Purchase Agreement

Between

Theresa LePore,
Supervisor of Elections

Of

Palm Beach County, Florida

And

Sequoia Voting Systems, Inc.

For the Purchase of
The AVC Edge®
Electronic Voting System

SEQUOIA voting systems

Proposal for a Touch-Screen, Direct Recording Electronic Voting System and Optical Scan Absentee Counting System for Palm Beach County, Florida

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Section 1

AGREEMENT

BETWEEN

THERESA LePORE,

SUPERVISOR OF ELECTIONS

OF

PALM BEACH COUNTY, FLORIDA

AND

SEQUOIA VOTING SYSTEMS, INC.

FOR THE PURCHASE OF

THE AVC EDGE® ELECTRONIC VOTING SYSTEM

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AGREEMENT BETWEEN THERESA LePORE, SUPERVISOR OF ELECTIONS OF PALM BEACH COUNTY, FLORIDA AND SEQUOIA VOTING SYSTEMS, INC. FOR THE PURCHASE OF THE AVC EDGE® ELECTRONIC VOTING SYSTEM

This Agreement is made and entered into this _____ day of _____, 2001, by and between the **Theresa LePore, Supervisor of Elections of Palm Beach County, Florida,** 240 South Military Trail, West Palm Beach, Florida 33416 (hereinafter collectively referred to as "Supervisor") and **Sequoia Voting Systems, Inc.** (hereinafter referred to as ("Sequoia"), having its offices at 21062 Forbes Street, Hayward, CA 94545.

RECITALS

WHEREAS, on June 30, 2001, Sequoia submitted a proposal to the Supervisor to provide certain election equipment, software, and services constituting the AVC Edge® Electronic Voting System for conducting elections in the County of Palm Beach (hereinafter "Contract Documents"); and

WHEREAS, the Supervisor now desires to contract with Sequoia to obtain the equipment, software and services described in the Contract Documents and Sequoia desires to contract with the Supervisor to provide such equipment, software and services described in the Contract Documents.

WHEREAS, Sequoia has provided the same equipment. software, and services contained in the proposal to Riverside County, California;

WHEREAS, the Supervisor has determined that Riverside County, California successfully utilized Sequoia's equipment, software, and services in the 2000 Presidential Election;

WHEREAS, as of the date of this Agreement, the Supervisor has determined that Sequoia is the sole entity to have successfully provided this type of equipment, software, and services to a jurisdiction similar in size and demographics to Palm Beach County, Florida;

NOW, THEREFORE, IN CONSIDERATION of the mutual benefits to be derived from this Agreement, and the representations, warranties, covenants and conditions, hereinafter set forth, the parties agree as follows.

1. FURNISHING OF EQUIPMENT AND SOFTWARE

Subject to the terms and conditions set forth herein, Sequoia shall furnish and deliver to the Supervisor and install at such sites as designated by the Supervisor the equipment, software and services listed in the Contract Documents. Additionally, Sequoia shall perform the services listed in the Contract Documents, and grant a license to the Supervisor for use of the computer programs (collectively referred to herein as the "software") and related documentation listed in the Contract Documents dated June 30, 2001, and all of the Contract Documents. All equipment to be delivered shall be new and not used or refurbished.

In addition to the equipment, software, and services listed under Section 2 of the Contract Documents, Sequoia shall provide, at no cost to the Supervisor, 750 complete audio voting/voting accessibility units. These units shall be fully compatible with the AVC Edge units being purchased by the Supervisor, shall be certified for immediate use by the Florida Division of Elections, and shall be delivered to the county no later than December 31, 2001.

2. PURCHASE OF EQUIPMENT AND LICENSE OF SOFTWARE

The Supervisor hereby agrees to acquire the System from Sequoia for the not-to-exceed amount of Fourteen Million, Three Hundred Ninety Thousand, Five Hundred Dollars and no Cents ($14,390,500.00). For purposes of this Agreement, "System" includes the equipment,

services, and software listed in the Contract Documents, which is attached hereto and incorporated herein as Section 2. "System" also includes the audio voting/voting accessibility units discussed in Article 1 above.

3. CONTRACT DOCUMENTS

The Contract Documents shall consist of:

A. This Purchase Agreement (Section 1)

B. Sequoia's proposal dated June 30, 2001, Section 2

C. Descriptive Information of the System (Section 3 through 15)

D. Appendices for Item B and C above. (Appendix A through G)

E. Sequoia's AVC Edge®, Sequoia 400-C and WinEDS Documentation (Appendix H)

Each of these documents is incorporated herein by reference as if set forth in full, and shall constitute a part of this Agreement. In the event of any conflict between the obligations pursuant to the above documents, control shall be determined in the following order:

i. This Agreement (Section 1)

ii. The proposal (Section 2)

iii. The Manuals (Documentation Binders and Electronically on Appendix H)

The failure of this Agreement to include reference to any matter contained in any other Agreement Document shall not be deemed to constitute a conflict.

4. TRANSPORTATION AND INSTALLATION OF EQUIPMENT

A. Transportation

i. All shipping, insurance and risk of loss F.O.B. to the installation site are the sole responsibility of Sequoia.

ii. Shipments to the installation site shall be made by commercial carrier and/or vehicle properly constructed for shipment of electronic and computer equipment.

iii. All Voting equipment and Voting Machine Ancillary equipment and Supplies shall be delivered to and placed inside the Palm Beach County Supervisors of Elections Facility (hereinafter "Elections Facility"), 240 South Military Trail, West Palm Beach, Florida, 33415. The Central System hardware and software shall be delivered to and placed inside the Elections Facility at a location specified by the Supervisor.

iv. The Supervisor shall be notified when the Voting equipment and Central System Hardware and software is shipped and of the approximate delivery date. All deliveries shall be scheduled between the hours of 9:00 A.M. and 4:00 P.M. on workdays, Monday through Friday. Sequoia should notify the person designated by the Supervisor prior to any deliveries for scheduling and authorization to deliver.

v. All equipment and software shall be preserved, packed, and marked in accordance with Sequoia's standard practice.

B. Installation

Sequoia shall furnish all necessary labor, materials, and other services to accomplish the delivery and installation of the Voting equipment and Central System Hardware and software. Sequoia shall be responsible for the installation of the Voting equipment at the Elections Facility and the Central System Hardware and software at a location specified by the Supervisor.

Installation shall be performed during normal business hours or at such other hours as may be mutually agreed upon, and the Supervisor shall make all the necessary arrangements to allow Sequoia personnel sufficient workspace and access to install the equipment and software. Where applicable, Sequoia shall connect the appropriate equipment to the Supervisor's supplied lines.

Sequoia warrants that all services shall be performed by skilled and competent personnel to the highest professional standards in the field. All of Sequoia's personnel (and all Subcontractor's) while on the premises of the Supervisor/Palm Beach County will comply with the Supervisor's/Palm Beach County's requirements governing conduct, safety, and security.

5. DELIVERY SCHEDULE

The delivery dates are set forth in Section 2, attached hereto. The parties agree that time is of the essence in this Agreement.

6. RISK OF LOSS

Sequoia assumes responsibility for all risks of loss or damage to the equipment and software furnished under this Agreement until the Supervisor has accepted delivery of the equipment and software inside the Elections Facility, after which the Supervisor will be responsible for risk of loss or damage. Sequoia's insurer shall waive all rights of subrogation against the Supervisor prior to the Supervisor's acceptance of delivery.

7. TITLE

Title to the equipment shall pass from Sequoia to Palm Beach County upon the Supervisor's acceptance of delivery of the equipment inside the Elections Facility.

8. SOFTWARE LICENSE

A. General

Subject to the terms and conditions herein set forth in the Contract Documents, Sequoia hereby grants to the Supervisor a perpetual, irrevocable, and non-exclusive license (the "License") to use the software described in the Contract Documents, as well as any additions and/or supplements thereto, solely in the conduct of the Supervisor's business. In the event of any conflict between the provisions of the License Agreement, which is included in Appendix D, and this Agreement, this Agreement shall supersede the License Agreement.

B. Payment of License Fee

The Supervisor agrees to pay Sequoia an annual license fee for the use of the software, including any supplements, upgrades, or substitutions, in the amounts specified in the Contract Documents attached hereto.

C. Right to Copy

The Supervisor agrees that it will not copy or in any way duplicate software or any materials related thereto, in whole or in part, except as expressly authorized to do so by this License or by written consent of Sequoia. Sequoia hereby expressly authorizes the Supervisor to copy software for its own use, solely for archive or emergency restart purposes or to replace worn copy, provided that the Supervisor properly reproduces on each such copy all notices of Sequoia's patent, copyright, trademark, or trade secret rights.

D. Title to software

Sequoia retains ownership of all licensed software and related documentation.

E. Proprietary Rights

Sequoia retains for itself, and the Supervisor acknowledges that Sequoia so retains, all proprietary rights in and to all designs, engineering details, and other data pertaining to the System, and Sequoia retains for itself the sole right to manufacture, lease, license, and sell any and all such systems.

Supervisor retains for itself, and Sequoia acknowledges that Supervisor so retains, all proprietary rights to all data collected by the Supervisor, including but not limited to all voter demographic data and voting statistics.

Sequoia acknowledges that the Supervisor is governed by the Florida Public Records Act, Chapter 119, Florida Statutes, and that any request for information or materials

covered under this contract will be considered by the Supervisor in conjunction with Chapter 119. The Supervisor shall not be liable for any damages suffered by Sequoia as a result of any disclosure of Sequoia's materials pursuant to Chapter 119.

Sequoia shall mark any materials it considers to be "Confidential", "Proprietary", or a "Trade Secret". In the event that a demand is made upon the Supervisor for disclosure of materials considered by Sequoia to be "Confidential", "Proprietary", or a "Trade Secret", the Supervisor shall notify Sequoia as soon as possible, and Sequoia shall immediately take all action it deems necessary to defend itself against such disclosure, provided that Sequoia may not take action that would affect (a) the ability of the Supervisor to operate the System or (b) the obligations of Sequoia under this Agreement. In the case of any action brought against the Supervisor or Palm Beach County pursuant to Chapter 119, Sequoia shall either (a) defend the Supervisor in any such action; or (b) reimburse the Supervisor all fees and costs incurred in the defense of such action. For purposes of this paragraph, "action" includes proceedings at the trial and appellate levels.

F. Access to Software Source Code

Copies of the licensed software in machine-readable source code, along with necessary documentation for maintaining or modifying the licensed software have been deposited with Data Securities International, Inc., Contract Administration Department, 9555 Chesapeake Drive, Suite 200, San Diego, CA 92123, (619) 694-1900, under a Deposit Agreement, Account Number 1905001-00008, for software Program Source Code and Other Materials ("Deposit Agreement"). Sequoia shall maintain and continue in full force and effect the Deposit Agreement and will not, without thirty (30) days prior written notice to the Supervisor, cancel or modify said Deposit Agreement as it relates to the Supervisor. Any modification to said Deposit Agreement shall not impair the Supervisor's access to the machine-readable code and necessary documentation. Access to materials in the Deposit Agreement shall be available to the Supervisor as a Registered Licensee in the event that:

i. The software and related services as defined in and purchased under this Agreement are not provided to the Supervisor by Sequoia for any reason other than nonpayment by the Supervisor in contravention with the terms of this Agreement; or

ii. Sequoia files a petition in bankruptcy under Chapter 7 of the Bankruptcy Code, or is declared bankrupt in a final non-appealable order of a court of competent jurisdiction.

In the event that Sequoia withdraws support and maintenance, either voluntarily or involuntarily, of the software for any reason other than breach by the Supervisor of its obligations under this Agreement, the deposit agent shall deliver the source code (including flowcharts and instructions) to the Supervisor. The obligations of this paragraph shall survive the termination of this Agreement.

10. PATENT AND COPYRIGHT PROTECTION

Sequoia will (1) assume the defense of any claim, suit, or proceeding, including appeals, brought against the Supervisor for infringement of any United States patent or copyright to the extent it is based upon the equipment or software provided under this Agreement, (2) pay the expense of such defense, including costs of investigations, reasonable attorney fees, expert witness fees, damages, and any other litigation-related expenses, and (3) indemnify the Supervisor against any monetary damages and/or costs awarded in such suit; provided that:

A. Sequoia is given sole and exclusive control of all negotiations relative to the settlement thereof. Sequoia agrees to consult with the Supervisor's attorney during such defense or negotiations and make good faith effort to avoid any position adverse to the Supervisor's interests.

B. The liability claimed shall have arisen out of Sequoia's selection as to the design or composition of the software or the equipment and the software or the equipment is used by the Supervisor in the form, state, or condition as delivered by Sequoia;

C. The Supervisor provides Sequoia with written notice within twenty (20) days of any claim with respect to which the Supervisor asserts that Sequoia assumes responsibility under this paragraph.

Should any equipment or software which has not incurred any unauthorized modifications or combinations become, or in Sequoia's opinion be likely to become, the subject of a claim of infringement the Supervisor shall permit Sequoia, at Sequoia's option and expense, either to (i) procure for The Supervisor the right to continue using the equipment and software, or (ii) replace or modify the equipment or software so that it becomes non-infringing and functionally equivalent, or upon failure of (i) and (ii), despite the reasonable efforts of Sequoia, (iii) buy back the equipment and software at the full purchase price charged to the Supervisor. The obligations of this Paragraph shall survive the termination of this Agreement. Sequoia shall have no liability for any claim based on (i) the Supervisor's continued use, after written notification, of a non-current release of the applicable software, so long as a current release was made available to the Supervisor at no charge; (ii) Supervisor's use of the software other than in accordance with this Agreement; (iii) the Supervisor's combination of the software with any other equipment or software not provided or authorized by Sequoia.

11. TRAINING

Sequoia shall provide necessary training sessions on the operations and use of the System for the Supervisor's personnel as set forth in the Contract Documents at times to be agreed upon by Sequoia and the Supervisor. The initial training sessions will not require any additional payment by the Supervisor. The initial training period shall begin upon execution of this contract and extend through December 31, 2002. Any additional training required by the Supervisor shall be provided by Sequoia at the prices set forth in the Contract Documents. Any additional training required as a result of equipment and/or software upgrades to the System purchased under this Agreement will be provided as determined by Sequoia and The Supervisor at the prices set forth in the published prices for training at the time of the upgrade. Nothing in this provision shall be construed to obligate The Supervisor to purchase any additional training or periodic review sessions. The Supervisor reserves the right to videotape Sequoia's training sessions for unlimited internal use at no additional cost.

12. DOCUMENTATION

Complete documentation as defined in this Paragraph shall be delivered to the Supervisor upon shipment of equipment and software. A copy of this Documentation accompanies the Original Copy of the Contract Documents in Hard Copy in the Documentation binders. Also included in each Copy of the Contract Documents is the electronic copy of this Documentation on the Documentation CD in Appendix H.

All documentation shall be amended to indicate any changes in hardware and software made after the System is certified ready for use and all such documentation shall be delivered to The Supervisor in proper form prior to final payment.

Sequoia agrees to provide The Supervisor, without additional charge:

A. Appropriate user documentation for all equipment and software, including at least four (4) copies of each of the manuals for each type of equipment and software, as well as any upgrades or modifications to the current documentation.

Sequoia grants to the Supervisor the right to copy or otherwise reproduce for training or other internal uses portions of Sequoia-produced documentation and manuals furnished pursuant to this provision, at no additional charge provided that Sequoia's statement of copyright be included in each copy.

13. ACCEPTANCE TESTING

A. Acceptance Testing will occur within 10 working days after each delivery of the AVC Edge® Voting Equipment to the Elections Facility and within 10 working days after the Central System hardware and software has been delivered to the designated shipping point and has been certified by Sequoia as ready to use. The Acceptance Testing Procedures set forth in the AVC Edge® User Manual will be performed by Supervisor personnel on each AVC Edge® Unit delivered to the Elections Facility. The Acceptance Test procedures shall be performed in the order set forth in the AVC

Edge® User Manual. The Acceptance Test for the Central System Hardware and software shall consist of testing the hardware functionality of all of the hardware and the compatibility of the software with the hardware.

The Supervisor shall notify Sequoia in writing when the Acceptance Testing on the AVC Edge® units, related equipment and software is completed, indicating those functions, which have not performed correctly. Sequoia shall have thirty (30) calendar days from transmittal of notice to make the necessary corrections. The Supervisor will test the corrections from Sequoia within ten (10) working days of receipt. Payment for each AVC Edge® unit and all other equipment and software shall ~~not~~ be conditioned upon the successful completion of the Acceptance Testing procedures set forth in the Contract Documents and this Agreement. Supervisor shall withhold payment for any machines, equipment, or software that does not successfully complete the Acceptance Testing procedures. The amount of payment to be withheld shall be determined by the prices in the Contract Documents.

B. If the Supervisor fails to schedule Acceptance Testing within the allotted time, provided that Sequoia has conducted the prerequisite training as set forth in its Contract Documents, or fails to notify Sequoia within eight (8) working days of a failed test, the tests will be deemed to have been successfully completed and all associated payments will be due and payable to Sequoia. Payment made to Sequoia under these conditions does not relieve Sequoia of the responsibility for meeting the functional requirements of the test.

C. Successful completion of the Acceptance Testing shall be determined by the Supervisor. If successful completion of the Acceptance Testing is not attained for any component of the system, Sequoia shall have the right to repair or replace the defective equipment or software to the Supervisor's satisfaction. In the event that Sequoia is unable to provide equipment or software to pass the Acceptance Testing to the Supervisor's satisfaction within sixty (60) calendar days of commencing the initial Test, the Supervisor may, at its option:

i. Grant Sequoia further time to resolve the problem and access liquidated damages in the amount noted in Section 16.A herein, until resolutions are satisfactorily reached; or

ii. Accept the equipment or software as is and, upon renegotiating satisfactory terms, pay the appropriate invoices; or

iii. Reduce the contract amount by the value of the defective machines.

14. SCHEDULE OF PAYMENTS

A. Availability of Funds

Supervisor certifies that sufficient funds are available in Palm Beach County fiscal year 2002 to purchase the system at the not-to-exceed amount located in Article 2 above. Supervisor's performance and obligation to pay under this Agreement for subsequent fiscal years is contingent upon annual appropriations for its purpose by the Palm Beach County Board of County Commissioners.

B. Decrease in Published Prices

Signature of the Agreement by Sequoia shall also act as the execution of a truth-in-negotiation certificate certifying that the wage rates, over-head charges, and other costs used to determine the compensation provided for in this Agreement are accurate, complete and current as of the date of this Agreement and no higher than those charged Sequoia's most favored customer for the same or substantially similar service.

C. Payment Procedures

Sequoia shall submit itemized invoices to the Supervisor listing the equipment, software or services delivered to the Supervisor, for which payment is sought. The Supervisor will make payment to Sequoia, net thirty (30) days after receipt of an acceptable invoice and voucher, conditioned upon Sequoia's compliance with all terms and conditions of this Agreement. Invoices shall be submitted in duplicate to Theresa LePore, Supervisor, Palm Beach County Supervisor of Elections, 240 South Military Trail, West Palm Beach, Florida 33415, or such other address as the Supervisor may specify in writing.

15. TAXATION

Supervisor is exempt from payment of Florida State Sales and Use Taxes. Supervisor will sign an exemption certificate submitted by Sequoia. Sequoia shall not be exempted from paying sales tax to its suppliers for materials used to fulfill contract obligations with the Supervisor, nor is Sequoia authorized to use the Supervisor's Tax Exemption Number in securing such materials.

Sequoia shall be responsible for payment of its own and its share of its employees' payroll, payroll taxes, and benefits with respect to this Agreement.

16. WARRANTY

This Agreement includes any warranty or representation made by Sequoia in the Contract Documents and Manuals in reference to the System. The AVC Edge Limited Use License Limited Warranty Agreement is attached as Appendix C. This Warranty shall expire one year from the date of Acceptance of the last machine delivered. This Warranty Agreement must be executed as a part of this Purchase Agreement.

A. Performance Levels

Sequoia expressly warrants that the System will meet the specifications in the Contract Documents, Manuals and this Agreement. The detail of the Warranty Agreement is included in the attached Appendix C.

In the event that the System fails to meet these specifications in the Contract Documents, at any time through and until expiration of the Warranty, Sequoia will provide, at no additional cost whatsoever to The Supervisor, the additional equipment and software necessary to bring the System into compliance with these requirements within sixty (60) calendar days after written notification to Sequoia by the Supervisor of such failure, or in sufficient time to be used by the Supervisor's next scheduled election, whichever is sooner.

Failure of Sequoia promptly to respond to such notice will result in a material and substantial breach of this Agreement, for which the Supervisor may terminate this agreement and/or seek, damages. It being impractical or extremely difficult to determine the exact amount of damages in the event of such failure by Sequoia promptly to bring the System into compliance and restore it fully to operation, it is agreed by the parties hereto that if the System is not brought into compliance within sixty (60) calendar days of notification, or in sufficient time to be used in the Supervisor's next scheduled election, liquidated damages of $1,000.00 per day for every day thereafter until compliance is achieved will be assessed by the Supervisor. The parties agree that this amount is a reasonable amount of damages and not a penalty. The total amount of damages shall not exceed the cost of the System.

B. Other Warranties

Sequoia warrants that the Supervisor shall acquire good and clear title to the equipment being purchased by the Supervisor hereunder, free and clear of all liens and encumbrances. All equipment shall be new.

The provisions of the warranty set forth in this Section shall extend only to the Supervisor as an original purchaser and in no event will extend beyond repair or replacement of the defective portions of the equipment.

The warranties specified in this Section above do not cover damage, defect, malfunctions or failure caused by: (i) failure by the Supervisor to substantially follow Sequoia's installation, operation, or maintenance instructions or its failure to substantially fulfill its obligations under this Agreement, (ii) The Supervisor's modification of the System, (iii) The Supervisor's abuse, misuse, or negligent acts, and (iv) power failure or surges, lightning, fire, flood, accident, actions of third parties, or other events outside Sequoia's reasonable control.

