United States Election Assistance Commission

Certificate of Conformance

ES&S EVS 6.1.0.0

VVSG 2005 VER. I

EAC

CERTIFIED

The voting system identified on this certificate has been evaluated at an accredited voting system testing laboratory for conformance to the *Voluntary Voting System Guidelines Version 1.0 (VVSG 1.0)* . Components evaluated for this certification are detailed in the attached Scope of Certification document. This certificate applies only to the specific version and release of the product in its evaluated configuration. The evaluation has been verified by the EAC in accordance with the provisions of the EAC *Voting System Testing and Certification Program Manual* and the conclusions of the testing laboratory in the test report are consistent with the evidence adduced. This certificate is not an endorsement of the product by any agency of the U.S. Government and no warranty of the product is either expressed or implied.

Product Name: EVS

Model or Version: 6.1.0.0

Name of VSTL: Pro V&V

EAC Certification Number: ESSEVS6100

Date Issued: September 24, 2019

Executive Director

Scope of Certification Attached

Manufacturer: *Election Systems & Software*
System Name: *EVS 6.1.0.0*
Certificate: *ESSEVS6100*

Laboratory: *Pro V&V*
Standard: *2005 VVSG*
Date: *9/24/2019*

Scope of Certification

This document describes the scope of the validation and certification of the system defined above. Any use, configuration changes, revision changes, additions or subtractions from the described system are not included in this evaluation.

Significance of EAC Certification

An EAC certification is an official recognition that a voting system (in a specific configuration or configurations) has been tested to and has met an identified set of Federal voting system standards. An EAC certification is **not**:

- An endorsement of a Manufacturer, voting system, or any of the system's components.
- A Federal warranty of the voting system or any of its components.
- A determination that a voting system, when fielded, will be operated in a manner that meets all HAVA requirements.
- A substitute for State or local certification and testing.
- A determination that the system is ready for use in an election.
- A determination that any particular component of a certified system is itself certified for use outside the certified configuration.

Representation of EAC Certification

Manufacturers may not represent or imply that a voting system is certified unless it has received a Certificate of Conformance for that system. Statements regarding EAC certification in brochures, on Web sites, on displays, and in advertising/sales literature must be made solely in reference to specific systems. Any action by a Manufacturer to suggest EAC endorsement of its product or organization is strictly prohibited and may result in a Manufacturer's suspension or other action pursuant to Federal civil and criminal law.

System Overview:

The ES&S EVS 6.1.0.0 voting system is a modification of the EVS 6.0.4.0 voting system, certified on May 3, 2019, which contains changes in Electionware, ExpressVote, DS200, DS450 and DS850. The EVS 6.1.0.0 voting system is composed of software applications, central count and polling place devices with accompanying firmware, and COTS hardware and software:

Electionware® election management software is an end-to-end election management software application that provides election definition creation, ballot formation, equipment configuration, result consolidation, adjudication, and report creation. Electionware is composed of five software groups: Define, Design, Deliver, Results, and Manage.

ExpressVote XL™ is a hybrid paper-based polling place voting device that provides a full-faced touch screen vote capture interface that incorporates the printing of the voter's selections as a cast vote record and tabulation scanning in a single unit.

ExpressTouch® is a DRE voting system which supports electronic vote capture for curbside voting at the polling place.

ExpressVote® Hardware 1.0 is a hybrid paper-based polling place voting device that provides touch screen vote capture that incorporates the printing of the voter's selections as a cast vote record to be scanned for tabulation in any one of the ES&S precinct or central scanners.

ExpressVote® Hardware 2.1 is a hybrid paper-based polling place voting device that provides touch screen vote capture that incorporates the printing of the voter's selections as a cast vote record to be scanned for tabulation in any one of the ES&S precinct or central scanners.

