 2, 2007

*Identify the voting variations and languages supported or unsupported by marking with a .*

*Insert Required descriptions where needed (Rotation, VVPAT, Open Primary, Closed Primary, etc).*

*(P & M= Paper and Marksense ballots)*

Voting Variations Functionality & Languages	Sup-ported	Unsup-ported	Required description(s)
Vol. 1 Sect 2.2.8.2, 2.3.1.3.1.a, 2.4.3.3, 3.2.5.1.2, 3.2.5.1.3, 4.4.4, & 10			
Voter Verified Paper Audit Trails			
VVPAT	<input checked="" type="checkbox"/>		
Accessibility (vol. 1. sect. 2.2.7)			
Forward Approach	<input checked="" type="checkbox"/>		
Parallel (Side) Approach	<input checked="" type="checkbox"/>		
Closed Primary (vol. 1. sect. 2.2.8.2)			
Primary: Closed	<input checked="" type="checkbox"/>		
Open Primary (vol. 1. sect. 2.2.8.2)			
Primary: Open Standard (provide definition of how supported)	<input checked="" type="checkbox"/>		Open Primary, supported.
Primary: Open Blanket (provide definition of how supported)	<input checked="" type="checkbox"/>		
Partisan & Non-Partisan: (vol. 1. sect. 2.2.8.2)			
Partisan & Non-Partisan: Vote for 1 of N race	<input checked="" type="checkbox"/>		
Partisan & Non-Partisan: Multi-member ("vote for N of M") board races	<input checked="" type="checkbox"/>		
Partisan & Non-Partisan: "vote for 1" race with a single candidate and write-in voting	<input checked="" type="checkbox"/>		
Partisan & Non-Partisan "vote for 1" race with no declared candidates and write-in voting	<input checked="" type="checkbox"/>		
Write-In Voting: (vol. 1. sect. 2.2.8.2)			
Write-in Voting: System default is a voting position identified for write-ins.	<input checked="" type="checkbox"/>		
Write-in Voting: Without selecting a write in position.		<input checked="" type="checkbox"/>	
Write-in: With No Declared Candidates	<input checked="" type="checkbox"/>		
Write-in: Identification of write-ins for resolution at central count		<input checked="" type="checkbox"/>	
Primary Presidential Delegation Nominations & Slates: (vol. 1. sect. 2.2.8.2)			
Primary Presidential Delegation Nominations: Displayed delegate slates for each presidential party	<input checked="" type="checkbox"/>		
Slate & Group Voting: one selection votes the slate.	<input checked="" type="checkbox"/>		
Ballot Rotation: (vol. 1. sect. 2.2.8.2)			
Rotation of Names within an Office; define all supported rotation methods for location on the ballot and vote tabulation/reporting	<input checked="" type="checkbox"/>		
Straight Party Voting: (vol. 1. sect. 2.2.8.2)			
Straight Party: A single selection for partisan races in a general election	<input checked="" type="checkbox"/>		
Straight Party: Vote for each candidate individually	<input checked="" type="checkbox"/>		
Straight Party: Modify straight party selections with crossover votes	<input checked="" type="checkbox"/>		
Straight Party: A race without a candidate for one party	<input checked="" type="checkbox"/>		
Straight Party: "N of M race (where "N">1)	<input checked="" type="checkbox"/>		
Straight Party: Excludes a partisan contest from the straight party selection.	<input checked="" type="checkbox"/>		
Cross-Party Endorsement: (vol. 1. sect. 2.2.8.2)			
Cross party endorsements, multiple parties endorse one candidate.	<input checked="" type="checkbox"/>		