SEQUOIA EXPRESSLY DISCLAIMS ALL OTHER WARRANTIES, EITHER EXPRESS OR IMPLIED, NOT SPECIFICALLY SET FORTH HEREIN, INCLUDING THE IMPLIED

WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT WHATSOEVER SHALL SEQUOIA BE LIABLE FOR INDIRECT, SPECIAL OR INCONSEQUENTIAL DAMAGES AS A RESULT OF ITS BREACH OF ANY OF THE PROVISIONS OF THIS AGREEMENT.

17. COMPLIANCE WITH LAW

Sequoia warrants and represents that the AVC Edge® Electronic Voting System being provided to the Supervisor is in full and complete compliance with all applicable Federal and State election laws and regulations, and that the System has been certified by the Florida Secretary of State – Division of Elections for use in the State of Florida.

Sequoia also warrants that during such time as Supervisor continues to maintain an annual license agreement for the software and/or a warranty or extended warranty agreement on the hardware, the system shall be maintained and/or upgraded by Sequoia in such a way as to remain fully and completely compliant with all federal and state election laws and regulations, including all current and future requirements necessary to remain certified for use in the state of Florida.

18. INDEMNIFICATION

Sequoia hereby agrees to defend, indemnify, protect, and hold the Supervisor, Palm Beach County, and their respective agents, officers and employees harmless from and against any and all claims asserted or liability established for damages or injuries to any person or property, including injury to Sequoia's employees, agents or officers which arise from or are connected with or are caused or claimed to be caused by the negligent or wrongful acts or omissions of Sequoia and its agents, officers, contractors, subcontractors, or employees in performing under this Agreement, and all expenses of investigating and defending against same.

19. WAIVER OF SUBROGATION CLAUSE

Sequoia, as a material part of the consideration to be rendered to the Supervisor, hereby waives all claims against the Supervisor or Palm Beach County for damages to Sequoia's or its employees' personal property in, upon or about Supervisor's or Palm Beach County's premises, and Sequoia will hold the Supervisor and Palm Beach County harmless from any damage and injury to Sequoia or its employees or to the personal property of Sequoia or any Sequoia employee, arising from the use of the premises by Sequoia or its employees or from failure of Sequoia or its employees to keep the premises in good condition and repair as herein provided.

20. INSURANCE

A. During the performance of this Agreement, Sequoia will maintain in full force and effect the following insurance coverage for Sequoia employees and property:

1. Worker's Compensation

Sequoia shall procure and maintain during the life of this contract, Workers' Compensation Insurance, including Employers Liability Coverage, in accordance with applicable Statutes of the State of Florida.

2. General Liability insurance

Sequoia shall procure and maintain during the life of this contract, Commercial General Liability Insurance on an "Occurrence Basis" with limits of liability $1,000,000 per occurrence and/or aggregate combined single limit, Personal Injury, Bodily Injury and Property Damage. Coverage shall include the following extensions: (A) Contractual Liability; (B) Products and Completed Operations: (C) Independent Contractors Coverage; (D) Broad Form General Liability Extensions or equivalent. Sequoia may elect to self-insure this coverage.

3. Motor Vehicle Liability

Coverage shall include all owned and non-owned vehicles and all hired vehicles in the amount of $1,000,000.

B. Certificate of Insurance

Prior to execution of this Agreement, Sequoia shall provide Supervisor with a certificate evidencing such coverage and naming the Supervisor and Palm Beach County as additional insured's regards to Sequoia's sole negligence.

21. INDEPENDENT CONTRACTOR

Sequoia shall perform the services hereunder as an independent contractor and shall furnish such services in its own manner and method and under no circumstances or conditions shall any agent, servant, or employee of Sequoia be considered as an employee of The Supervisor or Palm Beach County.

22. NON-ASSIGNABILITY

No assignment of this Agreement or any right or interest therein by Sequoia shall be effective unless the Supervisor shall first give its written consent to such assignment which consent may be withheld by the discretion of the Supervisor on any ground whatsoever. In no case shall such consent relieve Sequoia from its obligations or change the terms of this Agreement.

Notwithstanding, Sequoia may, without The Supervisor's consent, assign its rights to receive payments hereunder.

The Supervisor shall not assign any of its rights or obligations under this Agreement unless Sequoia shall give its written consent to such assignment, which consent shall not be unreasonably withheld.

23. SUBCONTRACTING

Sequoia may use subcontractors in connection with the work performed under this Agreement. In using subcontractors, Sequoia agrees to be responsible for all of their acts and omissions to the same extent as if the subcontractors were employees of Sequoia.

24. PURCHASE OF ADDITIONAL EQUIPMENT

The Supervisor shall have an option to purchase additional AVC Edge® voting units upon the terms and conditions, including price, set forth in Sequoia's Contract Documents for a period of two (2) years from the date of the execution of this Agreement. After 2 years, the price of the AVC Edge® voting machines cannot increase by more than 10% annually.

25. JURISDICTION OVER DISPUTES

The parties consent that exclusive jurisdiction to hear and decide all disputes of any nature whatsoever arising out of or in any way related to this Agreement or the performance or non-performance of the parties hereto shall reside with a State Court of competent jurisdiction located in Palm Beach County, Florida, and Sequoia submits to the jurisdiction of said court and agrees to accept service of process. The obligations of this Paragraph shall survive the termination of this Agreement.

26. NO WAIVER

No waiver of any breach of any term or condition of this Agreement shall be construed to waive any subsequent breach of the same or any other term or condition of this Agreement.

27. EXAMINATION OF RECORDS

Sequoia agrees to maintain any directly pertinent books, documents, papers, and records of Sequoia involving transactions related to this Agreement for a period of five (5) years after the execution of this Agreement. Supervisor, or any duly authorized representative, shall, until the expiration of five (5) years after execution of this Agreement, have access to said records for the purpose of inspection or audit during normal business hours, at Sequoia's place of business.

28. NOTICES

All notices given hereunder will be sent registered, certified, or overnight mail, return receipt requested, addressed to the other party at the address shown on the first page of this Agreement or such other address as either party may specify in writing. Notices are effective when mailed.

29. GOVERNING LAW

This Agreement and any disputes hereunder shall be governed by the laws of the State of Florida applicable to agreements negotiated, executed and to be performed in the State of Florida.

30. SEVERABILITY

If any term or provision of this Agreement, or the application thereof to any person or circumstances shall, to any extent, be held invalid or unenforceable, the remainder of this Agreement, or the application of such terms and provision, to persons or circumstances other than those as to which it is held invalid or unenforceable, shall not be affected, and every other term and provision of this Agreement shall be deemed valid and enforceable to the extent permitted by law.

31. AGREEMENT EXTENSION AND MODIFICATION CLAUSE

The Agreement shall not be modified or changed except in writing duly approved and executed by the parties.

32. NONDISCRIMINATION

Sequoia warrants and represents that all of its employees are treated equally during employment without regard to race, color, religion, disability, sex, age, national origin, ancestry, marital status, or sexual orientation.

33. CONTINGENT FEES

Sequoia warrants and represents that it has not employed or retained any company or person, other than a bona fide employee working solely for Sequoia, to solicit or secure this Agreement and that it has not paid or agreed to pay any person, company, corporation, individual, or firm, other than a bona fide employee working for Sequoia, any fee, commission, percentage, gift, or any other consideration contingent upon or resulting from the award or making of this agreement.

34. Y2K COMPLIANCE STATEMENT

The firmware of the AVC Edge® voting unit and the software program of WinEDS is designed to be used prior, during and after the calendar year 2000 A.D. with regard to date information. The system has been designed to ensure accurate year 2000 date data, century recognition and identification of year 2000 as a leap year. Additionally, the system does not contain any date dependant processing logic.

This Statement of Compliance refers to the products as delivered by Sequoia Voting Systems, Inc. The Statement of Compliance does not constitute a warranty or extend the terms of any warranty. The warranties provided for Sequoia's products, are set forth in the license agreement for WinEDS, found in Appendix D and the limited warranty and license agreement for the AVC Edge®, found in Appendix C

35. TERM OF AGREEMENT

This Agreement shall take effect upon full execution by the parties and remain in full force and effect until the expiration of the Warranties, except as otherwise provided for herein.

36. PUBLIC ENTITY CRIMES

As provided in F.S. 287.132-133, by entering into this Agreement or performing any work in furtherance hereof, Sequoia certifies that it, its affiliates, suppliers, subcontractors and consultants who will perform hereunder, have not been placed on the convicted vendor list maintained by the State of Florida Department of Management Services within the 36

months immediately preceding the date hereof. This notice is required by F.S. 287.133(3)(a).

37. HEADINGS NOT CONTROLLING

Headings and titles used in this Agreement are for reference purposes only and shall not be deemed a part of this Agreement.

38. ENTIRE AGREEMENT

This Agreement contains the entire understanding of the parties hereto and neither it nor the rights and obligations hereunder may be changed, modified, or waived except by an instrument in writing signed by the parties hereto.

IN WITNESS WHEREOF, the parties have caused this Agreement, which shall inure to the benefit of and be binding upon the successors of the respective parties, to be signed and entered as of the date first mentioned above.

SUPERVISOR OF ELECTIONS OF PALM BEACH COUNTY

ATTEST:

By: _____
Theresa LePore, Supervisor

SEQUOIA VOTING SYSTEMS, INC.

ATTEST:

By: _____
Peter Cosgrove, President and CEO

Section 2
QUANTITY/PRICING/DELIVERY PROPOSAL

Sequoia Voting Systems, Inc., respectfully submits the following pricing and delivery schedule to Palm Beach County, Florida for a Direct Recording Electronic Voting System, Optical Scan Voting System and Election Management System. The first table beginning on the next page is the Total Quantity and Pricing of All Equipment required. Some items have **RED** footnote numbers that indicate that this item has additional **Descriptive Information** and/or some optional service item that needs further clarification. Following some quantities there is a GREEN footnote alpha character that indicates that there is a Quantity Recommendation Explanation for this item. The Descriptive Information begins on page 30 and the Quantity Recommendation Explanations begin on page 34.

Beginning on page 43 are the items, quantities and times of delivery. Beginning on page 39 is Other Pricing to be considered.

Total Quantity and Pricing of All Equipment

AVC Edge® Direct Recording Electronic Voting Equipment	Quantity	Selling Price Per Unit	Total Sales Price
AVC Edge® Voting Unit [1]	3,900 [A]	$3,150	$12,285,000
Vote Simulation Cartridges [2]	100	$100	$10,000
Additional Results Cartridges [3]	100	$100	$10,000
AVC Edge® Transportation Carts [4]	780 [B]	$400	$312,000
Card Activators [5]	1100 [C]	$700	$770,000
External Battery Packs [6]	100 [D]	$200	$20,000
AVC Edge® Covers / Wheels & Handles [7]	25	$150	$3,750
Spare Parts, Tools and Supplies Inventory			$20,000
WinEDS Central Tabulating System			
Windows NT Election Database System [8]			$250,000
Sequoia 400-C Optical Scan Voting System			
Sequoia 400-C Absentee Counter [9]	2 [E]	$75,000	$150,000
Software needed for Ballot Tabulation, Ballot Printing and WinEDS Connectivity			$50,000
WinEDS Central System Hardware			
Manual Cartridge Readers [10]	30 [F]	$1,000	$30,000

Services

Installation and Training	**$343,050**

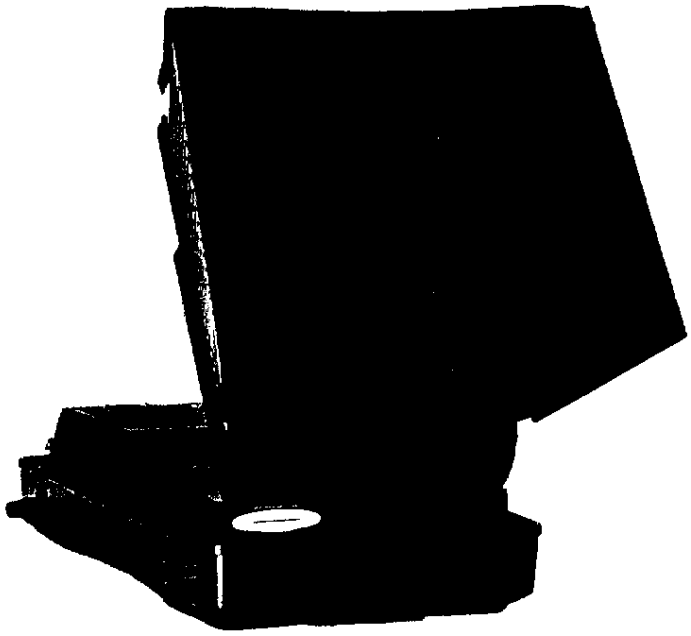
Freight

Inside Delivery on all AVC Edge Units, Ancillary Equipment, Computer Hardware and Supplies	**$136,500**

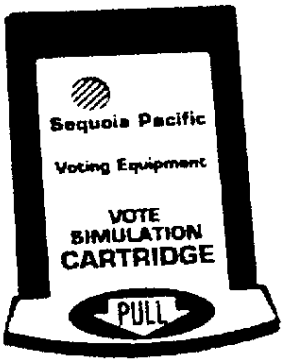
All Inclusive Total $14,390,300

Descriptive Information

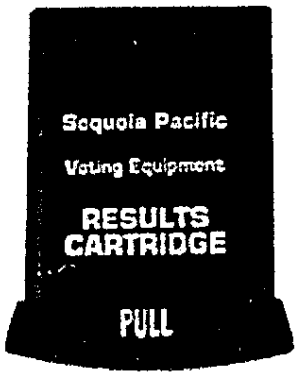
1. AVC Edge® Voting Unit – This includes an internal printer on each unit, Voter Card Activation, one Results Cartridge per unit, 15" LCD voting display, internal batteries, self-contained Legs and power cord. The warranty on these units is for one year from the date of Acceptance for each unit. Sequoia Voting Systems provides an optional, Extended Warranty that is $50.00 per unit, per year. The Extended Warranty offers Palm Beach County the same services as the first year warranty that is included. Invoicing will occur after each truckload that is shipped. Sequoia Voting Systems will provide on-site Election Day Support through 2002.



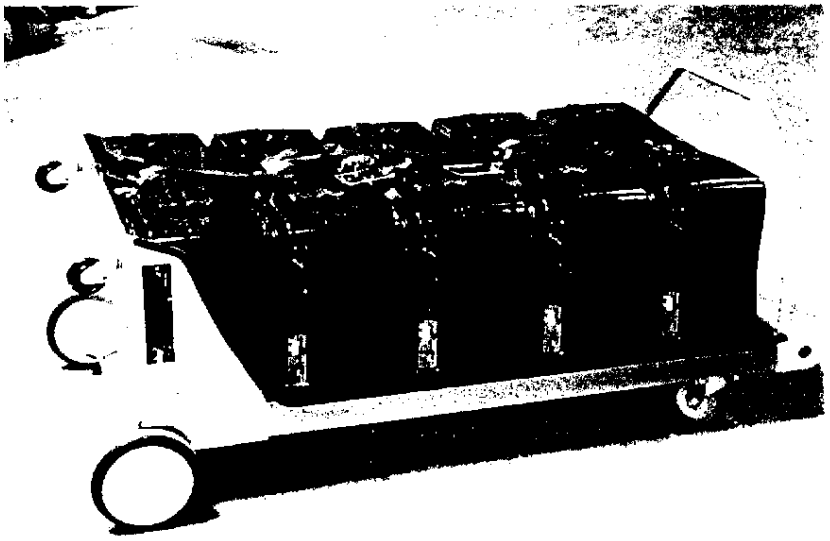
2. Vote Simulation Cartridges – These are the cartridges used to test vote the AVC Edge® voting units with a pre-determined number of votes for each candidate in the mandatory Pre-Election Logic and Accuracy Test that is performed prior to every election on each unit. This is the recommended quantity to do the testing efficiently in the warehouse.

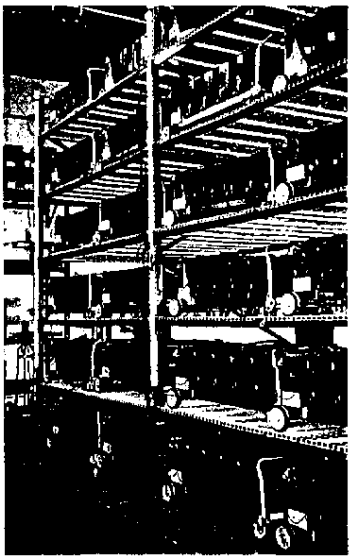


3. Additional Results Cartridges – There is always a need for extra Results Cartridges. Sequoia Voting Systems recommends this quantity.

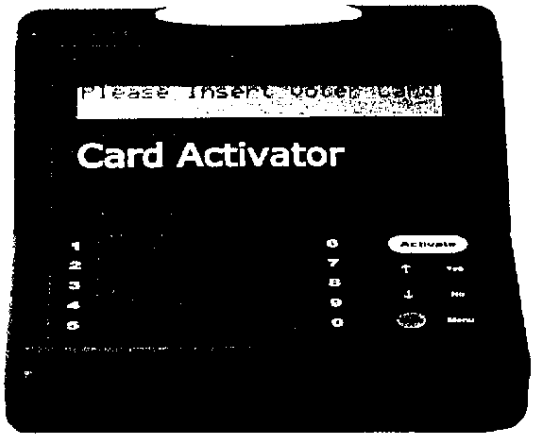


4. AVC Edge® Transportation Cart – This is the cart that is used to store up to five AVC Edge® voting units. It can be rolled in either the vertical or horizontal position. It travels with the units throughout the warehouse, to the pallet system and to the voting location. This cart allows as many as 120 AVC Edge® voting units to be stored in 60 square feet of warehouse floor space.



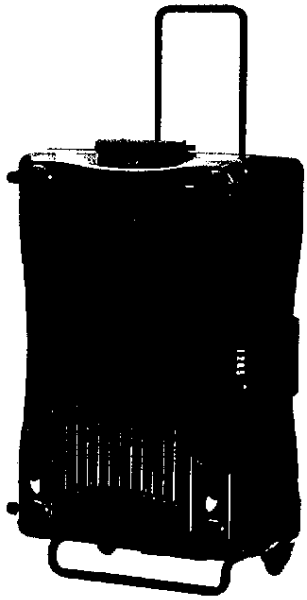


5. Card Activators – This is the device used to activate the Voter Card for the voter. The voter is given the activated card and takes it to the AVC Edge® voting unit where they insert the card into the machine and it then activates the machine for the appropriate ballot for that particular voter.



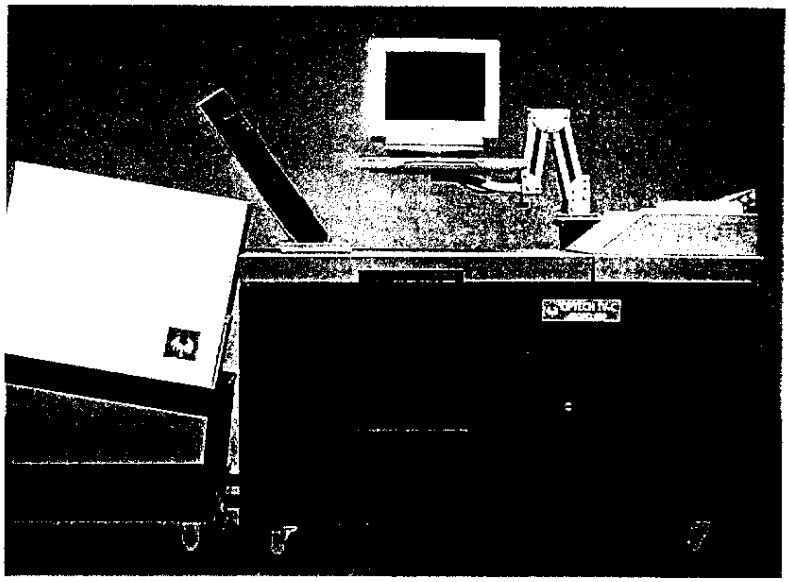
6. External Battery Pack – This device is a portable battery equipped with two plugs for attaching to two AVC Edge® voting units in the event of long-term power loss at the voting location. The AVC Edge® voting unit has its own internal battery that runs the machine without interruption for three to four hours. The External Battery Pack can provide two AVC Edge® voting units with an additional 16 hours of power.

7. AVC Edge® Covers / Wheels & Handles – This is an optional lid for the AVC Edge® that contains a built in set of wheels and a handle, similar to what is used in carry-on suitcases. Since we recommend the use of the Transportation Cart to move the AVC Edge® voting units in volume, we suggest that this quantity be purchased to move a machine by itself to demonstrations, poll worker training and media events.



8. WinEDS – The Windows NT, network resident, central system for all of the voting devices. This software package retains all of the profile data such as all contests that run in the county and when they run, all of the precincts and what districts make up the precinct, and all of the voting machines. When an election is created, the system prompts the user with what contests that should be included. After candidate names are entered, the system automatically generates all of the ballot styles and assigns them to the respective precincts. The information for each AVC Edge® voting unit is loaded onto the Results Cartridge for each unit from WinEDS. This is how the voting unit is loaded with the election definition for each election. The information for the Sequoia 400-C Absentee Ballot Counters is downloaded to the Ballot Printing System for Absentee Ballot design and camera-ready printing and also to define the election for tabulation. On election night WinEDS receives all of the votes from all of the Results Cartridges and the Absentee votes are imported to tabulate the County totals. As these results are received throughout the night, the totals can be displayed with projectors, automatically sent to the County Internet home page, automatically sent to media FTP sites or paper reports printed on computer printers on the network. WinEDS also prepares the Statement of Vote and Final Reporting forms. An Annual Licenses Agreement Fee will be 15% percent of the purchase price or $52,500 per year for as long as Palm Beach County uses this system. Sequoia Voting Systems reserves the right for price increases after five years, but never more than 10% per year.

9. Sequoia 400-C – The Optical Scan Absentee Ballot Counting System that is capable of automatically feeding ballots at a rate of 24,000 per hour. This system comes with a one-year warranty. On-site Election Day Support will be provided through 2002. An Extended Warranty is available on the Sequoia 400-C for $4,000 per year.



