

FULL-FACE TOUCH-SCREEN VOTING SYSTEM

VOTE-TRAKKER™ EVC308-SPR-FF

VOTE-TRAKKER™ EVC308-SPR-FF is a patent-pending full-face touch-screen option of the error-free standard VOTE-TRAKKER™ EVC308-SPR system. It maintains all of the same functions and features as the standard rolling screen VOTE-TRAKKER™ touch-screen system. The following are some of the highlights:

- 30-inch touch-screen to display of all candidates in all contests with at least 14-Font to satisfy the 1990 FEC requirements.
- “Pop-up” screen to allow further expansion of Font-size display as required by the new 2002 FEC Voting System Standard requirements.
- All of the contests presented to the voter on a single screen. The voters can select among the candidates in each contest or press on the “Write-in” box to write in candidates using touch-screen keyboard or simply press on the “Skip Choice” button to skip over the specific contest or selections.
- For those voters that wish to have enlarged font, by simply pressing on the contest title box, the font size will be expanded to more than 6.3 mm as required by the FEC 2002 requirement.
- If the voters accidentally skip over some contests, these contests will be highlighted to remind the voters of the potential unintentional under-voting. Voters either continue to make selections until the highlights disappeared or by indicating that they wish to skip over all of those highlighted contests. This “one-way-walk-through” approaches help guides the voters to 0% error voting. There is no more need to attributes errors of voting to insufficient voter training!
- All choices are instantly highlighted and displayed as the voting selection is made.
- Voter verifiable paper record is printed as the voter finishes their vote in a sealed box with review window. Like the other VOTE-TRAKKER™ touch-screen system, voter will know for the first time their vote is definitely counted and counted correctly. The voter verifiable paper audit trail can be traced back to the electronic images individually with a randomly generated voting session identifier.
- Blind and visually impaired voters can review their “voter verifiable paper record” with read back of the paper record. They can also be assured that their ballots are cast correctly and counted correctly just like the sighted voters.
- Over-vote is not allowed and prevented like all other DRE voting system.

- 100% accurate reflection of voters' intent for all voters. Unintentional under-votes are eliminated. Intentional under-vote is documented by the voter's choice of "Skip Contest/Choice".
- Voice-assistance are available to all those that needed them. They are automatically generated for all languages once the written ballots are created. This option eliminated additional cost of recording. It also eliminated all errors involved in transposing the voice files.
- Full compliance with the "HAVA" requirements to include easy write-in capability for the blind and other disabled voters. Voters can scroll through the alphabets to spell out their candidates or use the modified keyboard.
- Robust SQL-Server database management for the voting module as well as the ballot generation and other election management function.

COMPARATIVE ANALYSIS OF TOUCH-PAD & TOUCH-SCREEN FULL-FACE DRE VOTING SYSTEMS

	TOUCH-PAD FULL-FACE DRE	TOUCH-SCREEN FULL-FACE DRE
Font Size Availability	<ul style="list-style-type: none"> ○ Font-size is limited to what can fit into the space provided. ○ They cannot conform to the 2002 FEC requirements of "font size expansion by voter". 	<ul style="list-style-type: none"> ➤ Ballot layout is flexible and may be adjusted for specific elections as the laws may change over the years. ➤ Font size meets minimum standard of FEC VSS and may be expanded to beyond more than 6.3 mm..
Alternate Languages	<ul style="list-style-type: none"> ○ Space is limited for multiple alternate languages. ○ Potentially, different machine may need to be used for different languages. 	<ul style="list-style-type: none"> ➤ Multiple alternative languages of any number are available for voters.. ➤ Voice assistance with the alternate languages are available immediately with synthesized voices..
How to make a selection and maintain security against tampering during election	<ul style="list-style-type: none"> ● The selection box is typically smaller. Voter must use reasonable dexterity and accessibility is a problem. ● Some of the ballot access mechanism has been proven to be vulnerable to tampering. 	<ul style="list-style-type: none"> ➤ Touch on anywhere the choice is presented. Once expanded for larger font size, voter can make the selection easily in even larger box. ➤ Same as the other VOTE-TRAKKER, the only access to the system during election is via a VID card and the touch-screen.
0% Residual Votes or Unintentional Under-votes?	<ul style="list-style-type: none"> ○ Similar to the lever voting system, excessive under-voting have been proven in these system. ○ There is no practical way to remind or highlight to the voters on the contests they may accidentally missed. 	<ul style="list-style-type: none"> ➤ If voter cast their ballot before finishing all contests, unfinished contests will be highlighted as reminder to make additional selections. ➤ Once selections are completed, the highlights will disappear. ➤ Alternatively, voters can cast their ballot as is by positively indicating they wish to skip over the rest of the ballot.