DS200® is a polling place paper-based voting system, specifically a digital scanner and tabulator that simultaneously scans the front and back of a paper ballot and/or vote summary card in any of four orientations for conversion of voter selection marks to electronic cast vote records (CVR).
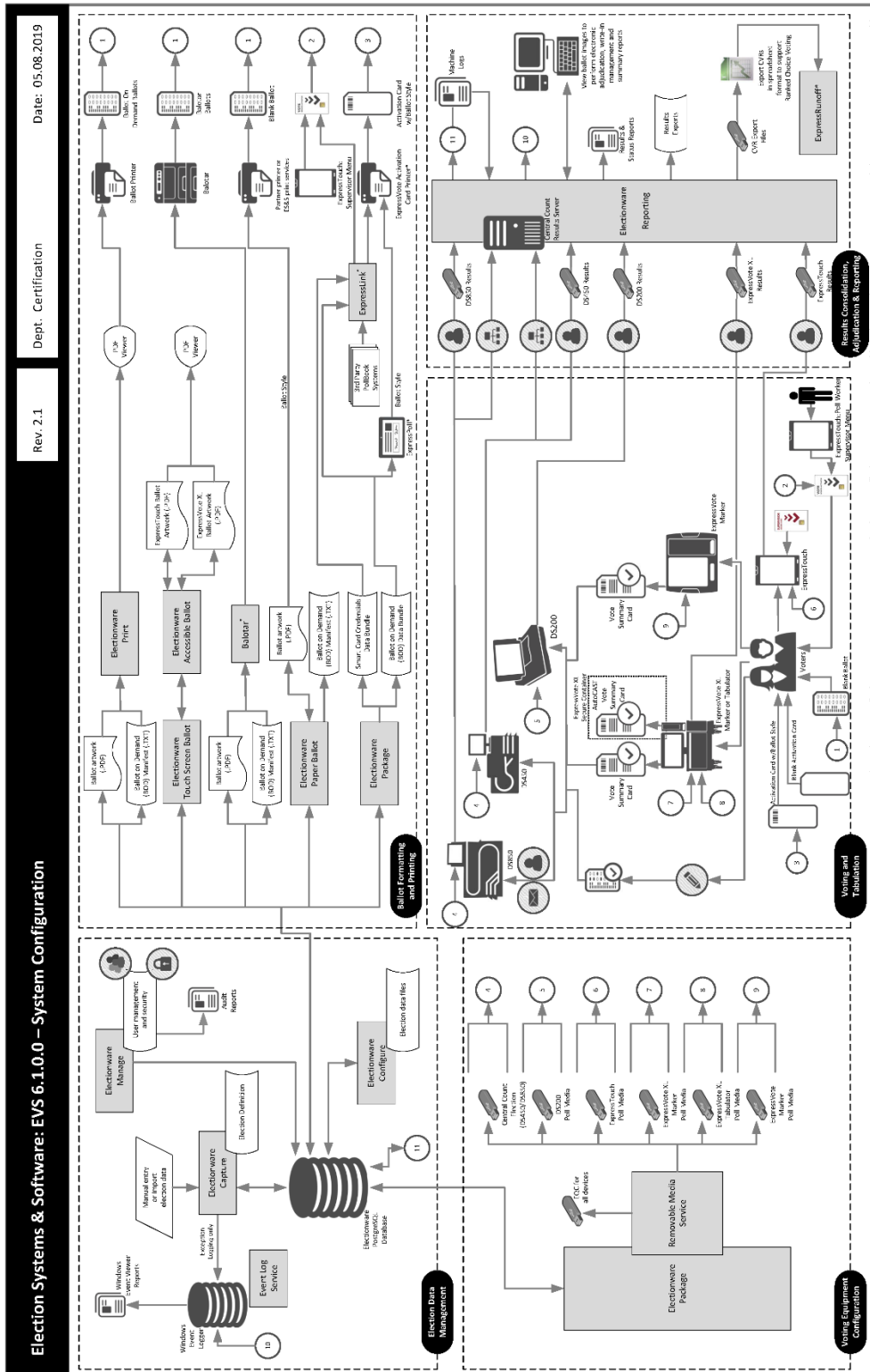
DS450® is a central scanner and tabulator that simultaneously scans the front and back of a paper ballot and/or vote summary card in any of four orientations for conversion of voter selection marks to electronic CVRs.