10. Manual Cartridge Reader – This device is used to manually insert a Results Cartridge to be read into the WinEDS Server.

Quantity Recommendation Explanations

A. AVC Edge® Voting Units – The quantity of voting units is based upon one AVC Edge® voting unit for every 200 registered voters. Also considered was data from Riverside County, California on the speed of an average voter. Why Riverside County? Because they are the largest user of the AVC Edge® Voting System and the largest touch-screen user of all touch-screen DRE systems, similar in demographics to Palm Beach County. They had over 300,000 actual voters on the AVC Edge® voting units in the November Presidential Election in 2000. When WinEDS reads a cartridge, it captures other data as well. One file that is copied is the Event Log file. The Event Log time and date records every significant event during the election cycle. One of those events is when a voter activates the voting unit and when they Cast their ballot. Thus, the time that it took to vote can be mathematically formulated. WinEDS uses SQL Server Database Manager and a query can be written to sort by event and look at time and make calculations based upon the elapse of time. Sequoia Voting Systems wrote such a query and were able to determine that the average time to vote was 3 minutes and 2 seconds. Riverside County's ballot was four to six pages long. The average ballot was five pages. Assuming that all voters had five page ballots, it took 36.4 seconds a page to vote. The 2000 Presidential Election ballot in Palm Beach County is estimated to be approximately 6 pages long. This would mean that the average voter time is 3 minutes and 38 seconds for a large ballot in Palm Beach County. If voters voted at a steady stream all day, the voting unit could vote at a 3 minute, 38 second voter pace, 198 voters per voting unit per day. Based upon previous data provided by Palm Beach County, there were 460,811 total actual voters in the 2000 Presidential Election. There were 47,069 Absentee Voters, leaving 413,742 voters that voted on Election Day at the precincts in the 2000 Presidential Election. Assuming a steady stream of voters, Palm Beach County would need 2,090 voting units. If the number of voters in Palm Beach County grows to 500,000 in a few years, this would mean you need a minimum of 2,525 voting units. Unfortunately, voters do not show up at the polling locations at a steady, consistent pace. They tend to vote in the early morning, at lunch and after work hours. Some voters vote much quicker than some and some take a long time to vote. Assuming that you had an average voting time of 7 minutes per voter, Palm Beach County needs approximately the 3,846 voting units, assuming growth will take place over the next four years to 500,000 registered voters. With extra machines needed for backup, Sequoia Voting Systems recommends that Palm Beach County purchase 3,900 AVC Edge® Voting Units.

B. AVC Edge® Transportation Carts - Sequoia Voting Systems recommends that Palm Beach County purchase 780 of these carts. Each cart holds a maximum of five AVC Edge® voting devices. There will be some precincts that you need to send less than five machines to or that need a number of machines that are not divisible by five. Thus, you need extra carts. These carts will accommodate 2, 3, 4 or 5 voting units.

C. Card Activators - Sequoia Voting Systems recommends 1,100 Card Activators for purchase by Palm Beach County. This is based upon an average of approximately 350 actual voters per device. It is enough to provide one for each precinct, plus an extra Card Activator for most precincts. In general, if the voting roster at the sign-in table is split, you need one device for every two splits. The device is placed between the two rosters so the poll workers working either roster can use the Card Activator.

D. External Battery Packs - Sequoia Voting Systems recommends the purchase of 100 External Battery Packs. These are insurance against an all day power failure in a precinct. In Riverside County, they did not use one in the General Election in 2000. There will be times that these will seldom be used. These need to be deployed on Election Day to support regions for quick response. This gives you enough units to provide enough of a meaningful quantity to small regions so that you can deliver to a precinct in a very short amount of time to guarantee voting never ceases.

E. Sequoia Voting Systems recommends two Sequoia 400-C Absentee Counting Units. Based upon the number of Absentee Ballots received in the General 2000 Election and the speed of the Counter, one machine is adequate. The reason we recommend two machines is to provide redundancy and future growth in the number of voters choosing this method of voting.

F. Manual Cartridge Readers - Sequoia Voting Systems recommends this quantity for Manual Cartridge Readers based upon our recommendation of tallying the votes on Election Night by the poll workers bringing the Cartridges to Remote Tally sites that are strategically located so the poll worker bringing in the Results Cartridges has no more than a ten minute drive. These quantities will allow for 12 large Remote sites and 6 readers in the Central Site. In Riverside County, on September 12, 2000, we tested the county network on a simulated

General Election by running the test on a Tuesday Night to test the network traffic on the same day of the week at the same time with the same number of readers with the same number of cartridges. We used 30 Manual Cartridge Readers and 4,250 Results Cartridges. We read all of the cartridges in 37 minutes. With good poll worker training and a good logistics plan, the capability is there for Palm Beach County to more than exceed the expectation of finishing the tally on Election Night by 10:00 P.M.

SEQUOIA voting systems

Proposal for a Touch-Screen, Direct Recording Electronic Voting System and Optical Scan Absentee Counting System for Palm Beach County, Florida

Equipment and Services Delivery Schedule

AVC Edge® Direct Recording Electronic Voting Equipment	Quantity	Delivery Date: On or Before
TOTAL AVC Edge® Voting Unit [1]	3,900 [A]	
First 600 Units		October 31, 2001
Next 1,100 Units		November 30, 2001
Next 1,100 Units		December 31, 2001
Next 1,100 Units		January 31, 2002
Vote Simulation Cartridges [2]	100	December 31, 2001
Additional Results Cartridges [3]	100	December 31, 2001
TOTAL AVC Edge® Transportation Carts [4]	780 [B]	
First 100 Carts		October 31, 2001
Next 200 Carts		November 30, 2001
Next 200 Carts		December 31, 2001
Next 280 Carts		January 31, 2002
Card Activators [5]	1,100 [C]	
First 250 Activators		October 31, 2001
Next 250 Activators		November 30, 2001
Next 250 Activators		December 31, 2001
Next 350 Activators		January 31, 2002
Activation Cards	24,000	December 31, 2001
External Battery Packs [6]	100 [D]	December 31, 2001

AVC Edge® Covers / Wheels & Handles [7]	25	December 31, 2001
Spare Parts, Tools and Supplies Inventory		December 31, 2001
WinEDS Central Tabulating System		
Windows NT Election Database System [8]		October 31, 2001
Sequoia 400-C Optical Scan Voting System		
Sequoia 400-C Absentee Counter [9]	2 [E]	December 31, 2001
Software needed for Ballot Tabulation, Ballot Printing and WinEDS Connectivity		December 31, 2001
WinEDS Central System Hardware		
Manual Cartridge Readers [10]	30 [F]	December 31, 2001

Other Pricing

Cost for licensing;

An Annual Licenses Agreement Fee on WinEDS will be 15% percent of the purchase price or $52,500 per year for as long as Palm Beach County uses this system. Sequoia Voting Systems reserves the right to raise this price after five years from the date of the contract date, but never more than 10% of the Annual License Agreement Fee per year.

Cost for Extended Warranty on AVC Edge® Voting Units

Sequoia Voting Systems provides an optional, Extended Warranty on the AVC Edge® voting units for $50.00 per unit, per year. The Extended Warranty offers Palm Beach County the same services as the first year warranty that is included. This would begin one year after the date of Acceptance.

Sequoia Voting Systems provides an Extended Warranty on the Sequoia 400-C for $4,000 per year. This would begin one year after the date of Acceptance.

Cost for firmware upgrades.

Sequoia Voting Systems will provide the firmware upgrades for the AVC Edge® voting unit at no expense to Palm Beach County through 2002. If the Extended Warranty is purchased for the AVC Edge® voting units, upgrades will be provided at no charge. It will be the responsibility of Palm Beach County to install these upgrades. This is done through a cartridge and a password access code. It usually only takes a few minutes per machine and is done during preparation of the machines for an election. If the Extended Warranty Agreement is not purchased, the cost after 2002 is $20 per voting unit. All software upgrades are a part of the Licenses Agreements on WinEDS.

Service And Support Fees

The following fees encompass support services such as election coding, On-site support, training, and phone support after the initial implementation period that ends at the end of 2002:

RESOURCE	FEE
Product and Account Associates	$75/hr
Product Specialists and Account Executives	$110/hr
Senior Product Specialists and Account Managers	$135/hr
Senior Managers and Product Developers	$175/hr

In addition to the fee, travel and expenses will be charged for on-site support. When travel is required, there will be a minimum charge of 8 hours.

Section 3
General Description of System Proposed

The AVC Edge® Direct Recording, Electronic Voting System

The proposed voting system by Sequoia Voting Systems for Palm Beach County, Florida, is the AVC Edge® Voting System. The system consists of the AVC Edge® touch screen, direct recording, electronic voting machine. Also included is the central system, which is called WinEDS. WinEDS, a Windows NT based Election Database System runs on a client/server network. It is a database management software package that maintains the election information used to prepare for an election, determine ballot styles, layout the ballot for the voting machine, load the election definition for an election into the cartridges for the AVC Edge® voting machines and to tabulate and report the results on election night. Also proposed is the Sequoia 400-C, an optical scan, auto-feed Absentee Counting System. This system is integrated with WinEDS.

The AVC Edge®

The AVC Edge® voting machine, pictured above, was introduced to the market in 1999. Many of the features on the AVC Edge® came from experience we have acquired from the AVC Advantage® voting machine. The AVC Advantage® is our full-faced DRE machine which was introduced in 1988 and now are more than 20,000 in use in the United States. Some of these proven design features is that it is stand-alone, self-contained, easy to set up, easy to vote, durable and efficient to store and transport.

SEQUOIA voting systems

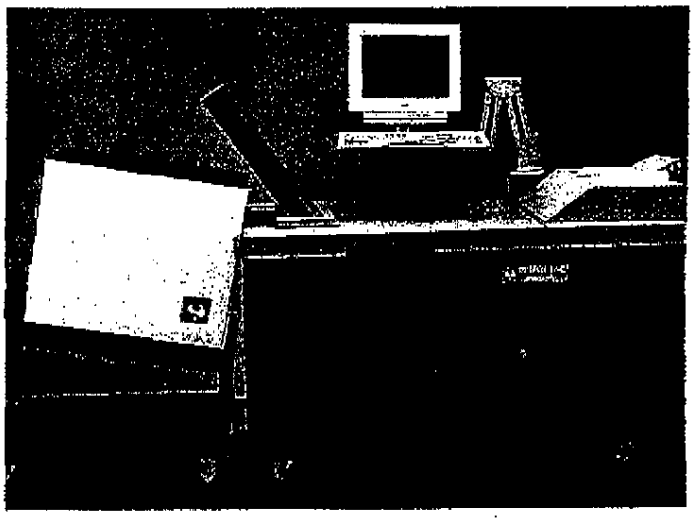
Proposal for a Touch-Screen, Direct Recording Electronic Voting System and Optical Scan Absentee Counting System for Palm Beach County, Florida

The large, 15" LCD Touch Screen is used to display the ballot to the voter. The voter simply touches the candidate area to make a selection. The screen can be moved to various positions to accommodate voters of different heights and the handicapped. The interface has been designed to be very simple and intuitive.

The AVC Edge® has an uninterruptible, internal battery backup source in the event AC power is lost. The AVC Edge® is manufactured with state of the art industrial strength electronics and solid-state memory. The firmware that operated the machine is proprietary and designed to run elections only. It is a closed system with no access to the firmware that resides in read only memory, providing an extremely high level of security. See the AVC Edge® product brochure in Appendix F.

In 2000, The AVC Edge® was used in Monterey County, California, as an Early Voting System in the March Primary and the November General Election. It was used in Riverside County, California for Early Voting in March and then was purchased by Riverside as a countywide system for the General Election in November. They purchased 4,250 machines, making them the largest touch screen voting system jurisdiction in the U.S. Riverside County has 625,000 registered voters with 725 precincts. With over 13 years in the DRE experience, Sequoia has developed a proven concept in voting with the AVC Advantage®. Monterey and Riverside Counties have now made the AVC Edge® a proven system of its own with successful elections in 2000 in the Presidential General Election.

The Sequoia 400-C Optical Scan Absentee System



The Absentee System proposed is the Sequoia 400-C. This machine is a proven system with over 200 in use today. It reads ballots at 24,000 per hour. The ballot is a three column wide ballot that can accommodate your largest ballots on one ballot. Its unique out-stacking feature is designed for maximum throughput. Write-in ballots are out-stacked to one bin and exception ballots to another bin. This allows efficient processing of all ballots and then exception ballots and write-ins are reviewed and recorded at the end of processing. This heavy-duty machine is designed for the jurisdiction with large absentee demands. See the Sequoia 400-C product brochure in Appendix G.

Section 4

Sequoia Voting Systems Overview

Sequoia Voting Systems, based in Hayward, California, is a California-based company with over $200 million in revenues annually. Sequoia is a wholly owned subsidiary of Jefferson Smurfit Group, a public corporation whose affiliates together produce approximately $15 billion annually, worldwide (Our 2000 Annual Report can be Found in Appendix A of this Proposal). Proud of its 100-year history, Sequoia boasts a track record that is unparalleled within the industry, providing voting systems for decades in nearly all 50 of the United States. Unlike some, Sequoia isn't new to the industry. From punch card equipment and lever machines, to pioneering the development of Direct Record Electronic (DRE) touch-screen voting systems, Sequoia Voting Systems deliver accurate, reliable and unrivaled solutions to meet today's voting challenges. (See our Corporate Brochure in Appendix H).

Proven Track Record

Overseeing the two largest conversions of punch card voting equipment to electronic voting systems – in Riverside County, CA and Clark County, NV – was no small feat. But with its team of highly trained technical personnel, Sequoia Voting Systems worked with the counties' Election Administrators and key election personnel to ensure a smooth transition. In the end, Sequoia's experts in electronic ballot handling ensured a smooth electoral process that proved safe, accurate and user friendly. Clark County's system reached an electoral milestone during the 2000 Presidential election – ballots cast using the touch screen system for "early voting" exceeded the number of paper ballots cast on Election Day. In Riverside County, voters and election officials hailed Sequoia's touch screen system a rousing success, strengthening Sequoia's position as *THE* industry leader.

Secure

Putting its 100 years of experience to work, Sequoia Voting Systems has developed an innovative, high quality touch-screen voting system that is easier to use and more accurate than paper ballots, which are susceptible to improper hole punching, voter error and misreading by counting machines. Sequoia's patented software and operating system is proprietary – ***with no open architecture*** – rendering the system virtually hacker-proof. The CPU

board is designed by Sequoia, which does not allow for RAM intrusion, a powerful security feature that is unique to the touch-screen voting industry.

The Future

Sequoia Voting Systems is focusing on the future, now. We will be continuously designing optional features to better service our existing customer base. We will be watching new developments in technology with the idea of making elections easier for the voter, poll worker, election administrator and candidate. But we will work every day to have a unified voting system that is seamless from on voting module to the other to meet the needs of the future election industry. We envision a multi-use system so election administrators can best serve the voters from election to election. This means different methods of voting on paper based, direct recording electronic machines and digitally over the Internet in the future.

Our Customers

The following is a list of our Direct Recording, Electronic System Users and the contact person for each jurisdiction:

Sequoia DRE Customer List

State	Jurisdiction	Purchased	Units	Type	City	RVs	Contact Name	Phone Number
California								
	Riverside County	Feb-00	4250	Edge	Riverside	660,000	Mischelle Townsend	(909) 486-7300
	Monterey County	Sep-99	30	Edge	Salinas	150,000	Tony Anchundo	(831) 755-5085
Colorado								
	Arapahoe County	Oct-88	1125	Advantage	Littleton	253,000	Tracey Baker	(303) 795-4200
	Denver County	May-97	1150	Advantage	Denver	317,000	Lynn Wolfe	(303) 640-2351
Connecticut								
	Mashantucket Pequot	Jun-99	3	Advantage	Mashantucket	350	Patty Veronick	(860) 396-3109
Iowa								
	Wright County	Oct-89	38	Advantage	Clarion	24,000	Molly Ketchum	(515) 532-2771
Kansas								
	Johnson County	Aug-88	860	Advantage	Olathe	258,000	Connie Schmidt	(913) 782-3441
Louisiana						2,500,000	Wade Martin	(504) 925-7885
	Acadia Parish	Jun-91	125	Advantage	Layfayette			

	E. Baton Rouge Parish	Nov-96	680	Advantage	Baton Rouge			
	W. Baton Rouge Parish	Jul-94	60	Advantage	Baton Rouge			
	Caddo Parish	May-96	428	Advantage	Shreveport			
	Calcasieu Parish	Jul-94	326	Advantage	Lake Charles			
	Jefferson Parish	Jan-95	728	Advantage	Kenner			
	Orleans Parish	Jun-93	895	Advantage	New Orleans			
	Plaquemines Parish	Jun-99	50	Advantage	Port Sulphur			
	St. Bernard Parish	Jun-98	128	Advantage	Chalmette			
	St. Landry Parish	Jun-98	180	Advantage	Opelousas			
	St. Tammany Parish	Jun-98	347	Advantage	Covington			
Maryland								
	Baltimore, City of	Dec-97	1060	Advantage	Baltimore	350,000	Barbara Jackson	(410)-396-5570
Nevada								
	Clark County	Aug-94	1950	Advantage	Las Vegas	600,000	Larry Lomax	(702) 455-2944
New Jersey								
	Bergen County	Oct-94	1200	Advantage	Hackensack	459,000	Patricia DeCostanzo	(201) 646-3176
	Burlington County	Apr-99	500	Advantage	Mt. Holly	250,000	Nancy Jeffers	(609) 265-5177
	Gloucester County	Jan-00	500	Advantage	Woodbury	160,000	Mark Harris	(856) 853-3338
	Hunterdon County	May-95	115	Advantage	Flemington	67,000	Dick Lynch	(908) 788-1190
	Middlesex County	Sep-98	700	Advantage	New Brunswick	320,000	Matt Vaughn	(732) 745-3471
	Morris County	Apr-99	770	Advantage	Morristown	300,000	Roseanne Travaglia	(973) 285-6715
	Ocean County	Mar-97	600	Advantage	Toms River	278,000	Alfonso Santora	(908) 929-2061
	Somerset County	Apr-96	280	Advantage	Somerville	153,000	Janice Hoffner	(908) 231-7084
	Union County	Jul-98	500	Advantage	Elizabeth	250,000	Patricia Formatto	(908) 527-4123
New Mexico								
	Chaves County	Sep-91	140	Advantage	Roswell	50,000	David Kunko	(505) 624-6614
	Dona Ana County	Sep-91	220	Advantage	Las Cruces	85,000	Rita Torres	(505) 647-7428
	Guadalupe County	Sep-91	20	Advantage	Santa Rosa	4,000	Mary Silva	(505) 472-3791
	Lincoln County	May-93	25	Advantage	Carrizozo	11,000	Martha Proctor	(505) 648-2394
	McKinley County	Jul-91	95	Advantage	Gallup	28,000	Cecilia Madrid	(505) 722-4469
	Otero County	Apr-90	100	Advantage	Alamogordo	25,000	Mary Quintana	(505) 437-4942
	Rio Arriba County	Jan-94	64	Advantage	Tierra Amarilla	20,000	Fred Vigil	(505) 588-7724

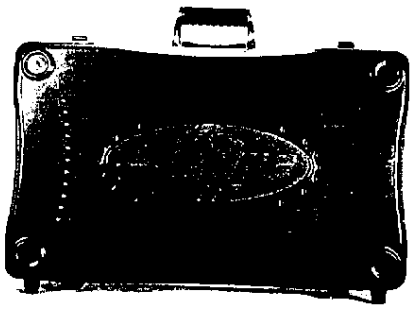
	Santa Fe County	Sep-90	225	Advantage	Santa Fe	67,000	Rebecca Bustamante	(505) 986-6286
	Sierra County	Sep-90	20	Advantage	T or C	7,000	Lupe Carrejo	(505) 894-2840
	Torrance County	Nov-91	23	Advantage	Estancia	7,100	Linda Lujan	(505) 384-2221
New York								
	Burke, Town of	Jun-90	1	Advantage	Burke	750	Yvonne Spinner	(518) 483-4015
	Clifton Park, Town of	Oct-94	11	Advantage	Clifton Park	15,000	Pat O'Donnell	(518) 371-6681
	Malone, Town of	Apr-91	11	Advantage	Malone	4,000	Susan Hafter	(518) 483-1860
North Carolina								
	Buncombe County	Sep-97	497	Advantage	Asheville	101,000	Trena Parker	(704) 255-5123
	Pitt County	Sep-90	173	Advantage	Greenville	71,000	Margaret Hardee	(252) 830-4121
	Union County	Sep-92	125	Advantage	Monroe	55,000	Shirley Tinsley	(704) 283-3708
Ohio								
	Lake County	Jul-99	550	Advantage	Painesville	150,000	Jan Clair	(800) 899-5253
Pennsylvania								
	Montgomery County	Jul-96	1050	Advantage	Norristown	455,000	Joe Passarella	(610) 278-3277
	Potter County	Apr-98	8	Advantage	Coudersport	10,000	Beverly Wiltrout	(814) 274-8467
Virginia								
	Albemarle County	Oct-94	70	Advantage	Charlottesville	42,000	Jim Heilman	(804) 296-5863
	Greensville County	Sep-96	13	Advantage	Emporia	5,200	Jean Bryant	(804) 348-4205
	Staunton, City of	May-98	18	Advantage	Staunton	8,200	Pam Kivlighan	(540) 332-3840
	Suffolk, City of	Oct-95	54	Advantage	Suffolk	30,400	Patsy Bremer	(757) 934-3114
	Waynesboro, City of	Sep-97	16	Advantage	Waynesboro	7,500	Mary Alice Downs	(540) 942-6620
Wisconsin								
	Peshtigo, City of	Jul-89	6	Advantage	Peshtigo	3,000	Mary Ann Rogers	(715) 582-3041
Totals			**23113**			**8,611,500**		

Section 5

General AVC Edge® Specifications

Physical Characteristics

Weight



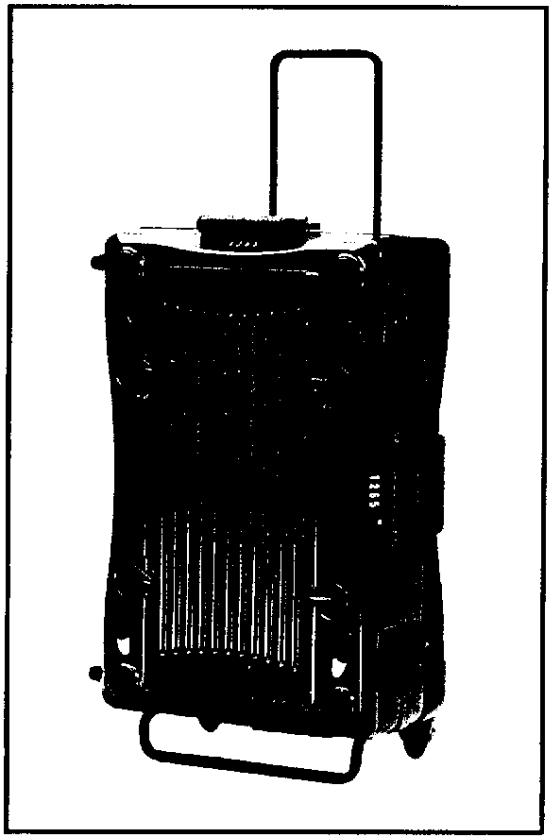
The AVC Edge® weighs 40 pounds.