COMPARATIVE ANALYSIS OF TOUCH-PAD & TOUCH-SCREEN FULL-FACE DRE VOTING SYSTEMS (Continued)

	TOUCH-PAD FULL-FACE DRE	TOUCH-SCREEN FULL-FACE DRE
Ballot Generation and Loading	<ul style="list-style-type: none"> • Ballot must be layout in conformance to the fixed positions of the touch-pads the ballot presentation must also follow the same pattern. • Ballot must be printed on large sheet of translucent plastic overlay. • Any error made or changes needed to be made, it can be costly and time-consuming. • Alternate languages means more work and costs. 	<ul style="list-style-type: none"> ➤ Ballot generation is flexible using Windows-based user-friendly program that can be learned in less than a day. ➤ Ballot layout is flexible and may be adjusted for specific elections. ➤ No overlay needed to be printed. ➤ Last minute changes are easy. ➤ Multiple alternate languages are available as they are translated. ➤ The voice assistance in the multiple alternate languages are available at the same time when written alternate language ballots are completed.
Voter Verifiable Paper Record and Audit Trail	<ul style="list-style-type: none"> ○ All of the existing system has yet to make the voter verifiable paper record audit trail available. 	<ul style="list-style-type: none"> ➤ Exactly the same paper record module is used for this full-face touch-screen system. ➤ Blind and visually impaired voters will have their paper record read back to them once they are printed.
Accessibility for visually impaired voters and others	<ul style="list-style-type: none"> • Most of the current touch-pad system cannot provide immediate feedback other than a simple acknowledgement that a selection has been recorded. • Voice assistance must be pre-recorded and transposed into correct files. Proofing of the voice-assisted ballot could be tedious. • Most of the voting system has not adjustable height. Special provisions must be provided for voters with height and other issues. 	<ul style="list-style-type: none"> ➤ Same as the much acclaimed accessible VOTE-TRAKKER touch-screen system, the full-face presentation provide the immediate positive feed back of selections by immediate read back of choices made. ➤ Voters can navigate through the ballot using the special modified keyboards with raised keys. ➤ Paper record once printed is retrieved immediately and read back to the voters for verification just like the sighted voters. ➤ Different height of voters can be readily accommodated through the adjustable height using the hydraulic lift table.

COMPARATIVE ANALYSIS OF TOUCH-PAD & TOUCH-SCREEN FULL-FACE DRE VOTING SYSTEMS (Continued)

	TOUCH-PAD FULL-FACE DRE	TOUCH-SCREEN FULL-FACE DRE
"Fleeing Voter" Management	<ul style="list-style-type: none"> ○ All of the existing systems cannot handle "fleeing voters" with trustworthy means. ○ Fleeing voters may lose their privacy as well as their votes. 	<ul style="list-style-type: none"> ➤ Time out mechanism for the "fleeing voters" work the same way in full-face system as other VOTE-TRAKKER touch-screen system. ➤ Both privacy and votes are preserved for the "fleeing voters".
Provisional Voting Management	<ul style="list-style-type: none"> • All of the existing systems cannot allow provisional voters to cast their ballots in the same voting unit. Provisional voters must cast their ballots in provisional paper ballot. • The same manual and disenfranchising provisional paper ballots must be used for the after-hour provisional ballots. 	<ul style="list-style-type: none"> ➤ Full-face VOTE-TRAKKER inherits the same function of allowing the provisional voters to cast their ballot in the touch-screen unit. ➤ VOTE-TRAKKER is also the first system to provide electronic after-hour provisional voting. ➤ Voters that are verified to have the voting rights will have their ballots extracted without loss of privacy.
Tally Consolidation and Reporting	<ul style="list-style-type: none"> ○ All of the existing system uses transfer media for tally consolidation. 	<ul style="list-style-type: none"> ➤ Besides the transfer media consolidation, each of the voting unit can act as server to pull the tallies from all voting units in a polling place. ➤ All voting unit has built-in modem and PCMCIA port to provide other means of wireless transfer in encrypted files.