DS850® is a central scanner and tabulator that simultaneously scans the front and back of a paper ballot and/or vote summary card in any of four orientations for conversion of voter selection marks to electronic CVRs.

Event Log Service (ELS) monitors and logs users' interactions with the election management system. Events that happen when a connection to the database is not available are logged to the Windows operating system log through the ELS.

Removable Media Service (RMS) is a utility that runs in the background of the Windows operating system. RMS reads specific information from any attached USB devices so that an ES&S application such as Electionware can use that information for media validation purposes.

System Diagram

Election Systems & Software: EVS 6.1.0.0 – System Configuration | Rev. 2.1 | Dept. Certification | Date: 05.08.2019

Certified System before Modification (If applicable):

EVS 6.0.4.0

Changes addressed by modification

Hardware

- ExpressVote Voting Booth Workstation: The ExpressVote voting booth workstation is an ADA-compliant way to deploy the ExpressVote for use as a marker. The voting booth workstation can be positioned to accommodate both standing and seated voters. This voting booth solution can accommodate seated voters using the side-approach position.

Software/Firmware

Cross-Product Changes

- Operating system upgraded from Microsoft Windows 7 to Microsoft Windows 10 Enterprise LTSC and from Microsoft Windows Server 2008 R2 to Microsoft Windows Server 2016. This upgrade moves the voting system to a 64-bit architecture.
  - Impacted products: Electionware
- ExpressVote Re-architecture: Enables the ExpressVote to operate using the touch screen user interface and functionality developed for the ExpressVote XL in EVS6000. Removed accessible ballot menu items and functionality to format ExpressVote headings, contests, contest summaries and candidates as these functions are now part of the touch screen ballot module.
  - Impacted products: ExpressVote HW1.0, ExpressVote HW2.1, Electionware
- Alert management: Changed low battery alerts to work as follows: at approaching low – warn the user that battery is approaching low levels – alert is dismissible – no actions are suppressed. At low level – warn user that battery is low – allow any current vote session to finish – suppress entering any new vote session. At critical level – force shut down the system. Updated audible system alarms to mimic ExpressVote XL.
  - Impacted products: ExpressVote HW1.0, ExpressVote HW2.1
- Calibration: Instituted the ability to calibrate the tabulator double sheet sensor in the paper path.
  - Impacted products: ExpressVote HW1.0, ExpressVote HW2.1
- Color options (Touch screen ballot and paper ballot): Incorporated the ability to display text formatted with different colors and formatting inline.
  - Impacted products: ExpressVote HW1.0, ExpressVote HW2.1, Electionware
- External barcode: Incorporated the ability to select precinct and ballot style by scanning an external barcode.
  - Impacted products: ExpressVote HW1.0, ExpressVote HW2.1
- Manual deselect: Instituted the ability to configure the system to require users to deselect a currently selected voting target before allowing a new selection in a Vote for One contest. Previous versions always toggled selections.
  - Impacted products: ExpressVote HW1.0, ExpressVote HW2.1, Electionware
- Media label: Updated the ExpressVote to require the volume label 'XPRSSVOTE' for election media (previous volume label was 'EXPRESSVOTE'). Electionware now assigns

the volume label 'XPRSSVOTE' when creating ExpressVote media which will make it more consistent with other touch screen media.

- o Impacted products: ExpressVote HW1.0, ExpressVote HW2.1, Electionware
- Readiness report: Incorporated the connection status (connected/not connected) for external barcode scanners and accessible keypad to the system readiness report. Incorporated versioning for the input/output board and audio tactile interface board to the system readiness report.
    - o Impacted products: ExpressVote HW1.0, ExpressVote HW2.1
- Update via flash drive: Incorporated the ability to update the system application and board firmware using an update flash drive.
    - o Impacted products: ExpressVote HW1.0, ExpressVote HW2.1
- User interface: Update the ExpressVote welcome screen graphic.
    - o Impacted products: ExpressVote HW1.0, ExpressVote HW2.1
- Validation: Instituted the ability to export VVSG required voting system validation files to an export flash drive.
    - o Impacted products: ExpressVote HW1.0, ExpressVote HW2.1

DS200

- Routine tasks: Updated copyright date on DS200 startup/shutdown splash screens.
- Write-in review report: The write-in review report has been changed to sort write-ins by precinct. Contests with no entered write-in votes will be suppressed from the write-in review report. This will save space on the report and avoid wasting report tape.
- Security: Integrated support for secure CF cards.