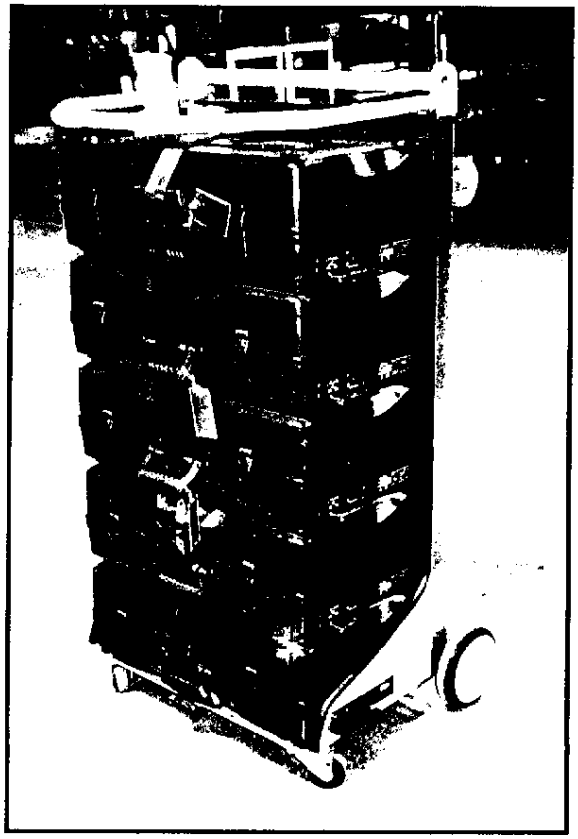
Dimensions

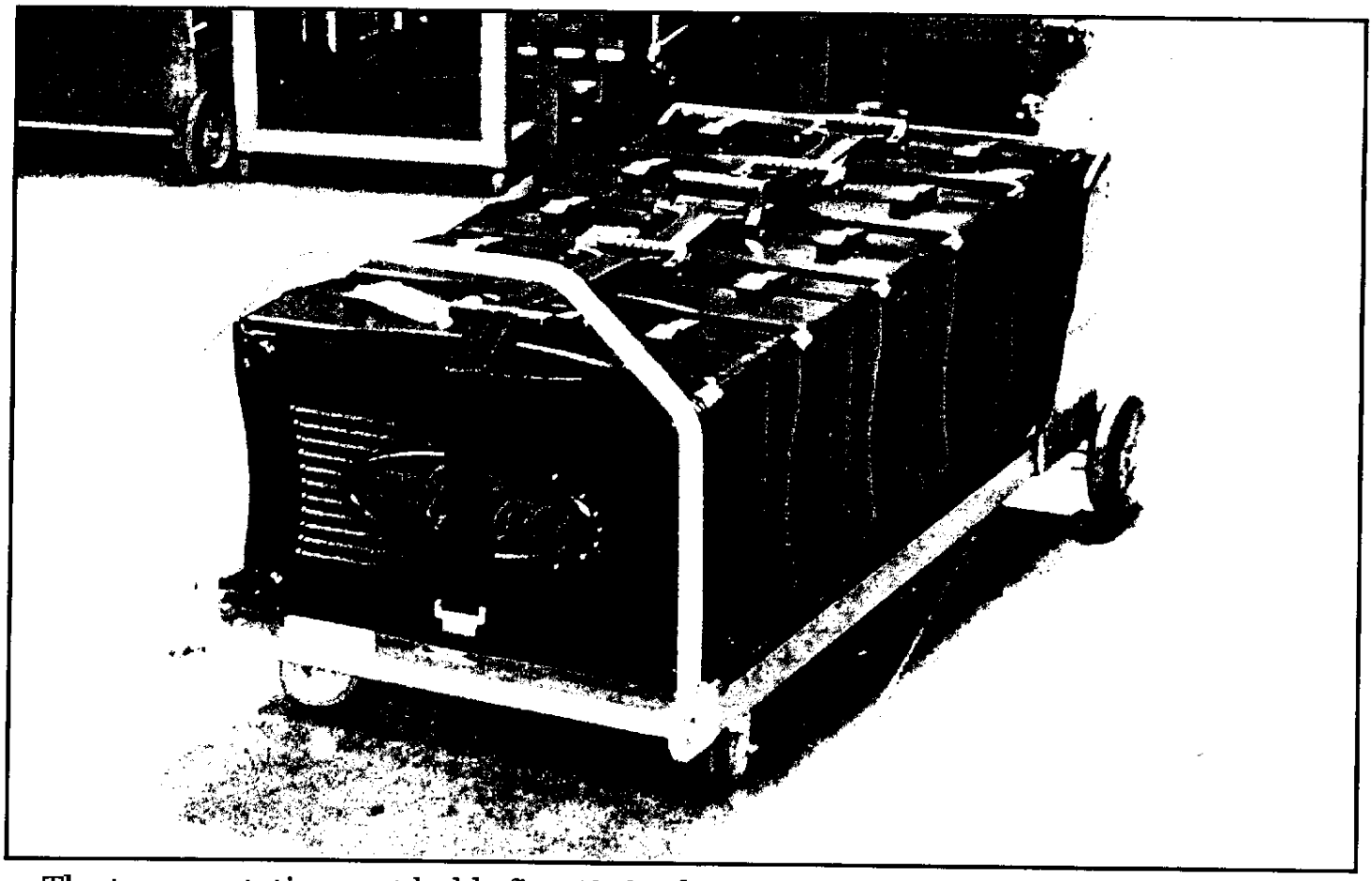
The AVC Edge® is 17" high by 26" wide by 9.5" deep.

Transportation Devices

The AVC Edge® weighs 40 pounds per unit. Seldom does it have to be picked up because of the wheeled lid or the transportation cart that is an option. The machine has a built-in handle for easily picking the machine up.







The transportation cart holds five AVC Edge® voting machines and it weighs 50 pounds.

Life Expectancy

The AVC Edge® is designed to have an operational life of in excess of 10 years, given that a periodic maintenance schedule is followed. The primary maintenance items are the internal batteries, which are recommended for replacement every 5 to 7 years.

The AVC Edge® has been designed to avoid design obsolescence. No short-lived consumer PC components or peripherals are used; rather, all components are those designed for use in the embedded systems market, where availability of spare parts and replacement units for 10 years or more is standard.

The MTBF of the AVC Edge® has been shown to exceed Federal Election Commission standards during ITA qualification testing.

Upgrading the Firmware

The AVC Edge® firmware is easily upgradeable via external firmware revision under password control. Approximate time required for firmware upgrade is less than 5 minutes per unit.

Temperature Limitations

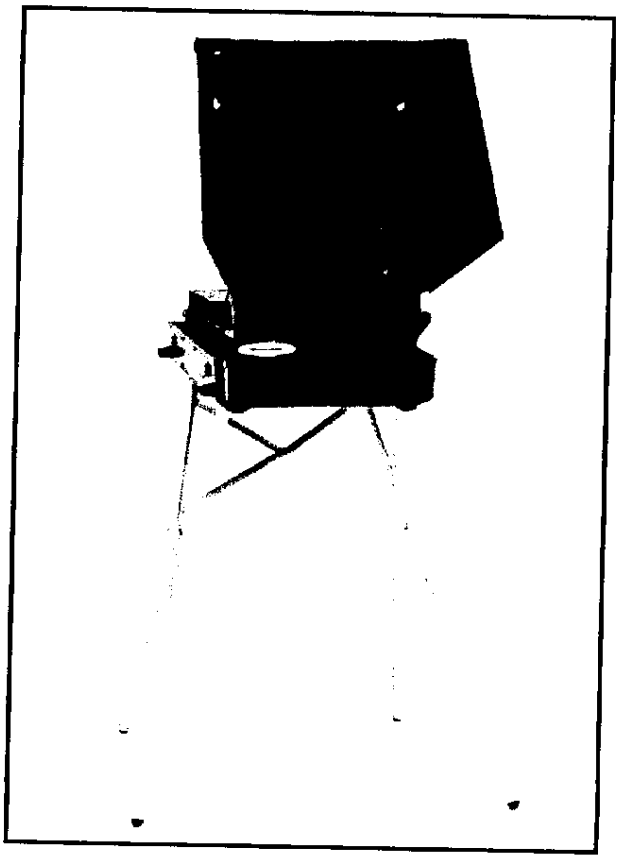
The AVC Edge® has passed the NASED ITA Testing for Storage and Use. The AVC Edge® can operate in environments as cold as 40 degrees Fahrenheit and as warm as 100 degrees Fahrenheit, up to 95% relative humidity, non-condensing. The AVC Edge® will store in temperatures ranging from minus 15 degrees Fahrenheit to 150 degrees Fahrenheit, up to 95% relative humidity, non-condensing.

Construction Materials

The AVC Edge® is constructed of non-corrosive heavy-walled high impact ABS Plastic for its outer shells and enclosures. Strengthening channels of non-corrosive aluminum and plated and painted steel are used in appropriate locations to ensure integrity, high reliability, and long life.

Voting Booth Features

The AVC Edge® is completely self-contained. This includes the privacy panels and top curtain, which makes into a privacy booth. The AVC Edge® has side privacy panels and top privacy panel to assure the voter votes in privacy. The Voter's back shields the voting display from someone behind the voter so the machine is secure from all four sides and above.



The AVC Edge® voting unit is an independent, stand-alone voting device with no cabling that connects the units to a precinct station.

The AVC Edge® is activated by a Voter Card (smart card technology). A Card Activator that is placed next to the Voter Roster and sign-in book activates this Voter

Card. The AVC Edge® also can be activated manually from an Activate button on the backside of the voting unit. Switching from card activation to manual activation is very easy and provides no single point of failure in the entire system.

The AVC Edge® is a true touch-screen voting device. The voter uses their finger to make selections and navigate through the ballot.

The AVC Edge® is designed to be transported and set up easily.

Voting Display Specifications

The AVC Edge® has a 15" diagonal screen. This screen is 9" wide x 12" high.

The AVC Edge® presents a very easy ballot to read and appealing to the eye. This is accomplished by providing a large number of type fonts and type sizes along with a color LCD that is of very high resolution It is versatile in ballot design so that the format is logical and easy to follow. The AVC Edge® allows any desired font size and face. Currently, the built-in fonts are Arial and Times, in sizes from 8 to 24 point. Additional fonts can be installed, or downloaded with a specific ballot.

Power Features

The AVC Edge® voting unit features two internal self contained batteries. The voting unit is charging when 110VAC power is applied to the AVC Edge®. When the battery is sufficiently charged, it automatically stops charging. An amber light next to the plug on the AVC Edge® indicates charging. When the machine is charging, the light is lit.

The AVC Edge® systems internal batteries are designed as the primary power source for the total system operation, including illumination and all accessory options, without the need of an external power source. The purpose of applying 110VAC is used only to keep the batteries charged. There is no disruption of operation with the removal of AC power. The AVC Edge® voting and audit data is stored in a solid state, non-volatile memory which is independent of the internal battery power source or external AC power. The data retention life of this memory is in excess of 20 years.

Should AC power be removed from the AVC Edge® and the internal batteries are fully charged, the system will operate without interruption for a period of 3 - 4 hours off the system's batteries. To extend the length of the battery power, the AVC Edge® can be put in an optional "sleep mode". The "sleep mode" is deactivated when the screen is touched or activated by a voter inserting the smart card with his or her Voter Card.

An additional option is an external battery that will allow operation of two voting units for a 16-hour period. The data is never in jeopardy of being lost as it stored in a non-volatile memory.

In the event of loss of both the AC Power and the internal batteries and there is no external battery pack that is brought for long-term power loss, the AVC Edge® will shut itself down before all power in the machine is loss. There is enough power that is reserved in the battery to power up the machine at the end of the Election Day and Close the machine.

Audible Alarm

In the event of a voting unit failure, the AVC Edge® makes an audible sound to alert the poll worker and a screen appears on the voting display telling the poll worker the nature of the problem, how possibly to resolve the problem and an error code for reporting to the service center. There is also a small LCD display on the back of the machine that informs the poll worker of the problem in the event that the voter screen is not working.

Background Diagnostic Testing

The AVC Edge® includes an extensive power on self-test. The execution of this test is a required part of every power up.

The AVC Edge® also monitors itself while in operation.

- The AVC Edge® electronics includes a watchdog timer. This timer will set an error flag and reset the system if it is not reset periodically.
- The AVC Edge® power down is controlled by the firmware. During critical places, such as saving a vote, powering down is not allowed.
- All system voltages are monitored continuously. If a voltage, such as the battery voltage, were to be outside of a "safe" range, the system will declare an error and stop normal operation.

The AVC Edge® includes a comprehensive Event Log. All activities, both normal and abnormal, are entered in this log. This log is saved redundantly, both in internal memory and on any installed memory cartridge. This log is always active; it is not possible, through either software or hardware means, to disable the logging of events.

Public and Protective Counter

The AVC Edge® features a LCD public counter, located in the rear of the unit, for cross checking the number of ballots tabulated at a polling place to the number of names signed on the poll list. Machine totals or number of ballots cast also appear on each paper printout, which is automatically generated when the polls are closed. A precinct reporting form would be completed by the poll worker and would include each individual machine total by serial number. The number of ballots cast for all machines when cross-checked with the number of names signed on the poll lists should be equal and is recorded.

In addition, The AVC Edge® has a Protective Counter, located in the rear of the unit on the LCD display. It shows the number of voters for the life of the machine.

Operating Features

Sequential Flow of Election Cycle

The AVC Edge® is designed as a state machine, and follows a rigidly defined path through the election sequence. The major steps in this sequence are:

- System Reset, to initialize the machine
- Authenticate & Load the ballot
- Pre-election Logic and Accuracy testing
- Early Voting (optional)
- Official Election
- Post-election Logic and Accuracy testing

Within the "election modes" (Pre-LAT, Early Voting, Official and Post-LAT), the following sequence is adhered to:

- Ready to Open Polls
- Opening Polls
- Print Zero Proof Report
- Voting
- Closing Polls
- Print Results Report
- Polls Closed

There are multiple levels of protection against corruption of the above sequences. They include maintaining the system state/mode information in non-volatile memory, and using the Event Log as a validation of the correct position within the sequence.

Critical steps in the election sequence, such as opening and closing polls, are protected against unauthorized access with a combination of physical security such as numbered seals and hiding them from the casual user, via non-intuitive input sequences.

Mandatory Pre-Election Logic and Accuracy Testing

The AVC Edge® includes extensive pre-election logic and accuracy test capability. The logic and accuracy tests consist of a complete cycle through the election processing software of the AVC Edge®. This cycle consists of opening polls, printing a Zero Proof Report, casting votes, closing polls and printing a Results Report. The exact voting logic and data paths that are also used during the election is used during these logic and accuracy tests; however the vote data is stored into

separate files, so there is no chance of it becoming intermingled with the election vote data.

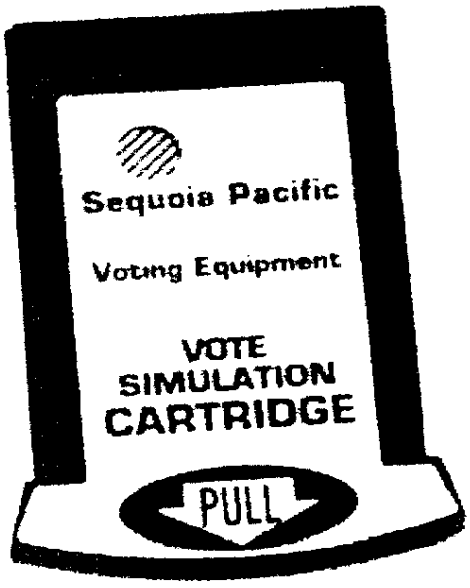
To further avoid confusion, all operator prompts, reports and event log entries are clearly marked as being from the logic and accuracy test.

The Pre-LAT begins by moving the Polls Switch to the Open Position. The AVC Edge® automatically begins to verify that the ballot control logic and the system parameters residing in internal memory are the same as that in the Results Cartridge. When verification is complete, a Pre-LAT Zero Proof Report is printed to show that all candidate and question counters are at zero when the Pre-LAT begins.

The technician activates the AVC Edge® (simulating the Poll worker), and then enters simulated voter selections (thus exercising the ballot control logic) and then casts votes. It is recommended that a predetermined voting pattern be entered into the AVC Edge®. The voting pattern should insure that each candidate receives at least one vote, should test over- voting in each contest, and should test any complex ballot features, such as endorsed candidates or primary elections. Use of such controlled test data insures vote-counting accuracy.

After all the Pre-LAT voter data has been entered, moving the Polls Switch to the "Closed" position closes the polls. The AVC Edge® will print the Pre-LAT Results Report (extra copies of this report may be printed, if needed). It is also possible to obtain a visual display of vote totals by pressing individual voting selector switches. The Results Report should be compared to the controlled test data to verify that the AVC Edge® is correctly counting votes.

Upon completion of verification of the Pre-LAT, the technician signs the verification section on the Results Report indicating successful completion. Note that during this test the Public and Protective Counters increment just as if the AVC Edge® were in the election mode.



VOTE SIMULATION (OPTIONAL FEATURE) - The vote simulation feature provides for the automatic selection of candidates and casting of votes during the Pre-LAT. This provides for high volume testing and for more extensive testing than might otherwise be practicable through purely manual pre election logic and accuracy test.

Vote Simulation is done with a vote simulation cartridge. This cartridge is programmed by WinEDS with a series of votes called a script. One script can be created for each ballot style and used on several machines.

Vote simulation is initiated by inserting the vote simulation cartridge into the right cartridge port before the Pre-LAT polls are opened. When the technician opens the Pre-LAT polls, he responds yes on the LCD display to begin vote simulation. A zero proof report is printed, the machine casts the ballots stored on the vote simulation cartridge and processes them exactly as if they had been cast through the voter panel.

At the completion of the simulation script, the technician can continue voting manually. When the polls are closed, the Pre-LAT results report is printed indicating they were generated by vote simulation.

Vote Simulation is not available under any circumstances during the actual election. When in Election mode, the Edge® does not provide the on-screen button used to initiate Vote Simulation; in addition, the AVC Edge® will not allow voting to occur if any cartridge is inserted into the Auxiliary Port when in Election mode. Furthermore, since the script file must reside on a special Vote Simulation cartridge, the jurisdiction can exercise tight control over the availability of these cartridges.

Ballot Image and Data Storage

The ballot image and summary totals data is stored in memory that has a file system organization, and is stored in two separate files.

All ballot image and write-in name data is stored in randomized fashion within its particular file. The randomizing function is based on a 32-bit maximal length pseudo-random sequence that is further randomized by the seconds value of the current time. The pseudo-random sequence "state" is maintained in non-volatile memory and is initialized only during manufacture; the sequence does not restart from the same "seed" value at each power up.

The AVC Edge® uses a Flash ROM memory cartridge, based on the PCMCIA (PC Card) interface standard. The internal Audit Trail memory of the AVC Edge® is based on the same Flash ROM technology. The data retention life of this memory is in excess of 20 years, and its reliability is specified as less than 1 non-recoverable error in 10^{14} operations.

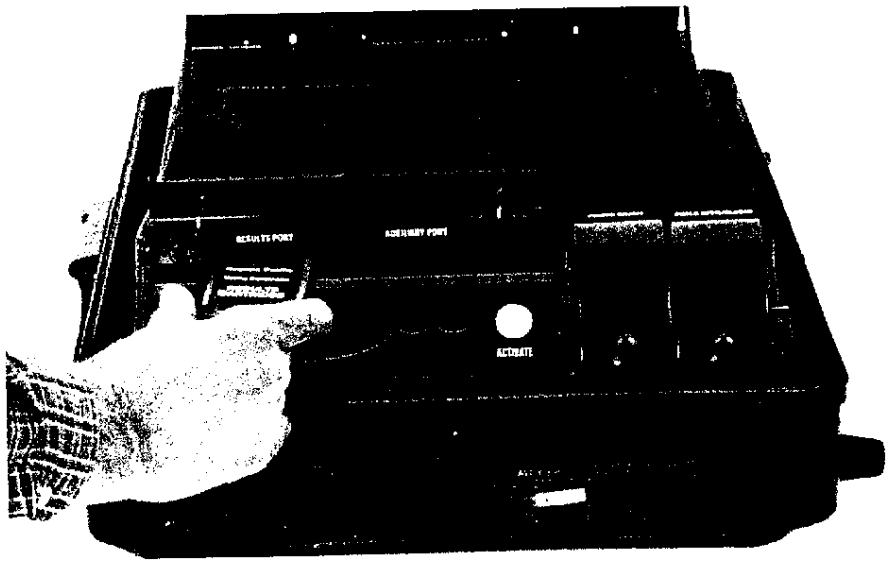
Additional stability is achieved through the use of error detecting codes and redundant storage of all vote data:

- Each ballot image record is stored with a CRC-16 check digit, that can detect any corruption of the data in the record.
- When polls close, cryptographic signatures of the vote data are calculated and stored. These signatures are based on a "seed" value known only to each individual AVC Edge® and to WinEDS. Calculation or validation of these signatures can only be done with prior knowledge of the seed value; this measure serves as both a guard against corruption of and against tampering with the vote data.
- Vote data is stored in both summary total and ballot image format. A simple cross-check operation that can be done from the polls closed machine state can validate that the ballot image data tallies to the same values as stored in the summary total format.
- Vote data is stored both in the removable Results Cartridge memory device and in the AVC Edge® internal Audit Trail memory. A simple cross-check operation that can be done from the polls closed machine state can validate that the two copies are identical.