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Voting Variations Functionality & Languages	Sup-ported	Unsup-ported	Required description(s)
Vol. 1 Sect 2.2.8.2, 2.3.1.3.1.a, 2.4.3.3, 3.2.5.1.2, 3.2.5.1.3 4.4.4, & 10			
Split Precincts: (vol. 1. sect. 2.2.8.2)			
Split Precincts: Multiple ballot styles	✓		
Split Precincts: P & M system support splits with correct contests and ballot identification of each split	✓		
Split Precincts: DRE matches voter to all applicable races.	✓		
Split Precincts: Reporting of voter counts (# of voters) to the precinct split level; Reporting of vote totals is to the precinct level	✓		Precinct Level Only
Vote N of M: (vol. 1. sect. 2.2.8.2)			
Vote for N of M: Counts each selected candidate, if the maximum is not exceeded.	✓		
Vote for N of M: Invalidates all candidates in an overvote (paper)	✓		
Recall Issues, with options: (vol. 1. sect. 2.2.8.2)			
Recall Issues with Options: Simple Yes/No with separate race/election. (Vote Yes or No Question)	✓		
Recall Issues with Options: Retain is the first option, Replacement candidate for the second or more options (Vote 1 of M)	✓		
Recall Issues with Options: Two contests with access to a second contest conditional upon a specific vote in contest one. (Must vote Yes to vote in 2 <sup>nd</sup> contest.)	✓		
Recall Issues with Options: Two contests with access to a second contest conditional upon any vote in contest one. (Must vote Yes or No to vote in 2 <sup>nd</sup> contest)	✓		Overturned - US District Court 7/29/03: CA Election Code sect. 11383
Cumulative Voting (vol. 1. sect. 2.2.8.2, 10)			
Cumulative Voting: Voters are permitted to cast, as many votes as there are seats to be filled for one or more candidates. Voters are not limited to giving only one vote to a candidate. Instead, they can put multiple votes on one or more candidate.		✓	
Ranked Order Voting (vol. 1. sect. 2.2.8.2, 10)			
Ranked Order Voting: Voters rank candidates in a contest in order of choice. A candidate receiving a majority of the first choice votes wins. If no candidate receives a majority of first choice votes, the last place candidate is deleted, each ballot cast for the deleted candidate counts for the second choice candidate listed on the ballot. The process of eliminating the last place candidate and recounting the ballots continues until one candidate receives a majority of the vote.		✓	
Ranked Order Voting: Voters can write in a ranked vote.		✓	
Ranked Order Voting: A ballot stops being counting when all ranked choices have been eliminated		✓	
Ranked Order Voting: A ballot with two choices ranked the same, stops being counted at the point of two similarly ranked choices.		✓	
Ranked Order Voting: A ballot with a skipped rank counts the vote for the next rank.		✓	