DS450

- Routine tasks: Updated copyright date on DS450 startup/shutdown splash screens.
- Security: Integrated support for locked CF cards.

DS850

- Routine tasks: Update copyright date on DS850 startup/shutdown splash screens.
- Security: Integrated support for locked CF cards.

Electionware

- Audio and translations: Incorporated the ExpressVote audio and translations to the touch screen audio spreadsheet so the user only has to maintain one spreadsheet for all touch screen equipment. Removed the ExpressVote import screen definitions menu as the user will be able to import all screen definitions using the touch screen translations script. The Electionware touch screen system audio script and ballot audio script now identify .ogg file formats in order to support the ExpressVote, ExpressVote XL, and ExpressTouch change to utilize .ogg audio files instead of .wav audio files. By moving to the .ogg file format, the audio file size will be greatly reduced, providing better performance on the machines.
- Ballot layout: Electionware now generates ExpressVote PDF ballots in the accessible ballot module. The touch screen ballot module now designs all ExpressVote ballots. All

menus, buttons, and the navigator include ExpressVote when ExpressVote ballots styles have been generated in Capture. Electionware now offers the option to configure ExpressVote and ExpressVote XL to print the text *** Official Ballot *** in the header area of a vote summary card. This option appears on the settings screens for these equipment types.

- Ballot PDF files: Electionware no longer requires Adobe to generate ballot PDF files. The recommended generator is Amyuni. Electionware no longer require Adobe to view ballot PDF files. The recommended PDF viewer is Sumatra.
- Configuration settings: Added a configure module tab on the ExpressVote settings screen for absentee/early. Users can now configure different settings for election day and absentee/early equipment. Removed print card size from ExpressVote XL and ExpressVote in configure module's settings report as this option is now in the touch screen ballot module.
- Review box: The setting to create and enforce the review box option for the ExpressVote will now be independent of paper ballot. It is set by the user in configure settings. The setting to create and enforce the ExpressVote review box option is now displayed on the ExpressVote settings report.
- Routing tasks: The copyright year has been updated to 2019.

Event Log Service
- 64-bit architecture: Convert event log service to the new 64-bit architecture.

Removable Media Service
- 64-bit architecture: Convert Removable Media Service to the new 64-bit architecture.

Mark definition:
ES&S' declared mark recognition for the DS200, DS450, and DS850 is a mark across the oval that is 0.02" long x 0.03" wide at any direction.

Tested Marking Devices:
Bic Grip Roller Pen

Language capability:
System supports English, Spanish, Chinese, Korean, Japanese, Hindi, Bengali, Vietnamese, Tagalog, Creole, Russian, French, Gujarati (one configuration only), Punjabi (one configuration only)

Proprietary Components Included:
This section provides information describing the components and revision level of the primary components included in this Certification.

