



Electronic Voting Machine Information Sheet

ES&S AutoMARK Voter Assistance Terminal

Name / Model: AutoMARK VAT ¹
Vendor: Election Systems & Software
Voter-Verified Paper Record Capability: Yes.



Brief Description: The AutoMARK VAT uses a touch screen interface with optical scan paper ballots. It is used in ~30 states. The AutoMARK VAT is an optical scan ballot marker designed for use by people who are unable to personally mark an optical scan ballot due to physical impairments or language barriers. Accessibility features include a touch screen with a zoom and contrast feature, multiple language translation, keypad marked with Braille, puff-sip interface as well as an audio ballot feature. The AutoMARK VAT prevents over-voting and users are prompted visually and audibly if they attempt to under-vote. Under-voting is allowed only after the user is prompted unless otherwise required by the election jurisdiction. Before any mark is made on the ballot, the voter is shown a verification screen where each race is displayed along with their selections. Under-voted races are clearly identified by different colors on the touch screen as well as the audio ballot prompt. The AutoMARK VAT marks the optical scan ballot for the voter including any write-ins. For voter verification purposes, the user may also re-insert their marked ballot in order to verify that their intent was accurately captured. In the event of a mis-marked ballot the voter may spoil the ballot, obtain a new ballot and restart the voting process.

Detailed Voting Process: The AutoMARK™ Voter Assist Terminal (VAT) is a hybrid of several devices: a scanner, printer, touch screen display, and input device. The data for a given election is stored on a compact flash card. Using Automark Technical Systems proprietary software, an election official is able to convert election data created using

¹ See <http://www.automarkts.com/>



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industry standard software for use in the AutoMARK VAT. During this process it is also possible to customize the election data, including adding translations or phonetic pronunciation of difficult names for use with the synthesized speech. Once the flash card has been programmed, it is inserted and locked into the AutoMARK VAT. Secure electioneering is verified by a special program that fills in each oval on a ballot along with the candidate's name.

When a voter inserts their ballot into the AutoMARK VAT, it searches for a match to the precinct identification code found on each ballot and used by industry standard optical scanning devices. The voter is then prompted to select the language in which they wish to vote and is able to carry out the voting process using the touch screen, a puff-sip device, or by following audio prompts along with a keypad. Additionally, there is a screen privacy option voter so that visually impaired users can be assured that their voting remains private. During the voting process, over-voting is not allowed. The user is also prompted anytime they attempt to under-vote, and may select to continue with the under-vote or re-vote the contest in order to properly capture their intentions. Before any mark is made on the ballot, the user is shown a verification screen where each race is displayed along with the users' selections. Under-voted races are clearly identified and the user is given the option to return and modify any race they choose.

The ballot is then printed, along with any write-in's, and returned to the user. For voter verification purposes, the user may also re-insert their ballot, after printing is complete, in order to verify that their intent was captured. If not, they may simply follow jurisdiction-specific ballot spoiling procedures and restart the voting process.

What to Look Out For

- **Security Seals.** Ideally, the AutoMARK's exposed ports, memory card access areas and case seams would be covered with tamper-evident security seals. The integrity of these seals should be maintained at all times, and only breached under controlled, explained circumstances. A voided seal looks like this: <http://www.flickr.com/photos/joebeone/2247733620/>. Seals should be logged to maintain chain of custody of sensitive materials.
- **System Crashing.** The AutoMARK can often crash when the ballot is being inserted and read and results in the system hanging with the inserted ballot stuck in the feed bath. Poll workers should reboot crashed machines and perform the "Eject Ballot" operation.
- **Boot-up Times.** The AutoMARK, especially the A100 model, can take up to 15-20 minutes to reboot. If rebooting happens often, this can severely affect voters who require the AutoMARK to cast a ballot.



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- “Ballot Not Recognized” or “Ballot Misfeed” Errors. In California State testing,² 6-8% of the time the blank ballot inserted into the AutoMARK by a would-be voter was not recognized by the machine. Usually, in the California testing re-inserting the ballot would not reproduce this error. When the voter inserts a blank ballot with a slight skew, so that it’s not aligned properly, the AutoMARK may return the ballot and report a “Ballot Misfeed” error. Re-inserting the ballot should work to allow the ballot to be read.
- Ballot Damaged. Occasionally, the AutoMARK will severely damage a ballot when it ejects the ballot. Most often, this results in a ballot that cannot be fed into the corresponding optical scan reader. The ballot should be reissued and the voter should go through the AutoMARK marking process again.

Past Problems

November 2008: *Wisconsin*. When a blind voter tried to use the AutoMARK unit in early voting, it displayed an error code; when that was cleared the device failed to print her ballot because it was “out of ink.”³

References:

ES&S Unity 3.0.1.1 Source Code Review for California Secretary of State Office of Voting Systems Technology Assessment, February 15, 2008

http://www.sos.ca.gov/elections/voting_systems/unity_3011_source_code.pdf

“Limited-Scope User Acceptance Test Results of the AutoMARK™ Vote Assist Terminal” in Wake County, InfoSENTRY, April 25, 2006

http://www.ncvoter.net/downloads/WakeInfoSENTRY_AutoMARK-UAT_Report_20060425.pdf

² http://www.sos.ca.gov/elections/voting_systems/unity_3011_volume_test.pdf

³ See http://www.wkowntv.com/Global/story.asp?S=9255798&nav=menu1362_2