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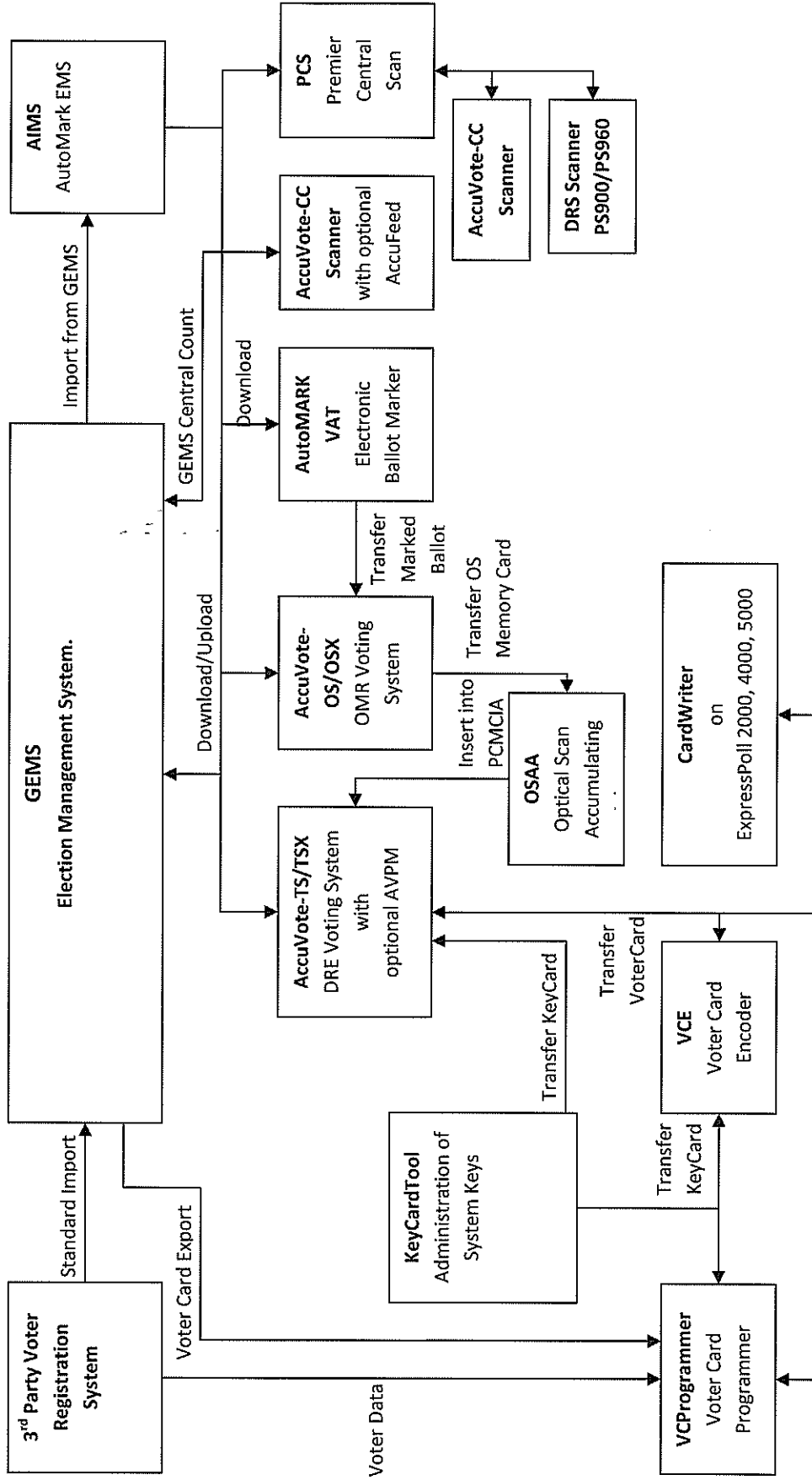
Voting Variations Functionality & Languages	Sup-ported	Unsup-ported	Required description(s)
Vol. 1 Sect 2.2.8.2, 2.3.1.3.1.a, 2.4.3.3, 3.2.5.1.2, 3.2.5.1.3, 4.4.4, & 10			
Ranked Order Voting: The total number of votes for two or more candidates with the least votes is less than the votes of the candidate with the next highest number of votes, the candidates with the least votes are eliminated simultaneously and their votes transferred to the next-ranked continuing candidate.		✓	
Provisional or Challenged Ballots (vol. 1. sect. 2.2.8.2, 10)			
Provisional/Challenged Ballots: A voted provisional ballots is identified but not included in the tabulation, but can be added in the central count.	✓		
Provisional/Challenged Ballots: A voted provisional ballots is included in the tabulation, but is identified and can be subtracted in the central count.	✓		
Provisional/Challenged Ballots: Provisional ballots maintain the secrecy of the ballot.	✓		
Overvotes (vol. 1. sect. 4.4.4, 10)			Must support for specific type of voting system
Overvotes: P & M: Overvote invalidates the vote. Define how overvotes are counted.	✓		
Overvotes: DRE: Prevented from or requires correction of overvoting.	✓		
Overvotes: If a system does not prevent overvotes, it must count them. Define how overvotes are counted.	✓		Count as "overvote"
Overvotes: DRE systems that provide a method to data enter absentee votes must account for overvotes.		✓	We cannot enter absentee ballots on the TS units. We handle absentee ballots using AVOS.
Undervotes (vol. 1. sect. 4.4.4)			Must support
Undervotes: System counts undervotes cast for accounting purposes	✓		
Blank Ballots (vol. 1. sect. 2.4.3.3, 3.2.5.1.2, 3.2.5.1.3, & 4.4.4)			
Totally Blank Ballots: Any blank ballot alert is tested.	✓		
Totally Blank Ballots: If blank ballots are not immediately processed, there must be a provision to recognize and accept them	✓		
Totally Blank Ballots: If operators can access a blank ballot, there must be a provision for resolution.	✓		
Display/Printing Multi-Lingual Ballots (vol. 1. sect. 2.3.1.3.1.a)			Must support one <input checked="" type="checkbox"/>
Spanish	✓		
Alaska Native (Other Group specified)		✓	Optionally created per customer.
Aleut		✓	
Athabascan		✓	
Eskimo		✓	
Native (Other Group Specified)		✓	
Chinese (Mandarin, Cantonese)	✓		
Filipino (Tagalog)	✓		
Japanese	✓		
Korean	✓		
Vietnamese	✓		
Apache		✓	