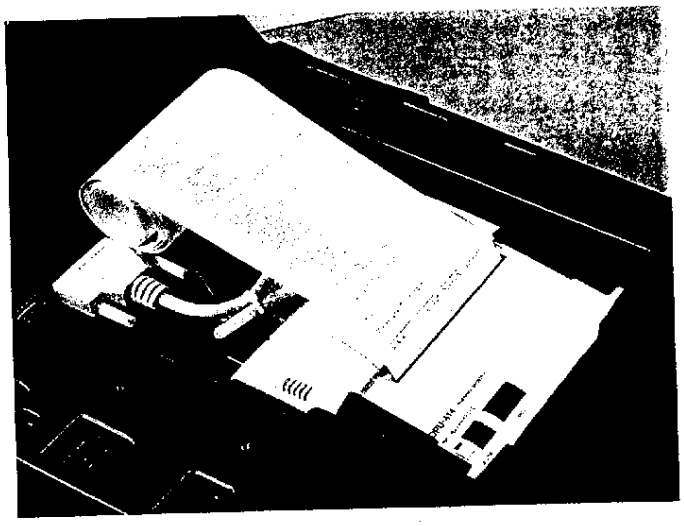
In the case that a Results Cartridge memory device is lost or suffers a catastrophic failure, the AVC Edge®, from its polls closed state, can copy its internal Audit Trail memory contents to a special Audit Trail Transfer memory cartridge.

Removable Memory Device

The Results Cartridge is sealed in a compartment on the rear of the voting unit. After the polls close, the poll worker breaks the seal and pulls the Results Cartridge out easily.



Report Printer Capability



The AVC Edge® provides a Summary Report printout from its on-board, self-contained thermal printer. In addition to Summary Reports, the AVC Edge® can print the Audit Trail Report which includes Ballot Images. All information that is stored in the solid-state memory of the voting unit is stored redundantly in the Results Cartridge. If needed, WinEDS can produce the same reports from the cartridge on a workstation and hard copy can be produced on a printer that is attached to the workstation or on the network.

The AVC Edge®, as a standard, required step in the opening of polls, generates a zero proof report that includes:

- The election's identification data
- The AVC Edge® serial number
- The ballot identification
- The polling place location
- A listing of all contests and measures, and their candidates and responses, with the vote counter value for each.
- All special voting options, such as straight party and multiply endorsed candidates.

At the jurisdiction's option, this report can be printed via the optional built-in printer of the AVC Edge®, or can be displayed on screen and written to a file on the removable storage device. The poll worker can read and verify that the correct ballot is on the machine from this Zero Proof Report and verify that the machine has no votes on it.

The AVC Edge® automatically generates a results report as part of the closing of polls or can be displayed on screen and written to a file on the removable storage device. This report uses the same format as the zero proof report, and shows the following information:

- The election's identification data

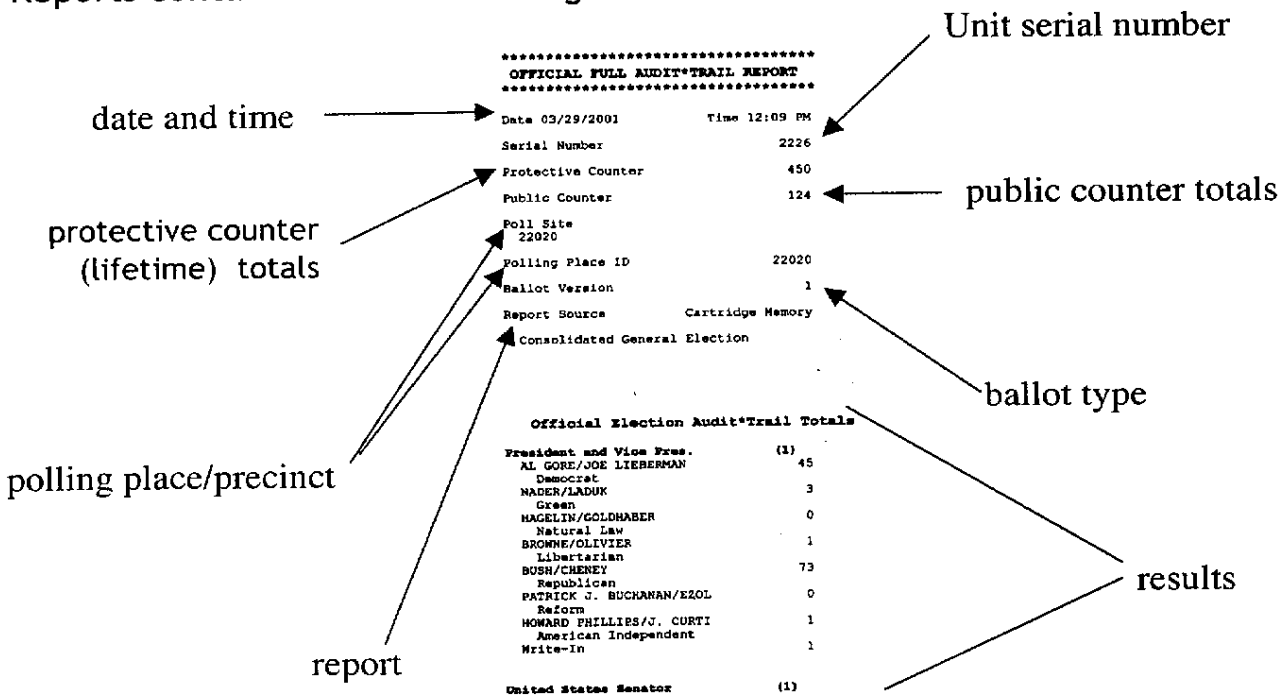
- The AVC Edge® serial number
- The ballot identification
- The polling place location
- A listing of all offices and measures, and their candidates and responses, with the vote counter value for each.
- All special voting options, such as straight party and multiply endorsed candidates.

At the jurisdiction's option, each Edge® can be told to automatically print multiple copies of the results report.

At any time, while at the polls closed state, the machine operator can press a touch-button that causes another copy of the results report to be generated. This provides an easy recovery mechanism in case a report is spoiled.

All vote data is accessed in read-only mode when a report is generated. An event log entry is made each time a report is generated.

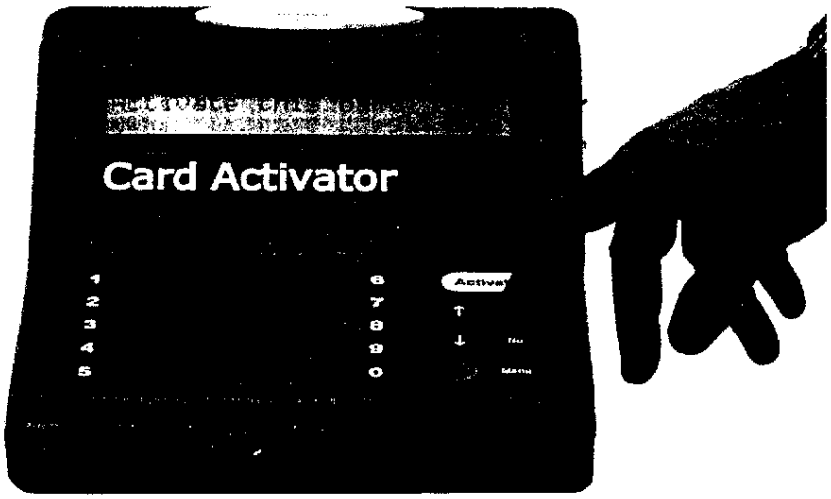
All Reports contain the same heading information



Voting Features

Activating the Voting Unit for the Voter

The AVC Edge® has a Card Activator that is used by the poll worker to activate a Voter Card which allows the voter to use the voting unit. When the voter is



processed at the Voter Roster table, they are given the Voter Card. The Voter Card is activated by first placing the Voter Card into the Card Activator. The poll worker activates it by selecting the district or primary or combination of districts and party applicable to the voter. On the Card Activator there are ten Option Switches. Each district or combination of districts and parties for the precinct for that particular election are assigned to different Option Switches. The poll worker presses the Option Switch that pertains to that voter and then the Activate button. The voter then takes the Voter Card to the AVC Edge® voting unit and inserts it into the machine. The machine is then activated for that particular district along with the rest of the ballot. The voter see only the ballot that pertains to them.

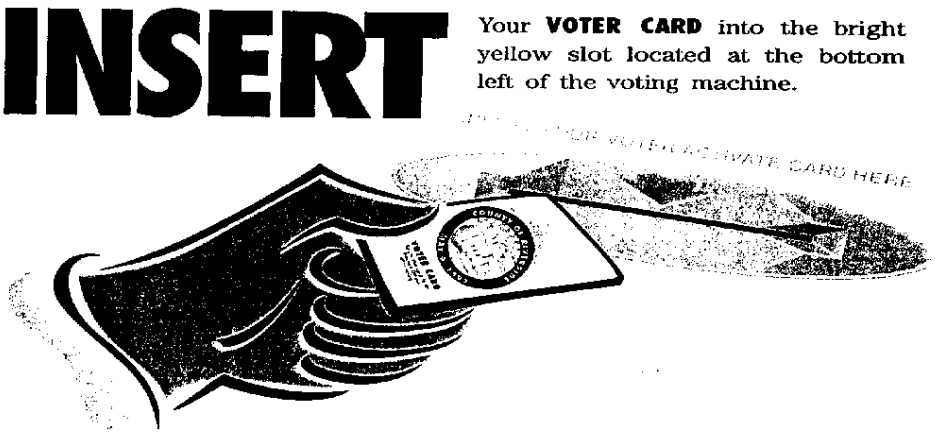
Ease of Voting

The AVC Edge® was developed with the ease of voting in mind. With ease comes speed. The voter uses their finger to touch their selections, there is no external touching device needed or recommended. The voter is given positive confirmation of their choices by a green arrow appearing in the circle next to their chosen candidate or response. The circles disappear from next to the candidate names after the maximum number of allowable selections is made, so the voter will know that they have completely voted that contest. The navigational tools, "Next" and "Back"

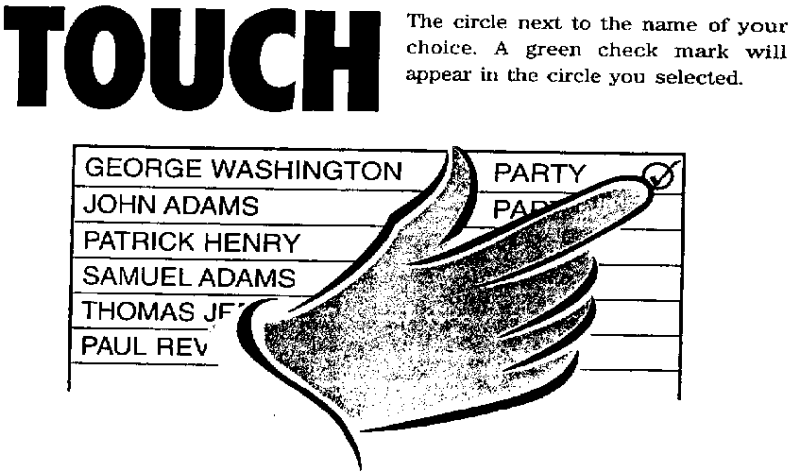
arrow, are located prominently in the lower corners. They are large and bright yellow, making them easy to locate and read. The "Review" feature allows the voter to review on one page their selections without going back to each page.

The typical voter has only three simple steps to follow to complete their vote:

Step 1: Activate the voting machine
Insert your voter card into the yellow slot located on the lower left corner of the machine.



Step 2: Begin voting
Make your selection by pressing your fingertip on the circle to the right of the candidate or measure of your choice. A green check mark will appear in the circle. Repeat this process until you have selected all of the candidates or measures of your choice. If you change your mind, simply press the check mark again and it will disappear. To vote for write-in candidate, touch write-in and a touch keyboard will appear.



Step 3: Casting your ballot

If you want to review or change your previous selections, press the arrow in the lower left corner of the screen to return to the previous screens. If you are satisfied with your selections, press the "DONE" arrow in the lower right corner of the screen and advance to the next screen. Then, press the yellow button in the middle of the screen to cast your ballot. ***After pressing the yellow button, your ballot will be cast and cannot be changed.*** Your voter card will pop out. Please return the card to an election official.

The AVC Edge® touch screen voting system was designed with the premise of ease of use and has proven to be extremely voter-friendly to voters of all types.

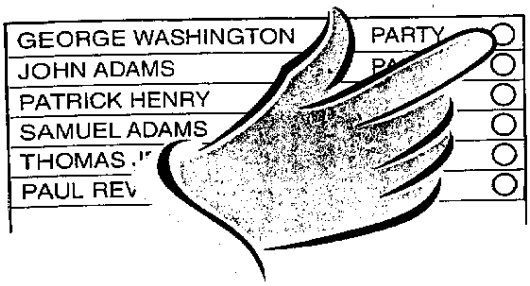
Generally, anything new and not knowing what to expect can be intimidating. However, the consensus of first-time voters, after inserting their activation card in the AVC Edge®, are excited and enthusiastic on how fun, easy and simple voting actually is. After voting, first time voters that were initially intimated, have a great deal of self satisfaction of successfully voting on the AVC Edge® touch screen voting system based on ease of use.

Statistical sampling of voting data from the 2000 General Election in Riverside County, California concluded that 93 percent of all voters completed casting their ballot in less than five minutes. The average voter cast their ballot in 3 minutes and 2 seconds while the median voter cast their ballot in 2 minute and 19 seconds.

Changing a Selection by a Voter

If a voter wants to change their selection, they can simply press the check mark again and it will be removed and all voting positions re-appear for the voter to select another choice. The voter can also touch any candidate or contest on the Voter Review screen to go back to the exact page of that contest and select another candidate.

YOU MAY Change your vote or vote for a write-in candidate by following these instructions.



CHANGE Your vote by touching your selection. The candidate is unselected and all circles are now again on the ballot.

Ballot Review Feature

There are two ways for the voter to review their ballot on the AVC Edge® prior to casting their ballot. First, they can scroll page by page through the ballot by using the "Next" and "Back" arrows that are located at the bottom of each screen. Second, the voter may press the Review button to bring up a list of all contest and who they have selected in each contest. If they have not voted in a contest, it states "No Selection Made" in bold type. If a change is desired from the Review screen, the voter touches the contest they want to change and the machine will take them to the page that the contest is located on for editing. The Review button can be located on each page and/or on the Cast Vote page.

Undervoting and Overvoting

The AVC Edge® does not allow the voter to overvote in a contest. This is voting for more than the number of candidates than allowed in a contest. The AVC Edge® does allow undervoting which is legal. There are numerous ways for a voter to be warned of undervoting to keep the voter from accidentally undervoting. When a voter selects a candidate or issue of their choice, and it is the last allowable choice allowed, the remaining voting positions for that contest are automatically removed.

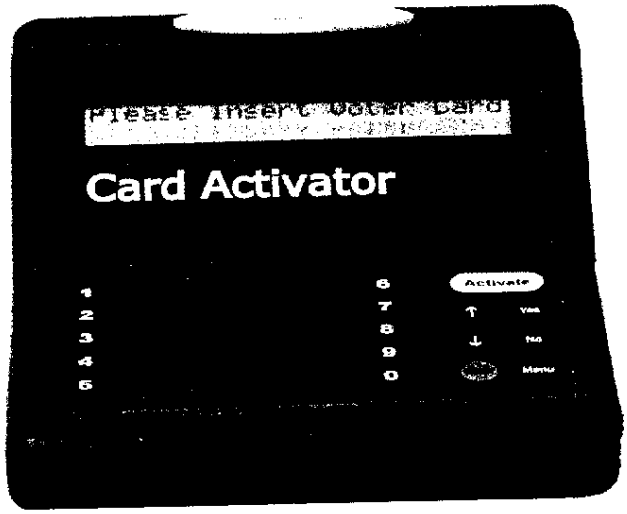
If a voter undervotes, there will be no check mark in one of the circle voting and all of the voting position circles will remain. The review screen will display only the candidate(s) selected for each contest. By contest, if a voter has not selected any candidate for a particular race or only one candidate in a "Vote For Two" race, as an example, "NO CANDIDATE SELECTED" will appear. If a voter has selected no candidate in any contest, the voting unit may be configured by the jurisdiction from election to election to not allow the voter to proceed from the last voting page to the Cast Vote page or the jurisdiction can choose to allow a voter to cast a blank ballot.

Straight Party Voting

If allowed by state law, Straight Party Voting or Straight Party with exceptions (Crossover voting) in general elections is permitted on The AVC Edge® touch screen by selecting the party button of your choice in the Straight Party contest at the first of the ballot. This selects all candidates in that party in all contests. De-selecting a candidate that was selected by the party button in the Straight Party contest, then voting for another candidate in a contest accomplishes crossover voting.

Split Precinct Voting

The AVC Edge® will accommodate different ballot combinations/formats automatically. Combinations/formats include various districts, government entities, political parties, and issues with boundaries that may cross over precinct lines.

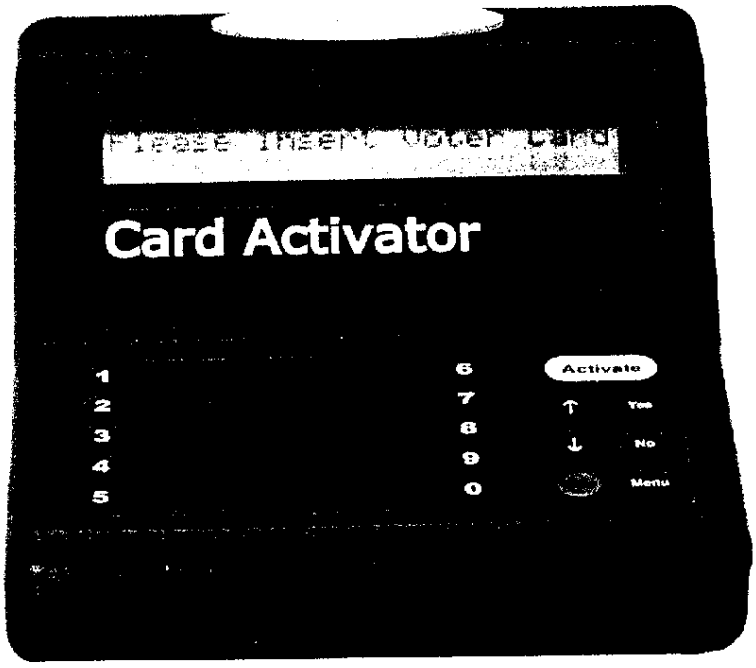


When the voter is processed at the Voter Roster table, they are given the Voter Card. When the card is activated, the poll worker activates it by selecting the district

or districts applicable to the voter. On the Card Activator there are ten Option Switches. Each district or combination of districts for the precinct are assigned a different Option Switch. The poll worker presses the Option Switch that pertains to that voter and then the Activate button. The voter then takes the Voter Card to the AVC Edge® voting unit and inserts it into the machine. The machine is then activated for that particular district along with the rest of the ballot. The voter see only the ballot that pertains to them.