System Component	Software or Firmware Version	Hardware Version	Model	Comments
Electionware	6.0.0.0			Election management software that provides end-to-end election management activities
ES&S Event Log Service (ELS)	2.0.0.0			Logs users' interactions with EMS
Removable Media Service	2.0.0.0			Utility that runs in the background of the Windows operating system
DS200	2.30.0.0	1.2, 1.3		Precinct count tabulator that scans voter selections from both sides of the ballot simultaneously
DS200 Ballot Box		1.0, 1.1	98-00009	Collapsible ballot box
DS200 Ballot Box		1.2, 1.3, 1.4, 1.5	57521	Plastic ballot box
DS200 Tote Bin		1.0	00074	Tote bin ballot box
DS450	3.4.0.0	1.0		Central count scanner and tabulator
DS450 Cart			3002	
DS850	3.4.0.0	1.0		Central count scanner and tabulator
DS850 Cart			6823	
ExpressVote XL	1.0.3.0	1.0		Hybrid full-faced paper-based vote capture and selection device and precinct count tabulator
ExpressTouch	1.0.3.0	1.0		DRE
ExpressVote HW1.0	4.0.0.0	1.0		Hybrid paper-based vote capture and selection device
ExpressVote HW2.1	4.0.0.0	1.0		Hybrid paper-based vote capture and selection device
ExpressVote Rolling Kiosk		1.0	98-00049	Portable Voting Booth
Voting Booth			98-00051	Stationary Voting Booth
Voting Booth Workstation			87035	Stationary voting booth
Quad Express Cart			41404	Portable Voting Booth
MXB ExpressVote Voting Booth			95000	Sitting and Standing Voting Booth
ExpressVote Single Table			87033	Voting Table for One Unit
ExpressVote Double Table			87032	Voting Table for Two Units
ADA Table			87031	Voting Table for One Unit
Universal Voting Console (UVC)		1.0	98-00077	Detachable ADA support peripheral
Tabletop Easel			14040	Portable Voting Booth
ExpressTouch Voting Booth			98-00081	Stationary Voting Booth
SecureSetup	3.0.0.2			Proprietary Hardening Script

COTS Software

Manufacturer	Application	Version
Microsoft Corporation	Windows Server 2016	(64-bit)
Microsoft Corporation	Windows 10 Enterprise LTSC	SP1 (64-bit)
Microsoft Corporation	WSUS Microsoft Windows Offline Update Utility	11.6.1
Symantec	Endpoint Protection	14.2.0_MP1 (64-bit)
Symantec	Endpoint Protection Intelligent Updater (File-based protection)	20190329-001-core15sdsv5i64.exe
Symantec	Endpoint Protection Intelligent Updater (Network-based protection)	20190328-061-IPS_IU_SEP_14RUI.exe
Symantec	Endpoint Protection Intelligent Updater (Behavior-based protection)	20190325-001-SONAR_IU_SEP.exe
Amyuni	PDF Converter Printer Driver	5.5
Cerberus	FTP Server – Enterprise	10.0.8 (64-bit)
Sumatra	PDF	3.1.2 (64-bit)
RSA Security	BSAFE Crypto-C ME for Windows 32-bit	4.1

COTS Hardware

Manufacturer	Hardware	Model/Version
Dell	EMS Server	PowerEdge T430, T630
Dell	EMS Client or Standalone Workstation	Latitude 5580, OptiPlex 5040, 5050, 7020
Dell	Trusted Platform Module (TPM) Chip 1.2 and 2.0 (optional)	M48YR
Innodisk	USB EDC H2SE (8GB) for ExpressVote 1.0	DEEUH1-01GI72AC1SB
Innodisk	USB EDC H2SE (16GB) for ExpressVote 2.1	DEEUH1-16GI72AC1SB
Delkin	USB Embedded 2.0 Module Flash Drive	MY08TQJ7A-RA000-D / 8GB
Delkin	USB Embedded 2.0 Module Flash Drive	MY16TNK7A-RA042-D/ 16 GB
Delkin	USB Flash Drive (512MB, 1GB, 2GB, 4GB, 8GB)	N/A
Delkin	Compact Flash Memory Card (1GB)	CE0GTFHHK-FD038-D
Delkin	Secure Compact Flash Card (2GB)	CE02TLQCK-FD000-D
Delkin	Compact Flash Memory Card Reader/Writer	6381
Delkin	CFAST Card (2GB, 4GB)	N/A
Delkin	USB Flash Drive BitLocker 32.2 MB Storage for Security Key (optional)	N/A
Lexar	CFAST Card Reader/Writer	LRWCR1TBNA
CardLogix	Smart Card	CLXSU128kC7/ AED C7