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Voting Variations Functionality & Languages	Sup-ported	Unsup-ported	Required description(s)
Vol. 1 Sect 2.2.8.2, 2.3.1.3.1.a, 2.4.3.3, 3.2.5.1.2, 3.2.5.1.3 4.4.4, & 10			
Cent/So American		✓	Optionally created per customer.
Cheyenne		✓	
Chickasaw		✓	
Choctaw		✓	
Navajo		✓	
Other Tribe-Specified		✓	
Paiute		✓	
Pueblo		✓	
Seminole		✓	
Shoshone		✓	
Sioux		✓	
Tohono O'Odham		✓	
Tribe not specified		✓	
Ute		✓	
Yaqui		✓	
Yuman		✓	
French	✓		
Haiti Creole	✓		
Demonstrates the voting system capability to handle the designated language groups. (vol. 1. sect. 2.3.1.3.1.a)			
Default language (English),	✓		
Secondary language using a Western European font	✓		
Ideographic language (such as Chinese or Korean),	✓		
Non-written languages requiring audio support		✓	Optionally created per customer.

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# System Overview / Functional Diagram Assure 1.2



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## System Overview / Product Descriptions

### Assure 1.2

#### SOFTWARE

##### **GEMS**

GEMS is Diebold Election Systems' Election Management System. This product is used to enter jurisdiction information (district, precincts, languages, etc.) as well as election specific information (races, candidates, voter groups (parties), etc. GEMS is also used to layout the ballots, download the election data to the voting devices, upload the results and produce the final results reports.

##### **AccuVote-OS**

The AccuVote-OS is a mark-sense precinct counting device. Election data is stored on a 32KByte to 128KByte removable memory card. The election data is downloaded to the device from GEMS using a serial connection.

The AccuVote-OS is used to perform pre-election testing, election processing, and post election uploads and reporting.

The AccuVote-OS accepts 8 ½ by 11, 14, 17, and 18 inch ballots in any orientation and uses the identifiers on the ballot to determine what ballot is being read.

##### **AccuVote-OSX**

The AccuVote-OSX is a mark-sense precinct counting device. The election data is stored on 32MByte to 512MByte PCMCIA storage cards. The election data is downloaded to the device from GEMS using an Ethernet connection or a serial PPP connection.

The AccuVote-OSX is used to perform pre-election testing, election processing, and post election uploads and reporting.

The AccuVote-OSX accepts 8 ½ by 11, 14, 17, and 18 inch ballots in any orientation and uses the identifiers on the ballot to determine what ballot is being read.

The AccuVote-OSX uses Windows CE 5.00.

##### **AccuVote-CC**

The AccuVote-CC (Central Count) is a mark-sense device that is used to scan ballots at a central location either using the GEMS Central Count system or CTS 2. The AccuVote-CC is the same hardware as the AccuVote-OS but using different firmware.

The AccuVote-CC is a simple scanner device that will accept 8 ½ by 11, 14, 17, and 18 inch ballots in any orientation.

The AccuVote-CC also supports the use of the optional AccuFeed feeder for automatically feeding the ballots.

### AccuVote-TS/TSX

The AccuVote-TS/TSX units are direct recording electronic (DRE) touch screen voting systems that also support audio ballots. These devices use the BallotStation software.

The AccuVote-TSX supports an optional voter verified printer module (AVPM).