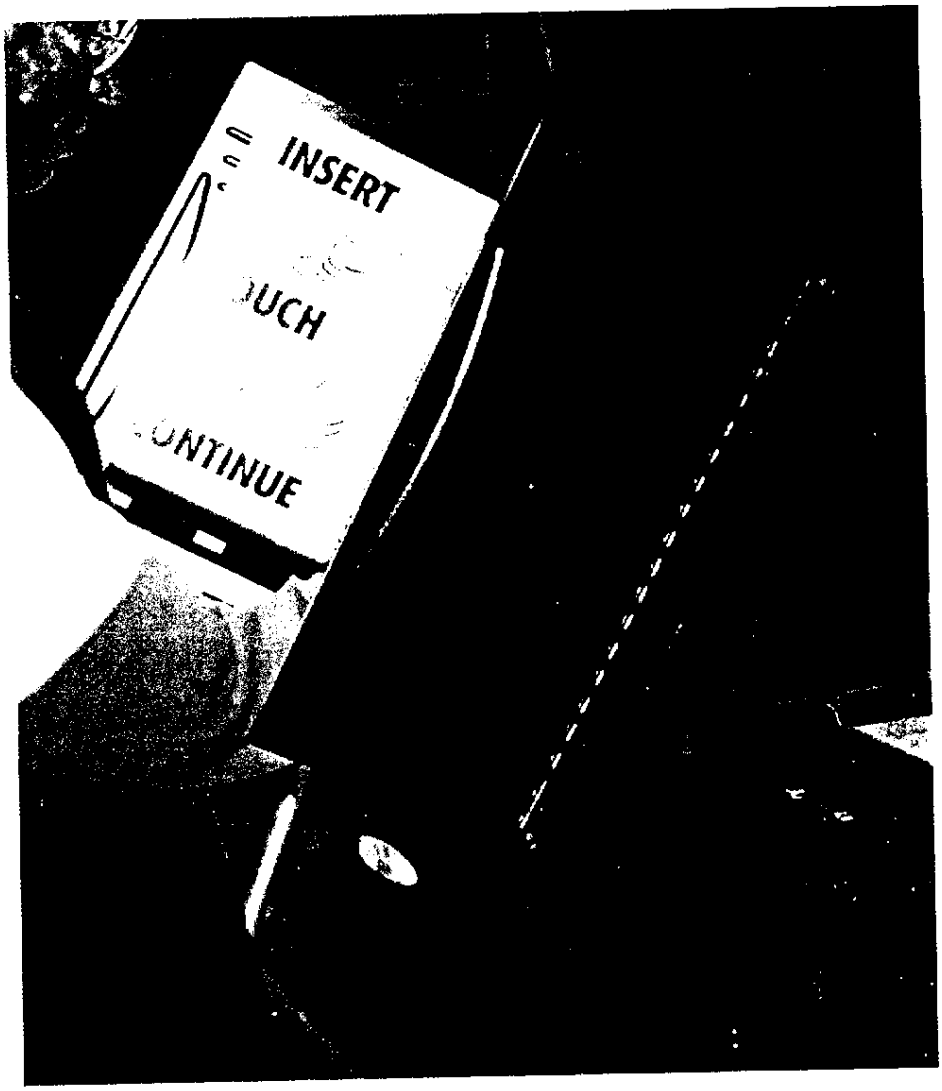
Combined Precinct Voting in a Polling Location

The AVC Edge® voting unit provides for combining of multiple precincts into one polling location so that the AVC Edge® voting machines in the polling location may be used for all precincts and keep the individual precinct totals separate or they can be combined. To keep separate, when the voter is processed at the Voter Roster table, they are given the Voter Card. When the card is activated, the poll worker activates it by selecting the precinct that the voter resides. On the Card Activator there are ten Option Switches. Each precinct in the polling location are assigned a different Option Switch. The poll worker presses the Option Switch that pertains to that voter and then the Activate button. The voter then takes the Voter Card to the Voting unit and inserts it into the machine. The machine is then activated for that particular precinct. The voter see only the ballot for that precinct and when they press the cast vote button, the vote is stored and identified as a ballot for that precinct. When a Results Report is printed when the polls are closed and separate totals are requested in the election definition, the results are printed by precinct.



Instructions for the Voter

The AVC Edge® voting unit provides clear and visual instructions by utilizing the privacy panels to the left and right of the LCD display the voter votes upon. These instructional sheets can be up to 8 ½" x 14" on each panel. There is a holding device so the sheets can be inserted and changed with ease. If changes are needed or desired, new instructions can be printed and inserted.



Write-in Voting

The AVC Edge® provides a paperless, electronic method of recording and storing write-in votes. If a voter in a contest on the ballot has the right to write-in a candidate, the contest will have a "Write-in" candidate box at the bottom of the

contest after the last candidate name on the ballot for that contest. To enter a write-in name, the voter touches the "Write-in" choice. A keyboard appears on the LCD touch screen. The voter types the name of the person they choose to write-in. the keyboard has editing keys so the voter can change or correct the spelling. The voter has a visual display at all times of what they have typed. When they are through typing their write-in selection, they press the "Ok" button. This returns them to the regular voting screen at the contest they were voting the write-in vote. The name they wrote in will appear in the "Write-in" selection box for that contest and the green check mark will appear next to the name in the circle. When the voter presses the "Cast Vote" button to record their ballot, the write-in name is electronically stored redundantly in both the Results Cartridge and the Audit Trail memory on the CPU board.

WRITE-IN

A candidate by touching WRITE-IN on the bottom of the candidate list. When the on-screen keyboard appears, key in the candidate's name, then touch **OK**. The write-in candidate's name now appears selected on the list.

Multiple Language Availabilities

The AVC Edge® can provide any number of languages to the voter. The voter chooses the language to vote in within the privacy of the voting booth.

Languages can be both text-based, as in English, Spanish, and other European languages, or graphical, as in Chinese and other Asian languages. For languages that do not use an alphabet contained within the "standard" Windows 256-character fonts, the AVC Edge® allows the ballot to be designed as a set of bitmap images (Windows BMP format).

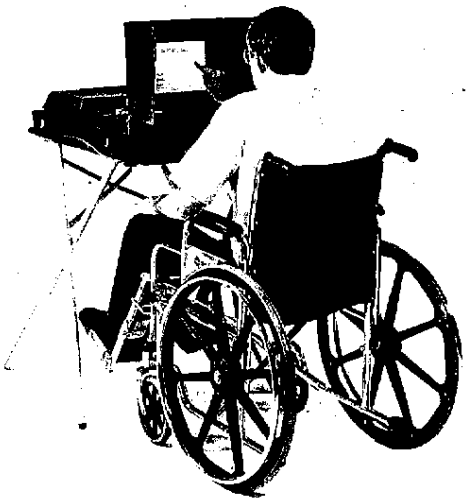
Provisional Voting

Provisional ballots may be voted on the AVC Edge®. When a provisional voter is allowed to vote on the AVC Edge®, they are given a Voter Card produced on the Card Activator. When it is produced, the Poll Worker selects the "Provisional" button on the Card Activator. This gives a unique number that is recorded next to

the voter's name on the Provisional Voter Roster. The voter votes as any other voter. When their vote is cast, the vote totals are not incremented as a normal voter, but their ballot image is stored with the unique identifier number attached to the ballot image. When the votes are read from the Results Cartridge on Election Night, the Provisional Ballot Images are downloaded to the central system. Provisional votes are added into the totals after the voter's eligibility is verified within the central system.

Wheel-chair Voting

The AVC Edge® meets the FEC height requirement for wheel chair accessibility. The touch screen can be easily pivoted to the wheel chair height and locked into position. The legs are wide enough to allowing the wheel chair voter to roll up face forward and comfortably vote.

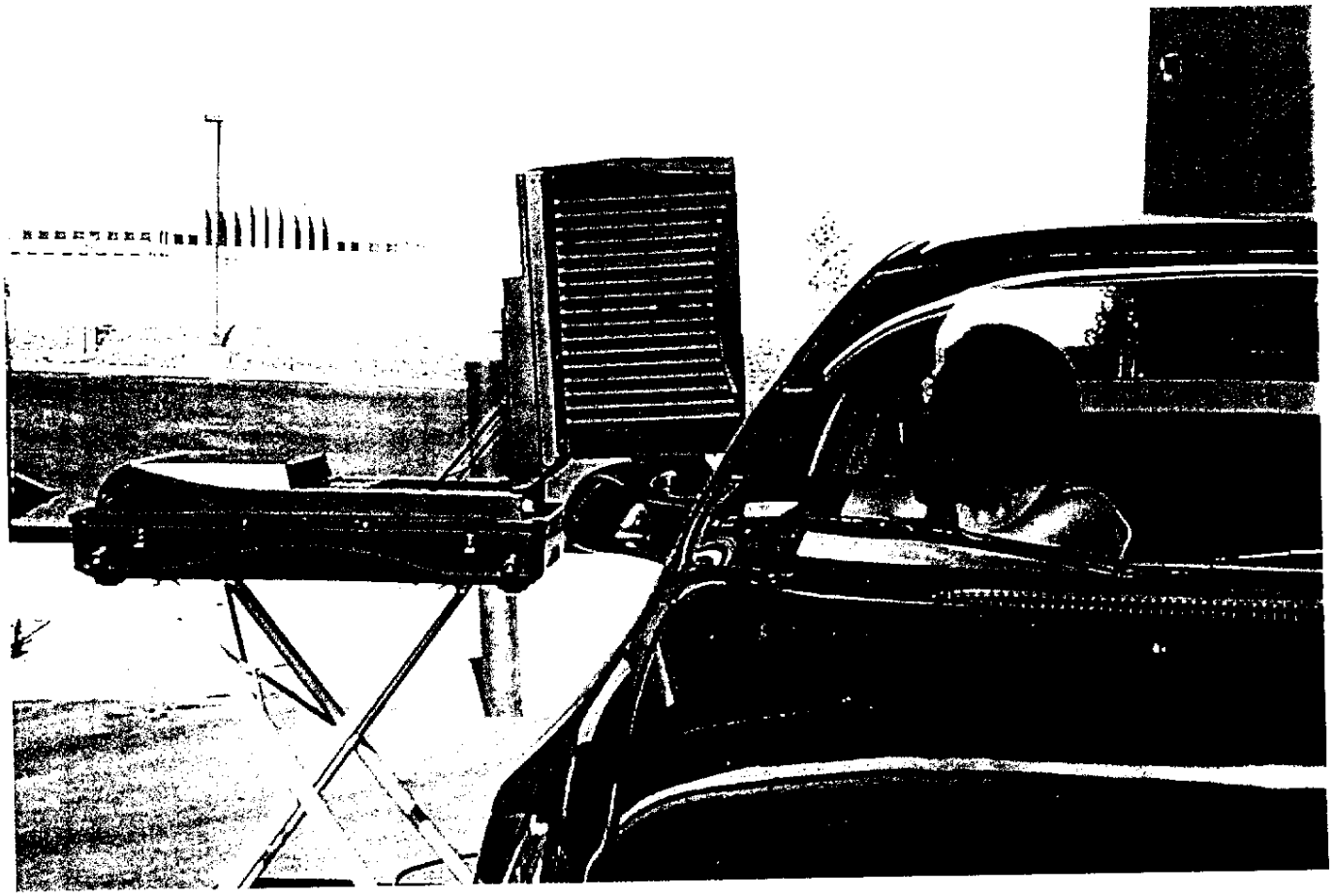


Limited Range of Arm Motion Voting

The AVC Edge® voting unit offers a Joy Stick Voting Option. This allows a voter with a limited range of movement in their arms to vote using a joystick. The joystick moves a cursor around the Voting Display and the voter makes selections by pressing the button on the top of the joystick.

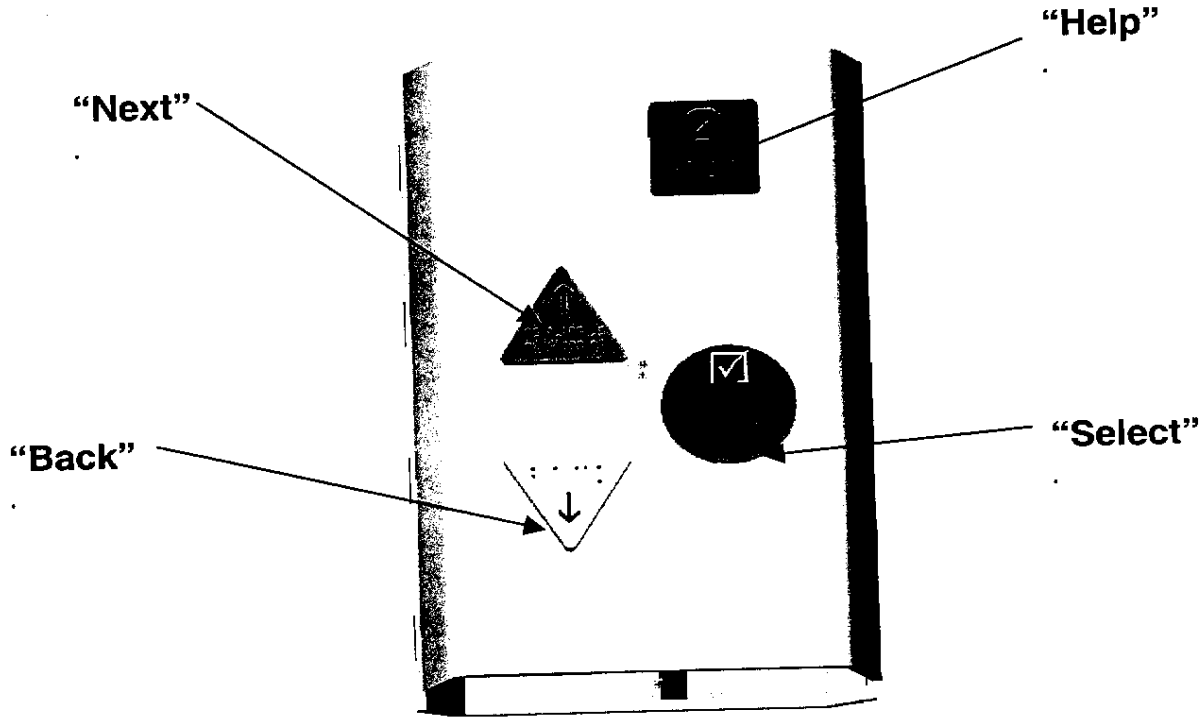
Curbside Voting

Taking the polling place touch screen unit to the curb easily accommodates curbside voting. The AVC Edge® is a self-contained stand alone system and powered by internal batteries.



Audible Voting

The AVC Edge® has three different optional features that can be used to assist sight impaired and physically challenged voter the ability to vote unassisted. First, there is the Large Type Option, which allows the voter to select on the opening screen the option of using larger fonts on the ballot. Secondly, there is the Audio Voting Option, which is used by blind or illiterate voters. The voter places a headset on to listen to the ballot. They are handed a three-button keypad for scrolling through the ballot and making selections.



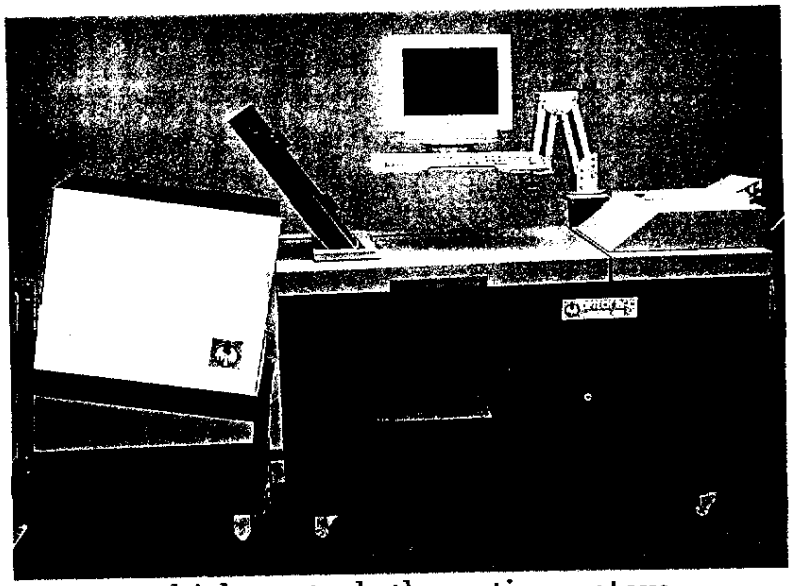
Section 6

Sequoia 400-C Detailed Description

Ballot Tabulating System Overview

The SEQUOIA 400-C is Sequoia Voting Systems central count mark-sense ballot tabulator. One or more SEQUOIA 400-Cs may be used to process absentee ballots. Several SEQUOIA 400-Cs can also be networked together as "Counting Stations" with a "Master" PC as server. The SEQUOIA 400-C processes ballots at up to 400 per minute.

The SEQUOIA 400-C is a self-contained optical scan ballot tabulator that uses an automatic ballot feeder to process the ballots at a high speed and a built-in sorting system to divert the processed ballots into three destination bins: a main bin, the write-in, and outstack tray. The external parts of the unit consist of the main chassis, the three bins, a keyboard, a trackball, and a monitor mounted on a support bracket. A roll-around cart to hold the main ballot bin completes the external parts of the system. Inside the unit is a ballot transport system, a motor, electronic controls and



sensors, and a computer which controls the entire system.

SEQUOIA 400-C

Ballot requirements for the SEQUOIA 400-C accept ballot lengths between 12 and 18 inches long. The system supports one, two, or three-column ballot formats on one or

both sides. No orientation of ballots is needed. Extended header code areas permit almost any form of ballot identification code to be included by the printer.

Hardware Components

The primary mechanical components of the SEQUOIA 400-C are the ballot feed hopper and the ballot transport system. Up to 150 ballots can be stacked in the feed hopper and more can be added during processing. The optical read heads are attached to the feed hopper. The ballot transport system propels the ballots through the system after they have been read and diverts them into the proper bins. A one-quarter horsepower AC motor powers the mechanical parts of the system.

Electronic components include a system of sensors that monitor the progress of the ballots through the system; solenoids that control the movements when each ballot is "picked" from the bottom of the stack in the feed hopper; read heads that are sensitive to a broad spectrum of colors; and diverter gates to deflect ballots to the proper bins. Several electronic boards provide the power and control for these elements.

The SEQUOIA 400-C contains an internal PC-compatible Pentium II computer running Windows 95. An internal battery-powered clock-calendar provides the date and time for audit trails. The mechanical components include an AC motor that runs the feeder and ballot transport system along with sensors, read heads, and diverter gates. The sensors, read heads, and motor are controlled by several proprietary electronics boards that interface with the computer control bus. The system includes the monitor, a keyboard, and a trackball.

With networking, the SEQUOIA 400-C can be linked to a Master PC and other SEQUOIA 400-Cs, PCs and printers.

Software Components

The software program that operates the SEQUOIA 400-C is the Election Tabulation Program (WinETP). WinETP uses election files created by WinEDS. These election files contain the election "coding": the offices and candidates, the districts they are associated with, the precincts in each district, and the ballot styles. The election coding information from WinEDS is used by the WinETP program to build control, tabulation, and reporting files for a specific election.

WinETP manages the election tabulation process and prints the audit log, precinct reports, cumulative reports, and canvass reports that detail the election results. WinETP also provides networking capability which enables a "Master" PC to send election data to one or more SEQUOIA 400-Cs and receive election totals from them in real time.

Networking Capability

WinETP allows multiple SEQUOIA 400-Cs to be networked together. Networking speeds the absentee countiing process.

A SEQUOIA 400-C network includes a Standalone "Master" PC, which acts as a server, and two or more "Counting Stations" (networked 400-Cs). It is also possible to add one or more "Reporting Stations": Standalone PCs on the network used for printing or displaying reports. All of the machines in the network are connected using the standard Windows TCP/IP protocol, plus file sharing. Each machine on the system runs WinETP; however, the Master PC and an optional Reporting Station PC have specific main screen displays.

SEQUOIA 400-C Features

This acquaints you with the major features of the SEQUOIA 400-C and has an overview of its operation.

SEQUOIA 400-C Design

Our industrial design engineer analyzed the job of handling mark sense ballots in a central count environment. The emphasis was on the total job: moving ballots to the SEQUOIA 400-C, ease in loading and operating the SEQUOIA 400-C, simple ways of handling common problems, and efficient clearing of the processed ballots to ready the SEQUOIA 400-C for the next precinct or batch. The goal was to obtain maximum throughput for the entire tabulation process, not just through the SEQUOIA 400-C.

The physical design, including the height and size of the SEQUOIA 400-C, was altered to fit a natural work flow, to permit easy loading, to provide convenient and easy to understand controls, and to allow simply ways to open the SEQUOIA 400-C for cleaning or jam clearance and rapid removal of processed ballots. Cardboard ballot boxes, combined with wheeled carts, complete the design for easy transport and inexpensive storage of the ballots.

Physical Requirements

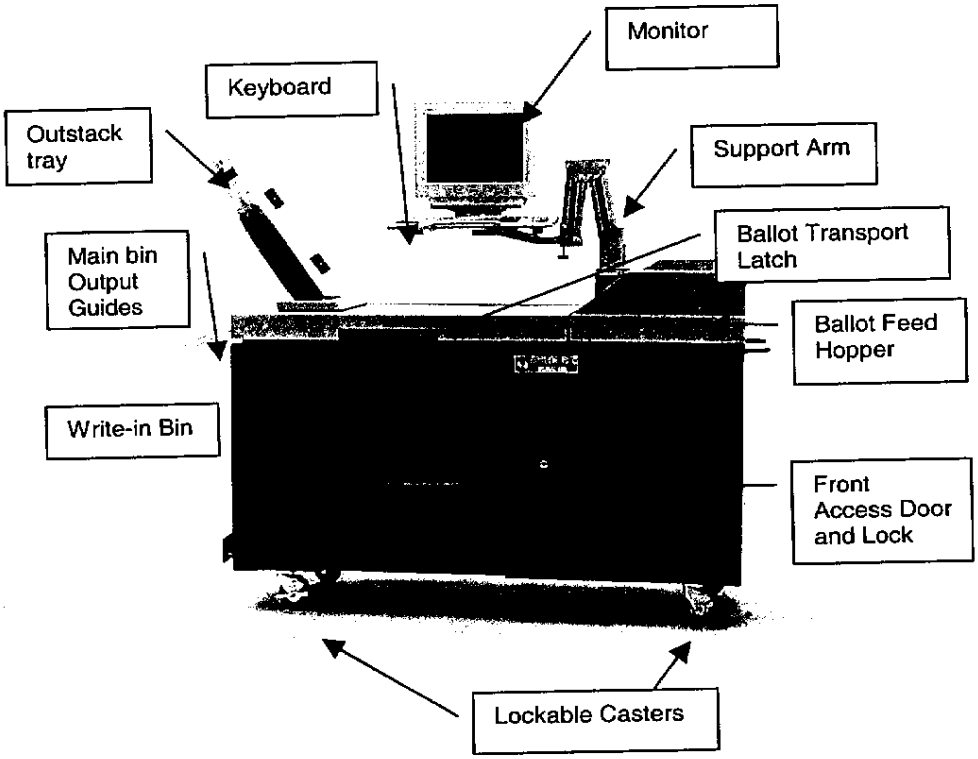
A left feed design was found to be the most efficient and allowed the work to be distributed to one, two, or three people. One person can load and operate the SEQUOIA 400-C from one position and then move to another position and unload the SEQUOIA 400-C. Two people can split the loading and unloading functions and share in operating the controls. Three people can maintain permanent positions to load, run, and unload the ballots.

Additional Features

The SEQUOIA 400-C comes with an easily adjustable monitor support arm. The monitor and keyboard and trackball have long cords which permit operation on a nearby work surface.