Manufacturer	Hardware	Model/Version
SCM Microsystems	Smart Card Writer	SCR3310
Avid	Headphones	86002
Zebra Technologies	QR Code Scanner (integrated)	DS457-SR20009, DS457-SR2000ZZWW
Symbol	QR Code Scanner (external)	DS9208
Dell	DS450 Report Printer	S2810dn
OKI	DS450 and DS850 Report Printer	B431dn, B431d, B432DN
OKI	DS450 and DS850 Audit Printer	Microline 420
APC	DS450 UPS	Back-UPS Pro 1500, Smart-UPS 1500
APC	DS850 UPS	Back-UPS RS 1500, Pro 1500
Tripp Lite	DS450 Surge Protector	Spike Cube
Seiko Instruments	Thermal Printer	LTPD-347B
NCR/Nashua	Paper Roll	2320
Fujitsu	Thermal Printer	FTP-62GDSL001, FTP-63GMCL153
HP	Ink Cartridge for DS450/DS850 Ballot Number Imprinting	87002
TDS	Ink Cartridge for DS200 Ballot Number Imprinting	2278

System Limitations

This table depicts the limits the system has been tested and certified to meet.

System Characteristic	Boundary or Limitation	Limiting Component
Max. precincts allowed in an election	9,900	Electionware
Max. candidates allowed per election	10,000	Electionware
Max. contests allowed in an election	10,000	Electionware
Max. contests allowed per ballot style	500 or # of positions on ballot	N/A
Max. candidates (ballot choices) allowed per contest	230	Electionware
Max. number of parties allowed	General election: 75 Primary election: 30 (including nonpartisan party)	Electionware
Max. 'vote for' per contest	230	Electionware
Ballot formats	All paper ballots used in an election must be the same length. Voteable paper ballots must contain the same number of rows	Ballot scanning equipment
Max. ballot styles	15,000	Electionware
Max. ballots per batch	1,500	DS450/DS850
Max. precinct types/groups	25 (arbitrary)	Electionware
Max. precincts of a given type	250 (arbitrary)	Electionware
Max. reporting groups	14	Electionware

Component Limitations:

ExpressVote

1. Capacities exceed all documented limitations for the ES&S election management, vote tabulation and reporting system. For this reason, election management system and ballot tabulator limitations define the boundaries and capabilities of the ExpressVote system as the maximum capacities of the ExpressVote are never approached during testing.
2. Does not offer primary support based on the ES&S definition of Open Primary, which is the ability to select a party and vote based on that party.
3. Does not support Massachusetts Group Vote.
4. Does not support Universal Primary Contest.
5. Does not support Multiple Target Cross Endorsement.
6. Does not support Reviewer or Judges Initials boxes.
7. Does not support multi-card ballots.
8. Does not support Team Write-in.

ExpressVote XL

1. Capacities exceed all documented limitations for the ES&S election management, vote tabulation and reporting system. For this reason, election management system and ballot tabulator limitations define the boundaries and capabilities of the ExpressVote XL system as the maximum capacities of the ExpressVote XL are never approached during testing.
2. Does not offer primary support based on the ES&S definition of Open Primary, which is the ability to select a party and vote based on that party.
3. Does not support Massachusetts Group Vote.
4. Does not support Universal Primary Contest.
5. Does not support Multiple Target Cross Endorsement.
6. Does not support Reviewer or Judges Initials boxes.
7. Does not support multi-card ballots.
8. In a general election, ExpressVote XL screen can hold 32 party columns if set up as columns or 16 party rows if set up as rows.
9. Does not support Team Write-in.

ExpressTouch

1. Capacities exceed all documented limitations for the ES&S election management, vote tabulation and reporting system. For this reason, election management system limitations define the boundaries and capabilities of the ExpressTouch system as the maximum capacities of the ES&S ExpressTouch are never approached during testing.
2. Does not offer open primary support based on the ES&S definition of Open Primary, which is the ability to select a party and vote based on that party.
3. Does not support Massachusetts Group Vote.
4. Does not support Universal Primary Contest.

