

# ES&S EVS 5.2.4.0

The Election Systems and Software release of the EVS 5.2.4.0 election system was examined in Austin on 7/10/18. The system was presented by Brooke Thernes, State Certification Manager for ES&S. This release was certified by the Federal Elections Assistance Commission (EAC) in May 2018. The release is a modification to the EVS 5.2.3.0 system that was certified by the EAC in February, 2018. It was not examined in Texas.

There was only a minor change from the Texas certified 5.2.2.0 release. According to the EAC test report the only change was, “the ExpressVote 1.0 firmware has been modified to optimize imaging of activation barcodes by slightly increasing the illumination to compensate for hardware behavior.” The matches the detailed change notes provided by ES&S prior to the 5.2.4.0 examination. The purpose of this examination was to review the differences between the 5.2.2.0 and 5.2.4.0 systems.

## Changes

The significant hardware changes to the 5.2.4.0 release include: 1) new versions (version 2.1.0.0 and 2.1.2.0) of the ExpressVote to address end-of-life components and providing improved manufacturability; 2) new table stands for the ExpressVote and AutoMark terminals; and 3) a collapsible ballot box for the DS200.

The significant software changes to the 5.2.4.0 release include: 1) security upgrades to third-party EMS COTS products; 2) minor functional enhancements to Electionware: updated audio prompts for ADA voting with a binary tactile device, updated xml export filename, and an updated User Guide; and 3) fixed an issue with write-in entries when using a binary tactile device in multi-language elections and truncation of very long candidate text on the ExpressVote:

The following table lists the 5.2.4.0 components used for the examination.

Table 1 - Releases for new Proprietary Hardware/Software Components

Application	Version/Firmware #
AutoMARK ADA table	87031
ExpressVote Voting Single Table	87033
ExpressVote Voting Double Table	87032
MXB ExpressVote Voting Booth	95000
Quad Express Cart	41404
ElectionWare (EMS)	4.7.1.4
ExpressVote - HW 1.0	1.4.1.7
ExpressVote - HW 2.1	2.1.0.0 and 2.1.2.0
ExpressVote 1.0 Previewer	1.4.1.7
ExpressVote 2.0 Previewer	2.4.2.0

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For a detailed explanation of all the hardware components and applications of the 5.2.4.0 system please refer to the EAC certification test report [here](#).

## Findings

- The responses provided for Form-101 are acceptable.
- The system software was obtained from the testing lab, Pro V&V and was built onsite without incident, however the hashes of the software modules were not verified.

The ExpressVotes have an admin option to print hash codes of the executables. A best practice would be for a jurisdiction to do this before each election cycle to verify that the modules have not been modified.

- The prepared test ballots and the manually voted test ballots were recorded and tallied correctly.
- Hardware testing necessary as part of the EAC testing were conducted at NTS Longmont, Colorado. The testing consisted of : Immunity Test, Emissions Test, and the Environmental Test. All tests passed.
- The ExpressVote 2.0 can be configured as what the EAC calls a hybrid DRE machine. For this release it is only ballot marking device. There is not an option to burn the media for the DRE functionality and there are no electronic record of the votes stored on the machine. It produces a printout with the voter's selections only, not the entire ballot. This is a paper CVR (cast vote record). Both ExpressVote versions are appropriate for use in vote center.

The Expressvote has administration options for the next release (6.0.0.0) that are not functioning in the 5.2.4.0 release.

- The new AutoMark ADA and ExpressVote tables were not seen during the examination. The DS200 collapsible ballot box was examined and was acceptable.
- There are no firmware change to the 3 optical ballot scanners. Therefore, the DS450 and DS850 were not reviewed as part of this examination. A DS200 was used to scanned the voted test ballots.
- Audit logs are automatically written to memory sticks from DS200 when polls are closed. They can be imported into ELectionware and searched as needed.
- The audit logs are in plain english and do require a manual to cross-reference a code to find the meaning. The logs are brought along with the results from the scanners into the ERM. The logs can also be viewed in ElectionWare which makes it easy to look for errors.

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- Jurisdictions should review the system and component limitations sections of the [EAC Scope of Certification](#) document before purchasing to verify that it can meet their needs.
- The documentation in the Technical Data Package provided by the vendor appears to be complete and correct.

### **Conclusion**

I believe the ES&S EVS 5.2.4.0 election system meets the requirements of the Texas Election Code. I recommend certification.

Tom Watson  
Examiner