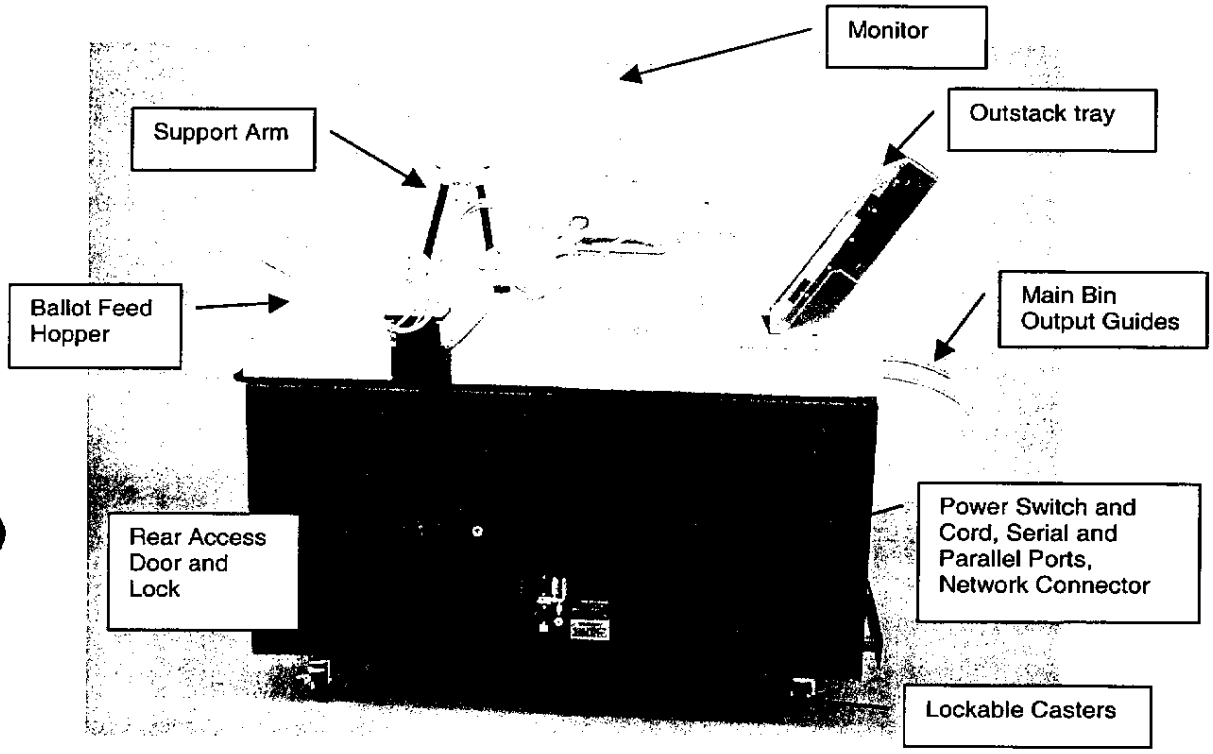
The external front view of the SEQUOIA 400-C is shown below. The internal steel frame supports the exterior shell, a monitor, the ballot feed hopper, and the output stacking bins.

There is an adjustable monitor support arm and separate main, write-in, and outstack bins.



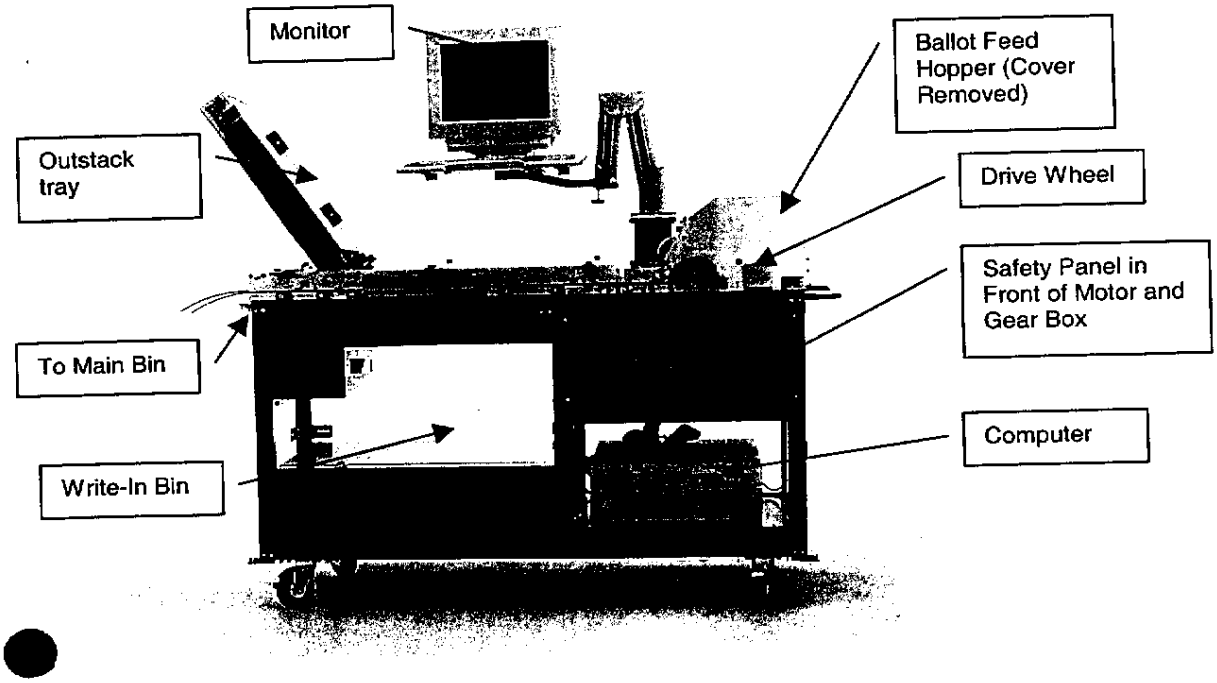
External Front View of the SEQUOIA 400-C

The external rear view of the SEQUOIA 400-C is shown below. The power switch, the serial and parallel ports, and the network connector are located at the bottom center. The locked door covers the metal shield that protects the circuit boards and electronics.



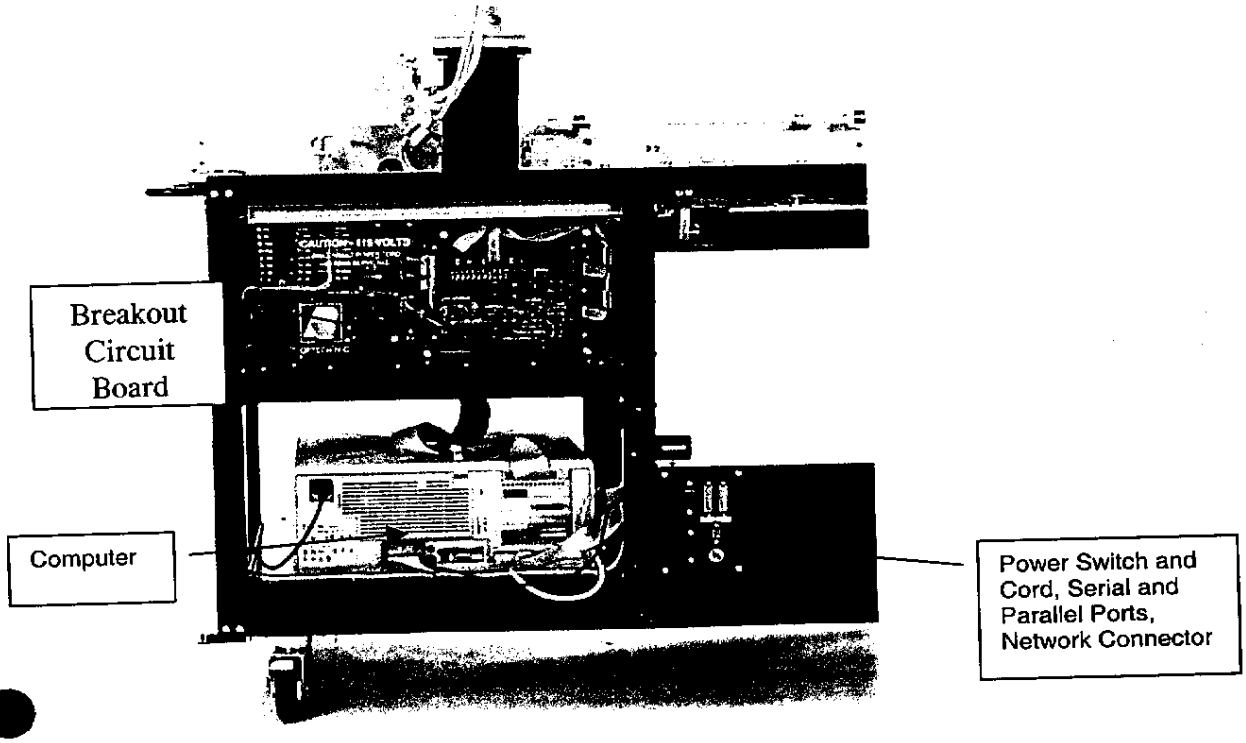
External Rear View of the SEQUOIA 400-C

The internal front view of the SEQUOIA 400-C is shown below. The large door on the right covers the motor and gear box that are also enclosed behind a safety panel. Below the motor is the computer system unit and the removable keyboard.



Internal Front View of the SEQUOIA 400-C

The internal rear view of the SEQUOIA 400-C is shown below. The power switch, the serial and parallel ports, and the network connector are located at the bottom center.



Rear View of SEQUOIA 400-C (Doors Removed)

Ballot Transport System

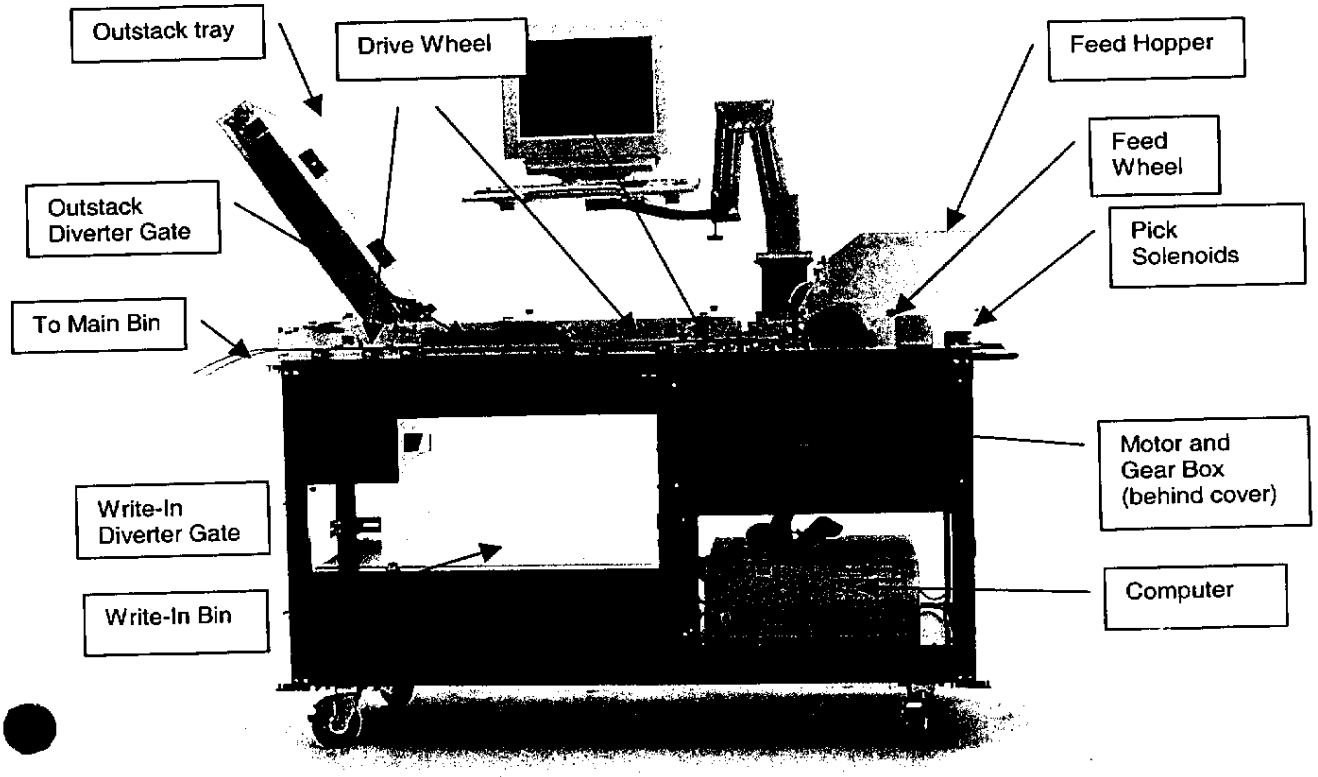
The component parts of the SEQUOIA 400-C work together to transport a ballot through the system at a rate of up to 400 ballots per minute. The mechanical elements of the system are shown in the diagram on the next page.

Mechanical Components

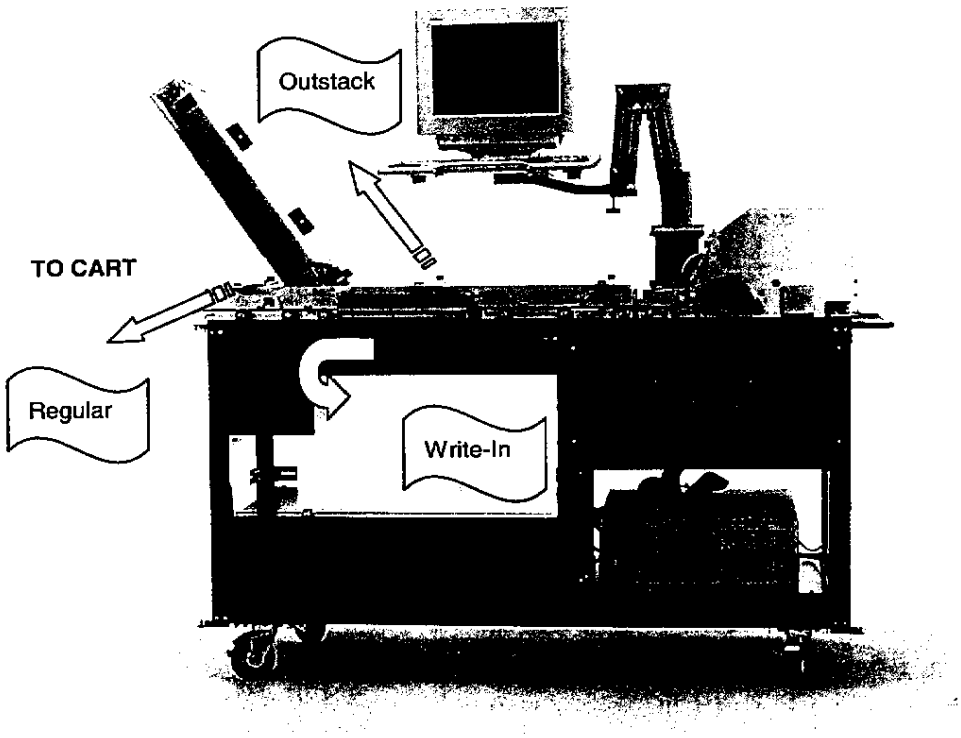
The ballot follows one of the paths marked by the dark line in the diagram below. The ballot begins its trip at the bottom of a stack of ballots in the feed hopper. Under computer control, two pick solenoids tilt the bottom of the hopper and allow the ballot to touch the rubber-coated feed wheels. The feed wheels are driven by a belt connected to the AC motor and gearbox. The feed wheels propel the leading edge of the ballot under a set of hidden knife-edges, which allow only one ballot to pass. Smaller drive wheels push the ballot between the upper and lower read heads. The read heads detect the printed marks and votes on the ballot as it passes. Additional drive wheels, located throughout the ballot transport system and powered by timing belts connected to the AC motor, continue to move the ballot through the system.

By the time the ballot reaches the outstack diverter gate, the marks on it have been processed by the computer. If the ballot has problems that need review the computer activates a diverter gate solenoid to deflect the ballot up into the outstack tray A ballot with any Write-In votes will be diverted down into the Write-In bin. A completely counted ballot follows the straight path out the end of the SEQUOIA 400-C and into the main bin.

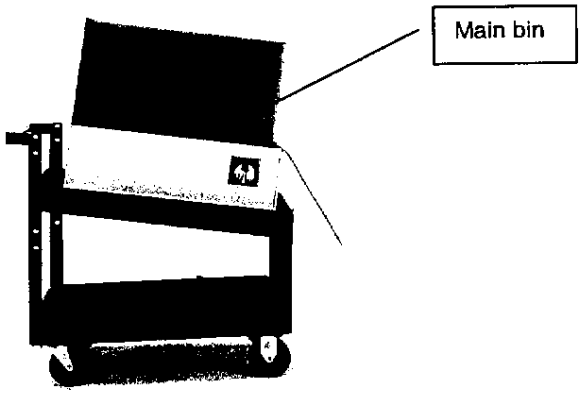
As soon as the trailing edge of the ballot passes the read head area, the computer reactivates the pick solenoid and the next ballot begins to travel through the system.



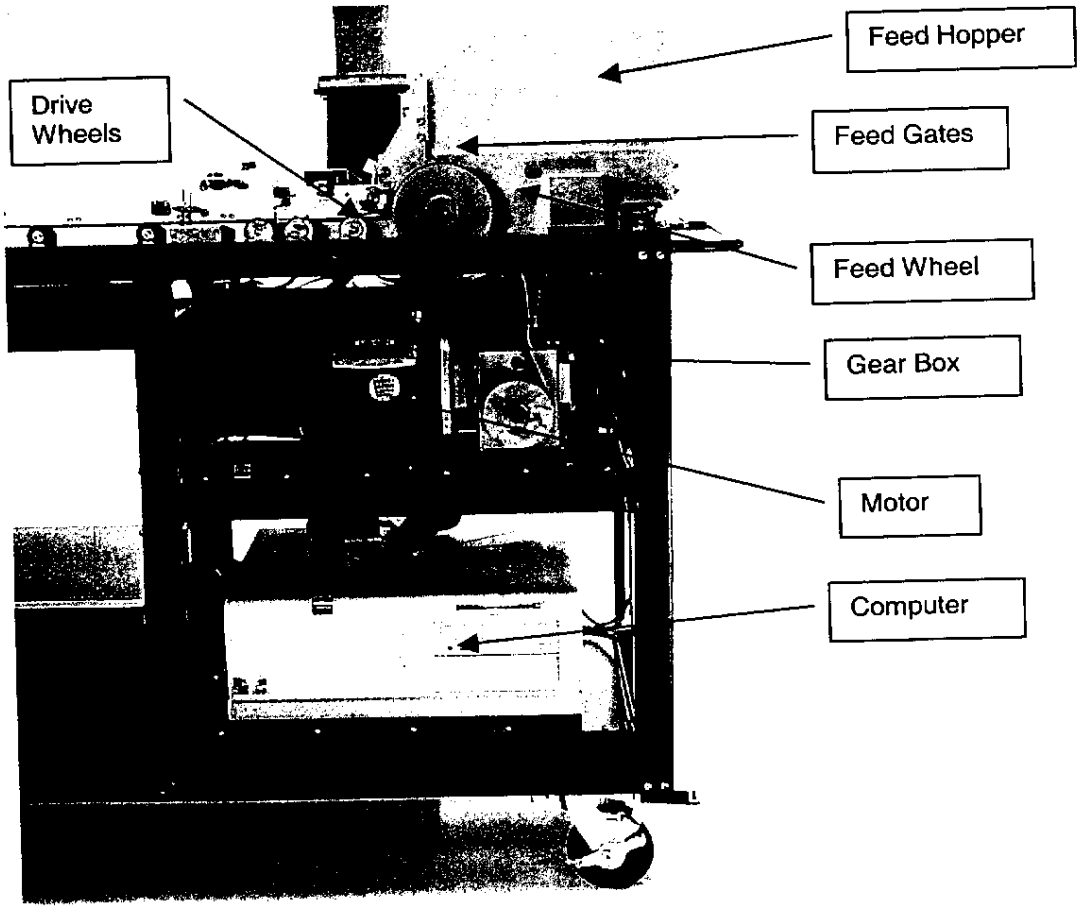
Ballot Transport System



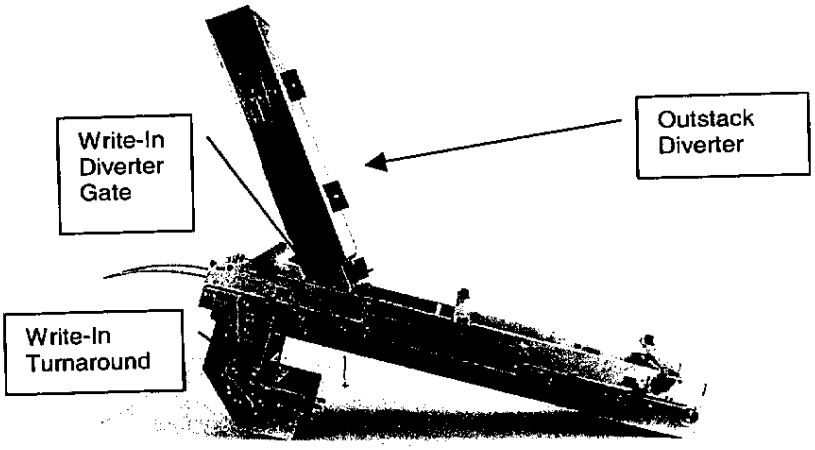
Ballot Transport to Bins



Cart (Main Bin)



Computer, Engine and Feed Hopper



Write-In Turnaround and Outstack Diverter

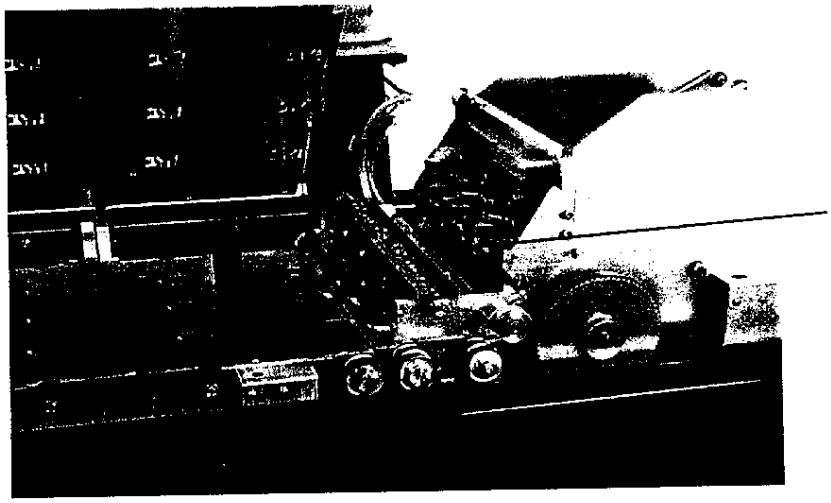
Electronic Components

The main electronic components of the SEQUOIA 400-C are the read heads and the sensors. They work to ensure accurate results by monitoring the progress of the ballot through the ballot transport system. A schematic diagram of the system is shown below.