5. Does not support Multiple Target Cross Endorsement.
6. Does not support Team Write-in.

Electionware

1. Electionware software field limits were calculated based on an average character width for ballot and report elements. Some uses and conditions, such as magnified ballot views or combining elements on printed media or ballot displays, may result in field limits (and associated warnings) lower than those listed. Check printed media and displays before finalizing the election.
2. Ballot Images function is limited to 250 districts per export.
3. Support the language and special characters listed above in Supported Languages section. Language special characters other than those on this list may not appear properly when viewed on equipment displays or reports.
4. The Straight Party feature must not be used in conjunction with the Multiple Target Cross Endorsement features.
5. The 'MasterFile.txt' and the 'Votes File.txt' do not support results for elections that contain multiple sheets or multiple ExpressVote cards per voter. These files can be produced using the Electionware > Reporting > Tools > Export Results menu option. This menu option is available when the Rules Profile is set to "Illinois".

Electionware Paper Ballot

1. The paper ballot code channel, which is the series of black boxes that appear between the timing track and ballot contests, limits the number of available ballot variations depending on how a jurisdiction uses this code to differentiate ballots. The code can be used to differentiate ballots using three different fields defined as: Sequence (available codes 1-16,300), Type (available codes 1-30), or Split (available codes 1-18).
2. For paper ballots, if Sequence is used as a ballot style ID, it must be unique election-wise and Split code will always be 1. In this case, the practical style limit would be 16,300.
3. The ExpressVote activation card has a ballot ID consisting of three different fields defined as: Sequence (available codes 1-16,300), Type (available codes 1-30), or Split (available codes 1-18).
4. Grid Portrait and Grid Landscape ballot types are New York specific and not for general use.

DS200

1. Configured for an early vote station does not support precinct level results reporting. An election summary report of tabulated vote totals is supported.
2. Storage limitation for write-in ballot images is 3,600 images. Each ballot image includes a single ballot face, or one side of one page.
3. Write-in image review requires a minimum 1GB of onboard RAM.
4. To successfully use the write-in report, ballots must span three or more vertical columns. If the column is greater than 1/3 of the ballot width (two columns or less), the write-in image will be too wide to print on the tabulator report tape.

Functionality

2005 VVSG Supported Functionality Declaration

Feature/Characteristic	Yes/No	Comment
Voter Verified Paper Audit Trails		
VVPAT	No	
Accessibility		
Forward Approach	Yes	
Parallel (Side) Approach	Yes	
Closed Primary		
Primary: Closed	Yes	
Open Primary		
Primary: Open Standard (provide definition of how supported)	No	
Primary: Open Blanket (provide definition of how supported)	No	
Partisan & Non-Partisan:		
Partisan & Non-Partisan: Vote for 1 of N race	Yes	
Partisan & Non-Partisan: Multi-member ("vote for N of M") board races	Yes	
Partisan & Non-Partisan: "vote for 1" race with a single candidate and write-in voting	Yes	
Partisan & Non-Partisan "vote for 1" race with no declared candidates and write-in voting	Yes	
Write-In Voting:		
Write-in Voting: System default is a voting position identified for write-ins.	Yes	
Write-in Voting: Without selecting a write in position.	Yes	
Write-in: With No Declared Candidates	Yes	
Write-in: Identification of write-ins for resolution at central count	Yes	
Primary Presidential Delegation Nominations & Slates:		
Primary Presidential Delegation Nominations: Displayed delegate slates for each presidential party	No	
Slate & Group Voting: one selection votes the slate.	No	
Ballot Rotation:		
Rotation of Names within an Office; define all supported rotation methods for location on the ballot and vote tabulation/reporting	Yes	
Straight Party Voting:		
Straight Party: A single selection for partisan races in a general election	Yes	
Straight Party: Vote for each candidate individually	Yes	
Straight Party: Modify straight party selections with crossover votes	Yes	
Straight Party: A race without a candidate for one party	Yes	
Straight Party: "N of M race (where "N">1)	Yes	
Straight Party: Excludes a partisan contest from the straight party selection	Yes	
Cross-Party Endorsement:		
Cross party endorsements, multiple parties endorse one candidate.	Yes	
Split Precincts:		
Split Precincts: Multiple ballot styles	Yes	