The AccuVote-TS/TSX supports the optional UAID (Sip&Puff) interface.

The AccuVote-TS uses Windows CE 3.00 and the AccuVote-TSX uses Windows CE 4.10.

### BallotStation

BallotStation is the DRE voting software that runs on the AccuVote-TS/TSX hardware.

The election data is stored on 32MByte to 512MByte PCMCIA storage cards. The election data is downloaded to the device from GEMS using an Ethernet connection or a serial PPP connection.

The data stored on the PCMCIA cards is digitally signed and the results are also encrypted. The keys used for the signing and encrypting are loaded using a KeyCard (See KeyCardTool for how these are created).

The BallotStation is used to perform pre-election testing, election processing, and post election uploads and reporting. Voting is activated by insertion of a Vote Access Card as created by an AccuVote-TS/TSX (using BallotStation), VCProgrammer, VCE, or ExpressPoll.

### KeyCardTool

The KeyCardTool can create a KeyCard which is used to change the keys on the AccuVote-TS/TSX, VCProgrammer, VCE, and EMP. The KeyCardTool is also used for changing the key on the Poll worker cards, and changing the key and PIN number on the Central Administrator cards.

### VCProgrammer

VCProgrammer is a PC based application that is used to create vote cards for the AccuVote-TS/TSX. VCProgrammer has the ability to be integrated with 3<sup>rd</sup> party Voter Registration Systems to allow those systems to create the VoterCards. The VCProgrammer uses a file that is exported from GEMS along with the data provide by the VR system to create the Vote Card.

### VCE

VCE (Voter Card Encoder) is a small hand-held device that is used to create Voter Cards. The VCE is loaded with master Voter Card Images and then allows the user to create new Voter Cards from those masters.

### **OSAA**

OSAA (AccuVote-OS Accumulating Adapter) is used to accumulate AccuVote-OS results on an AccuVote-TS/TSX unit. The OSAA adapter is inserted into the AccuVote-TS/TSX PCMCIA slot and allows the AccuVote-OS memory cards to be read by the AccuVote-TS/TSX device.

### **PCS**

PCS (Premier Central Scan) is used to scan and tally ballots at a central location. PCS supports a number of different scanners including the AccuVote-CC and the DRS scanners. PCS downloads the election information from GEMS, scans and tallies ballots, and then uploads the results to GEMS. PCS supports multiple work stations running multiple scanners processing ballots for the same election at the same time.

### **ExpressPoll CardWriter**

The ExpressPoll 2000, 4000, and 5000 are small devices that can run the EZRoster electronic poll book application. They also provide the functionality, through the CardWriter software, to be able to create Voter Cards for use by the AccuVote-TS/TSX devices.

### **AIMS**

The AIMS software is used to prepare the data for the AutoMark electronic ballot marker. The AIMS software imports election data from GEMS and allows the user to modify it as necessary for the AutoMark EBM device.

### **AutoMark EBM**

The AutoMark EBM device is used to allow voters to electronically mark a ballot that will be scanned by the AccuVote-OS device. The AutoMark EBM supports audio ballot as well as visual ballot marking.

## **SUPPORT FILES**

### **ABasic Compiler**

ABasic is the tool that is used to generate report scripts for use by the AccuVote-OS and BallotStation. This tool is used to compile the ABasic report scripts into pseudo code for use by the voting devices.

### **ABasic Reports**

The Abasic reports are the scripts that are used to generate the election reports on the counting devices. These scripts are compiled and digitally signed by the ABasic compiler.

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**SUPPORTING FIRMWARE**

**BootLoader**

The BootLoader (BL) is used by the AccuVote-TS/TSX/OSX to startup the system, validate the WinCE image and then start Windows CE.

**WinCE 300/410/500**

The WinCE 300/410/500 are the Windows CE systems that provide the basic operating environment for the AccuVote-TS/TSX/OSX respectively. These all use Microsoft's WindowCE 300/410/500 as the base platform and provide the custom device drivers and Taskmanager as required to support the hardware.

**AVPM**

The AVPM firmware is used to control the take-up motor on the AVPM device.

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