All Candidates and Contests are displayed at all time during the voting session.

- The ballot layout below is an exact replicate of the year 2002 election for the State of New York. Ballots in other full-face lever and touch-pad may vary from state to state.
- Unlike the older models of full-face touch-pad system, it is not limited to display the contests based on the available touch position.
- This 30-inch touch-screen system provides the full surface layout capability.
- Unlimited alternate languages can be used. Again, this function is not possible by the older full-face touch-pad models.

Voter initiates their voting session by touching on anyone of the contests they are interested

- The selected contest can be expanded to allow better accessibility to those voters with weaker eyesight.
- Ranking option is readily incorporated and clearly displayed. The voter simply selects their choices in accordance to the order of preferences. This clear display is again impossible to be achieved in the older touch-pad models. Cumulative voting option is also incorporated.
- Voting can start with anyone of the contest that the voter is most interested in.
- The voting system automatically rolled into the first contest of the ballot that the voter missed. Each of the rest of the contests will be presented one-by-one sequence in an expanded touch-screen option.

Voter can make changes on their selection on a full display

- Ranking option is readily incorporated and clearly displayed. The voter simply selects their choices in accordance to the order of preferences. This clear display is again impossible to be achieved in the older touch-pad models.
- Cumulative voting option is also incorporated.
- Of course, all other format of ballot presentation so far used by United States are available.

Voter can make changes on their selection on a full display

- If there is any change made on any of the contest, the system automatically return to this “CAST BALLOT” screen.
- Voter can make as many changes as they need.

Public Questions, referendum, issues and other related public concerns are displayed for ease of choices:

- “Details” of any public issues can be displayed for those voters that did not have a chance to read the details before coming to the polling place.
- All of the current selections are clearly displayed with highlights.
- Voter can make changes by simply touching on the selected candidate or anywhere within the area of the specific contest.

Voter can terminate their selection at anytime if this option is used by the jurisdiction

- If the voter presses on the “CAST BALLOT” button before they made all the selections on every contest, the reminder screen like below will appear.
- Voter is asked to press “To Continue Voting” or simply select “No More Voting” (or other similar reminder) to acknowledge their real intent.
- If “No More Voting” is pressed, the final reminder screen will appear. All of those contests that the voter passed will be highlighted with the “Skip Contest” as their choices.

Voter are given the choices of CONTRAST, and FONT SIZES as required by the new 2002 FEC standard

- If voter has different color discerning ability, they are given choices of different contrasts.
- If they can read the screen as display, they simply press on the “Press Here to Begin Voting”.

Multiple alternate languages (No Limit) are available to the voters

- Instead of being limited by the printing spaces of the traditional full-face touch-pad, there is no limit as to the alternate languages. Voter simply chooses one of the alternate languages that are provided. All of the contests will be presented in that particular language.
- If voice-assistance is used, alternate language chosen will be used for voice assistance.
- Each voting session is initiated by the insertion of the ballot access card. The card uses secured contactless smart card. It is orientation independent and easy to use by any voter.

Opening poll and other intervention by the polling officials are secure and yet easy

- Two polling officials must be present at the same time. Each inserting their access control card will allow them to open poll.
- Two operations required the intervention of the polling officials during the voting session of the voter.
- **“Fleeing Voter”** is defined as when voter left the voting session before they finish their voting session by pressing on the “CAST VOTE” button.
- **“Wrong Ballot”**: if wrong ballot access card is given to any voter, they can simply call for the attention of the polling officials. By simply not touching on the screen for a prescribed period of time as defined by local jurisdiction, the voting session will be halted automatically. Two polling officials inserting their system access cards can abolish the voting session. The voter will be given a new and correct ballot access card to start a new voting session.