Feature/Characteristic	Yes/No	Comment
Split Precincts: P & M system support splits with correct contests and ballot identification of each split	Yes	
Split Precincts: DRE matches voter to all applicable races.	Yes	
Split Precincts: Reporting of voter counts (# of voters) to the precinct split level; Reporting of vote totals is to the precinct level	Yes	It is possible to list the number of voters.
Vote N of M:		
Vote for N of M: Counts each selected candidate, if the maximum is not exceeded.	Yes	
Vote for N of M: Invalidates all candidates in an overvote (paper)	Yes	
Recall Issues, with options:		
Recall Issues with Options: Simple Yes/No with separate race/election. (Vote Yes or No Question)	No	
Recall Issues with Options: Retain is the first option, Replacement candidate for the second or more options (Vote 1 of M)	No	
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 2nd contest.)	No	
Recall Issues with Options: Two contests with access to a second contest conditional upon any vote in contest one. (Must vote Yes to vote in 2nd contest.)	No	
Cumulative Voting		
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.	No	
Ranked Order Voting		
Ranked Order Voting: Voters can write in a ranked vote.	Yes	Ballots can be formatted for Ranked Order Voting and the system supports export of CVR data for processing of Ranked Order Voting Rounds
Ranked Order Voting: A ballot stops being counted when all ranked choices have been eliminated	Yes	Ballots can be formatted for Ranked Order Voting and the system supports export of CVR data for processing of Ranked Order Voting Rounds

Feature/Characteristic	Yes/No	Comment
Ranked Order Voting: A ballot with a skipped rank counts the vote for the next rank.	Yes	Ballots can be formatted for Ranked Order Voting and the system supports export of CVR data for processing of Ranked Order Voting Rounds
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	No	
Ranked Order Voting: A ballot with two choices ranked the same, stops being counted at the point of two similarly ranked choices.	Yes	Ballots can be formatted for Ranked Order Voting and the system supports export of CVR data for processing of Ranked Order Voting Rounds
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.	No	
Provisional or Challenged Ballots		
Provisional/Challenged Ballots: A voted provisional ballots is identified but not included in the tabulation, but can be added in the central count.	Yes	
Provisional/Challenged Ballots: A voted provisional ballots is included in the tabulation, but is identified and can be subtracted in the central count	Yes	
Provisional/Challenged Ballots: Provisional ballots maintain the secrecy of the ballot.	Yes	
Overvotes (must support for specific type of voting system)		
Overvotes: P & M: Overvote invalidates the vote. Define how overvotes are counted.	Yes	
Overvotes: DRE: Prevented from or requires correction of overvoting.	Yes	
Overvotes: If a system does not prevent overvotes, it must count them. Define how overvotes are counted.	Yes	
Overvotes: DRE systems that provide a method to data enter absentee votes must account for overvotes.	Yes	
Undervotes		
Undervotes: System counts undervotes cast for accounting purposes	Yes	
Blank Ballots		
Totally Blank Ballots: Any blank ballot alert is tested.	Yes	

Feature/Characteristic	Yes/No	Comment
Totally Blank Ballots: If blank ballots are not immediately processed, there must be a provision to recognize and accept them	Yes	
Totally Blank Ballots: If operators can access a blank ballot, there must be a provision for resolution.	Yes	
Networking		
Wide Area Network – Use of Modems	No	
Wide Area Network – Use of Wireless	No	
Local Area Network – Use of TCP/IP	No	
Local Area Network – Use of Infrared	No	
Local Area Network – Use of Wireless	No	
FIPS 140-2 validated cryptographic module	Yes	
Used as (if applicable):		
Precinct counting device	Yes	DS200, ExpressTouch, ExpressVote XL
Central counting device	Yes	DS450 and/or DS850

Baseline Certification Engineering Change Orders (ECO)

This table depicts the ECOs certified with the voting system:

Change ID	Date	Component	Description	Inclusion
ECO 1023	6/18/19	ExpressVote XL	Update Embedded Controller	DeMinimis Optional
ECO 1042	9/13/19	DS200	DS200 Hdw. Rev 1.3.11 with Legacy Releases	DeMinimis Optional
ECO 1044	9/13/19	DS200 Ballot Tote	Add Ballot Tote Bag	DeMinimis Optional