Read Heads

The sensor numbers in these diagrams correspond to the LED numbers on the back panel of the SEQUOIA 400-C. Missing numbers correspond to the unused LED's. Each LED on the back panel should be off when the corresponding sensor is blocked, and on when the sensor is clear. If this is not the case, there is probably a problem with the sensor.

The read heads are made up of eight stations in two sets of four, one above the ballot and one below. The four stations correspond to the four possible columns for votes on the three-column SPS ballot. Each read station contains lights to illuminate the ballot and sensors to detect the marks. Two outer sets of lights and sensors in each read station will detect the fixed "clock" marks which look like arrows with a gap in the middle. When both outer sensors detect clock marks at the same time, the inner light-sensor combination will register any marks it sees in the middle of the arrows as votes. The outer sensors detect only black high-carbon inks and ignore stray marks. The inner sensor picks up most colors in the spectrum except red. This combination assures that votes are read with high reliability.



Upper Read Head Printed Circuit with cover removed

Upper Read Head

Sensors

Nine sensor stations track the movement of ballots through the ballot transport system. They are strategically located to ensure that ballots end up in the proper bin. Each sensor station consists of a light emitting diode on one side of the ballot path

and a phototransistor to detect the light beam on the other side of the ballot path. An electrical signal is sent to the computer whenever a ballot breaks the light beam between the two halves of a sensor station.

The **hopper sensor station** indicates the "hopper empty condition" which stops the motor.

The **pre-read sensor station** stops ballot picking when the leading edge of the ballot passes and starts ballot picking again when the trailing edge of the ballot passes.

The **post-read sensor station** checks to see that the ballot has not jammed in the read head area.

The **pre-write-in sensor station** checks to see that the ballot has made it past the outstack diverter and signals that the write-in diverter gate should be energized for any write-in ballots.

The **pre-outstack sensor station** signals that the outstack diverter gate should be energized for any ballots which need to be outstacked.

The **outstack sensor station** checks to see that outstacked ballots have been deposited into the outstack tray.

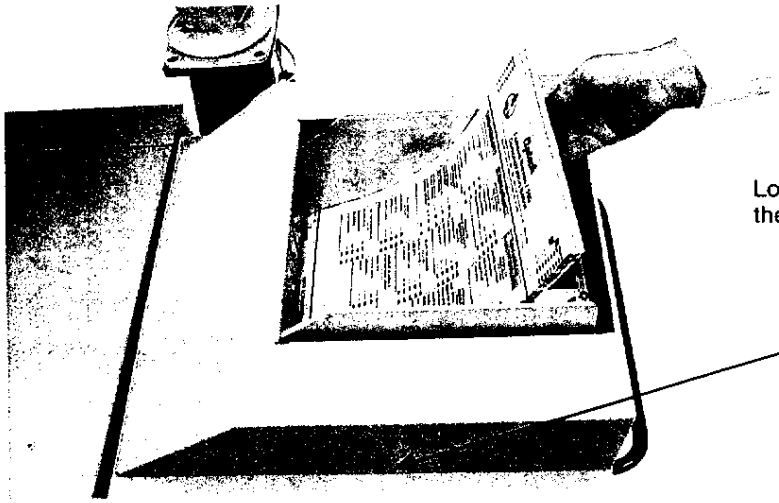
The **main stack sensor station** checks to see that completely counted ballots have traversed the complete ballot path successfully.

The **write-in-turn sensor** station checks to see that the ballot is not jammed in the write-in diverter gate.

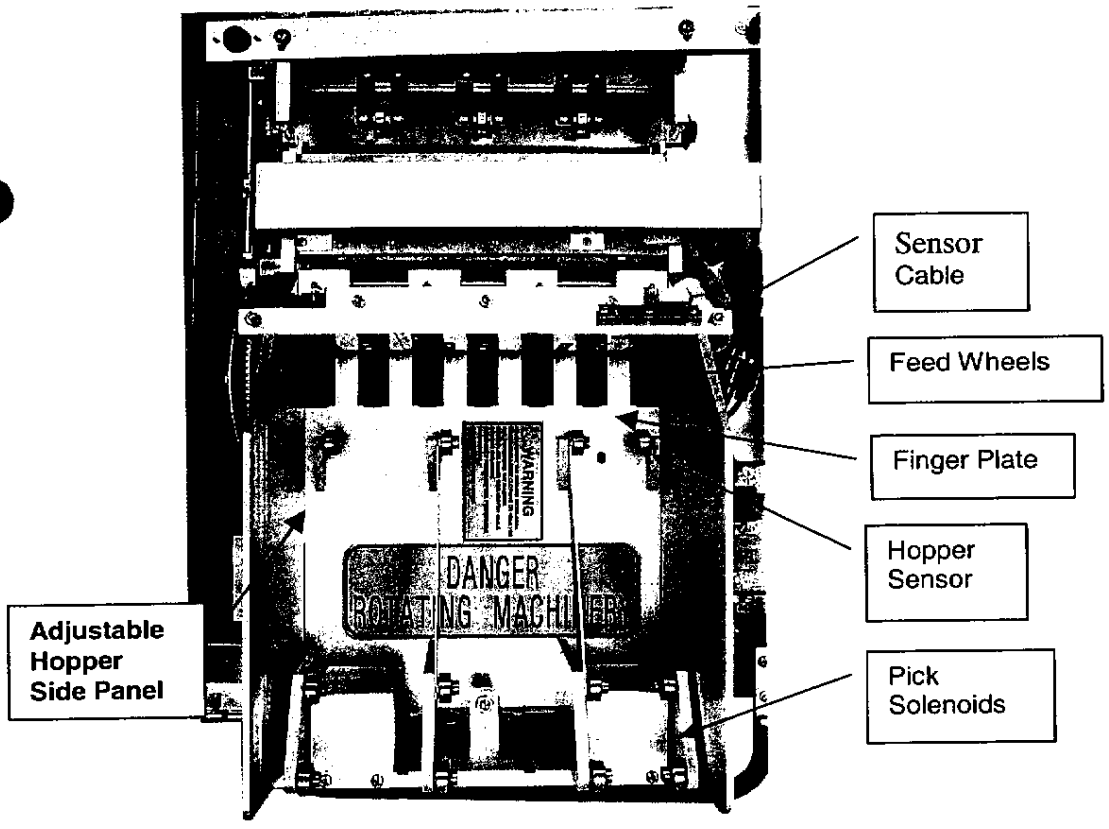
The **write-in stack sensor** station checks to see that write-in ballots have been deposited into the write-in bin.

Ballot Feed Hopper

The ballots start the transport process at the feed hopper. The feed hopper sends ballots through the ballot transport system one at a time. Ballots rest on a fingerplate near the feed gates and are fed from the bottom of the ballot stack. Two pick solenoids tilt the fingerplate down at the front and allow the bottom ballot to touch the rubber feed wheels. This propels the leading edge of the ballot under a set of hidden knife-edges, which allow only one ballot to pass. The spring guides help separate the ballot from the stack and guide it under the knife-edges. Ballot width can be one, two, or three columns. The adjustment to the feed hopper consists of removing the hopper side panel and re-inserting it into the groove that aligns the panel for one, two, or three column ballots.

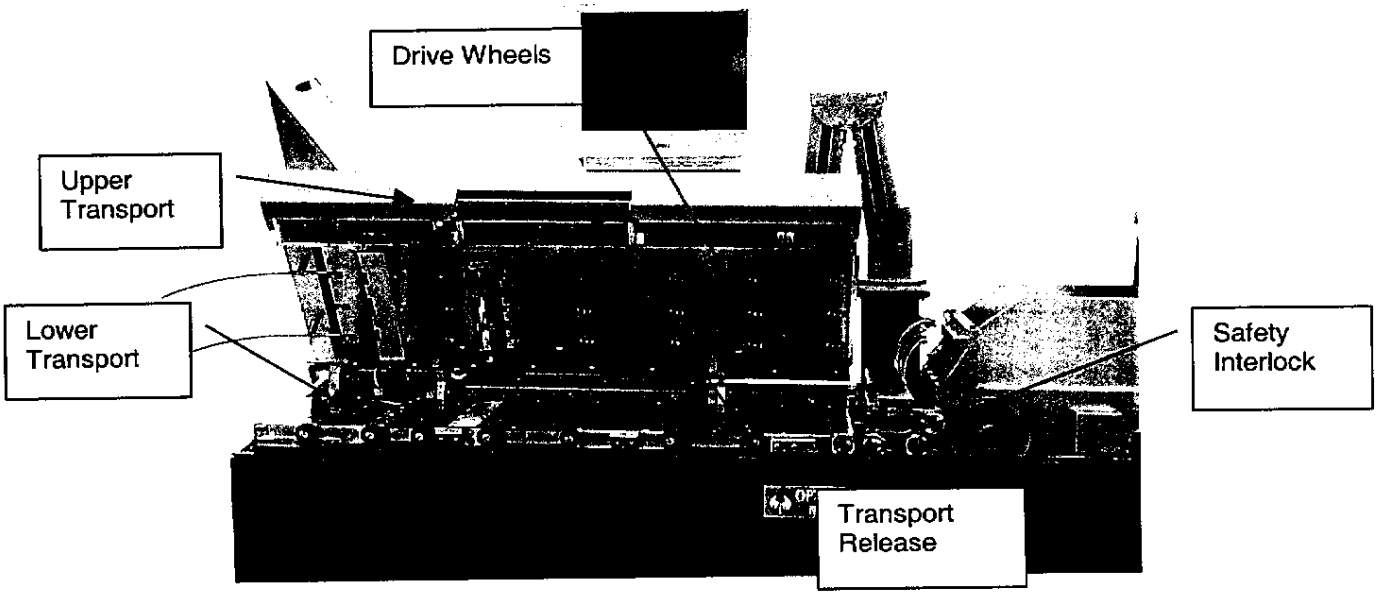


Ballot Feed Hopper with Cover

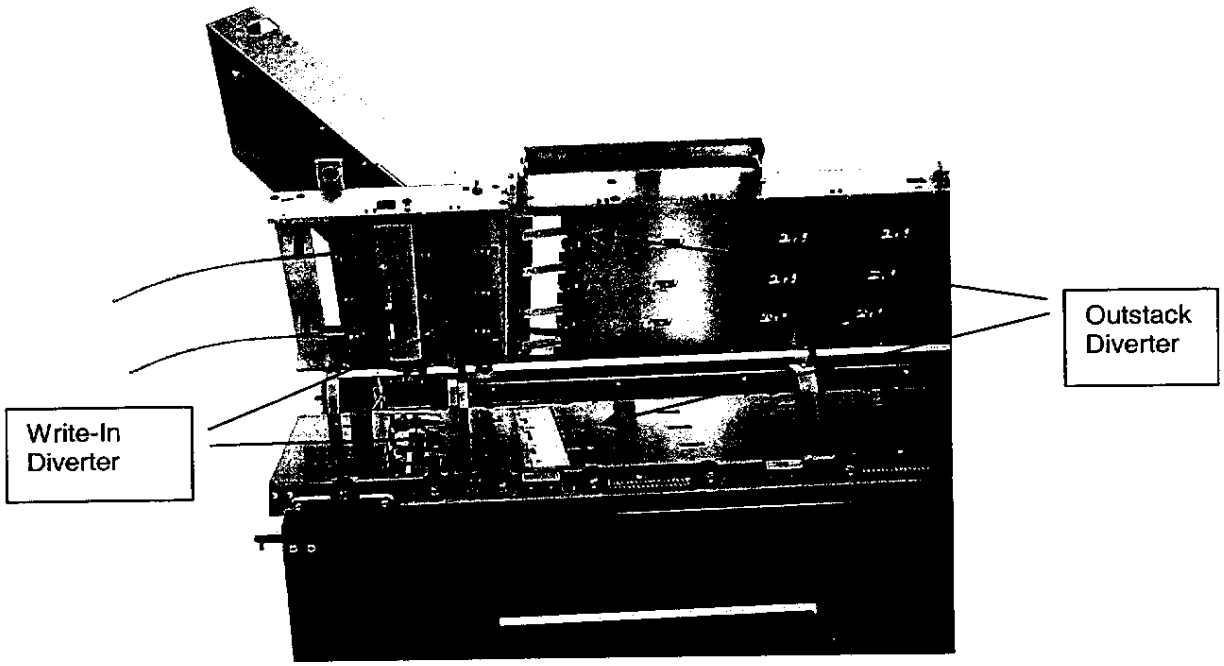


Top View Of Feed Hopper With Cover Removed

Ballot Transport System



Open Ballot Transport Path



Ballot Transport Path Diverters

Read Heads

The SEQUOIA 400-C has two sets of four read heads located on the upper and lower plates. The read heads correspond to the four possible columns of clocks (arrows) on each side of the ballot.

Ballot Transport Diverter Gate

A diverter gate opens and closes to divert a ballot. The outstack diverter gate has a flap that can open and divert a ballot into the adjacent ballot bin. A write-in diverter gate can open and divert a ballot down into the write-in bin. The diverter gate mechanism is actuated by a DC solenoid, which actuates the diverter flap. The main bin ballots follow a straight-through path.

Ballot Bins

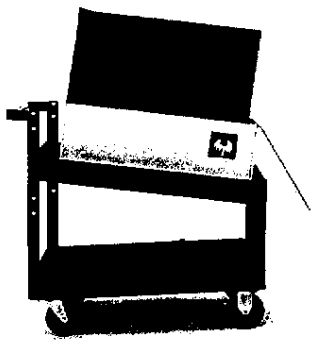
The three ballot bins of the SEQUOIA 400-C are the outstack tray, the main bin, and the write-in bin.

Outstack Tray

The outstack tray, illustrated below, holds ballots that are misread, blank, overvoted, or unprocessable. It extends from the top left side of the SEQUOIA 400-C, allowing for quick access. The ballots pass through the outstack diverter gate into this bin. The adjustable stop can be raised or lowered to match varying ballot lengths. The Plexiglas safety cover prevents fast moving ballots from flying out of the bin. Open the cover by inserting a finger into the access slot.

Main Bin (Left)

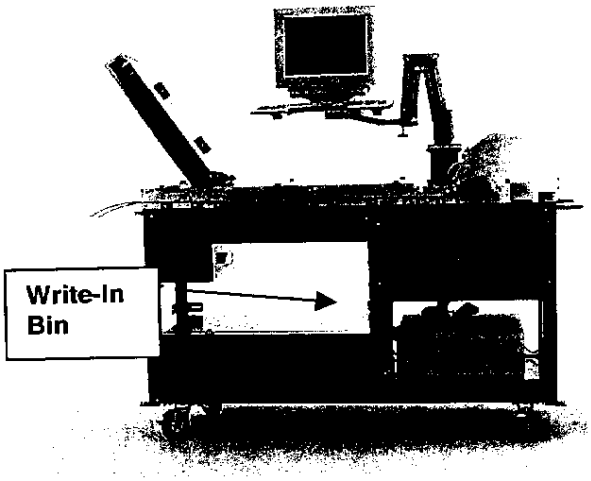
The main ballot bin or cart, shown below, contains all ballots that have been completely counted. This bin is located at the left side of the ballot path. The main ballot bin will receive the majority of the ballots. To ease the handling of the ballots, the main bin is a cardboard ballot storage container that is placed on a rolling cart. The cart may be rolled away with the container of ballots and replaced with an empty ballot storage container on another cart. This reduces operator fatigue and speeds the transition between precincts or batches. A cushion is provided to deflect ballots down into the bin so that they will stack in an orderly fashion.



Main Bin (Cart)

Write-in Bin (Right)

The write-in bin, shown below, is located under the ballot path in the center of the SEQUOIA 400-C. This bin holds all processed ballots that have one or more offices with a write-in position marked. You may use a cardboard ballot storage box with the flaps cut off to collect the ballots or they may be stacked on the floor of the bin.



Write-In Bin

Computer Hardware

The SEQUOIA 400-C's computer hardware consists of the system unit, the monitor, and a keyboard and trackball. A description of each part follows.

System Unit

The computer and the hardware components interact with the software program (WinETP) and the ballot reader in the SEQUOIA 400-C to create the tabulating system. The computer system unit that controls the SEQUOIA 400-C is a Pentium or higher PC running Windows95. A SPS proprietary card is used for the interface between the PC and the SEQUOIA 400-C hardware.

Monitor

The color monitor on the SEQUOIA 400-C is used to display on-line processing statistics, system menus, to view information and/or commands being entered into the computer, and to view displays or reports.

The monitor is secured on an adjustable support arm with a canvass strap. The strap must be in place at all times to prevent the monitor from falling.

Keyboard and Trackball

The keyboard is used to enter data and commands into the system. The keyboard is attached to the system unit with a coiled extender cable and is operable when the system unit is turned on.

The keyboard can be placed below the monitor on the support arm or may be locked inside the rear door of the SEQUOIA 400-C chassis whenever the tabulator is unattended.

Use the trackball mouse to make selections in the WinETP program.

Printers

Your SEQUOIA 400-C tabulating system can support two printers; one for the election log and one for reports.

If you do not need to print a continuous log, one printer can be used to print reports during the election and then print the log in its entirety at the end of election night processing.

On a networked system, you can print to remote printers and print reports from the Master PC or a Reporting Station.

Section 7

WinEDS Detailed Description

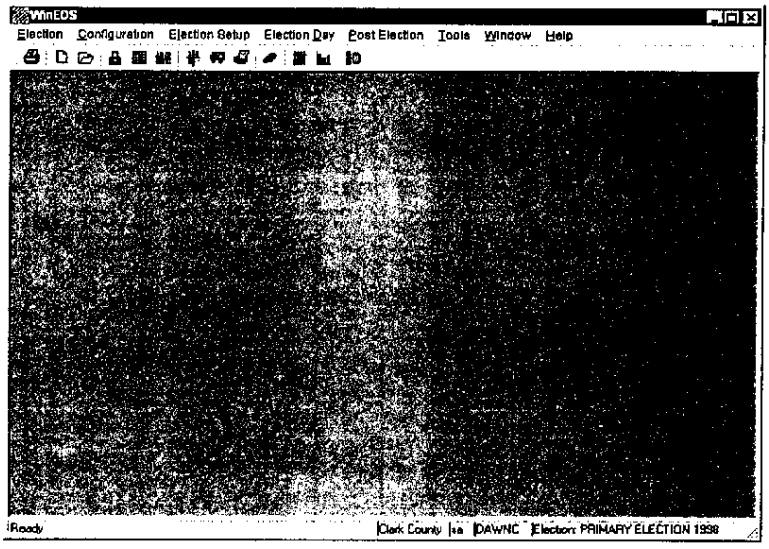
WinEDS is a client/server election management application for programming and tabulating election results from Sequoia voting systems. The systems currently supported within WinEDS are AVC Advantage (firmware version 3.0-8.0), AVC Advantage Early Voting (firmware version 7.0-8.0), AVC Edge® (firmware version 3.10), results tabulation from TeamWork using Votomatic cards, DataVote cards and OpScan 5 ballots.

The system requires a network server running Windows NT 4.0, Microsoft SQL Server 6.5 (Service Pack 5a) using a 10 mbs or 100 mbs Ethernet hub and either TCP/IP or NetBEUI network protocol. The network workstation requires running Windows 98, 2000 or NT 4.0 Workstation and must have an Ethernet network card.

The system has been designed to support single input of customer profile data such as voting locations, precincts, political subdivisions, offices, parties and machines and use this data to simultaneously manage multiple elections by multiple users. In addition, the system supports the use of multiple voting systems within any given election. For example, using the AVC Advantage for Election Day voting at the precinct, a paper based system, such as Votomatic, TeamWork or OpScan, to handle mail ballots and AVC Advantage Early Voting to conduct Early Voting.

WinEDS, automatically determines all of the ballot styles, in which all variable races or races that run by district, are used to produce a variety of ballots styles applicable to voters residing within particular jurisdictional offices. WinEDS accomplishes this by building the Profile database on installation. This Profile information contains election specific questions, all contests that ever run in the county and when they run, and the districts that make up each precinct.

MAIN MENU



Security Overview

The purpose of WinEDS Security is to *allow* users of WinEDS to accomplish the tasks they have the rights to do, on the workstations they are authorized to use.

The parallel purpose of WinEDS Security is to:

- *prevent* unauthorized people from using WinEDS,
- *prevent* a user from doing tasks she is not authorized to do,
- *prevent* a workstation from being used by users that are not assigned to it, and for tasks that are not assigned to it.

Being defined as a ***user*** allows you to logon to the WinEDS system provided you enter the correct user name and password.

What you are allowed to do once you are on the system is determined by your ***role***. The role defines which parts of the system you have the ***rights*** to use. ***Example:*** Because Bob is assigned the technician role, he can create results cartridges. ***Example:*** Because Jane is assigned the candidate-filing role, she can enter candidate data into the system. However, Bob cannot enter candidate data and Jane cannot create results cartridges.

WinEDS provides an additional *optional* level of security called Workstation Security. If Workstation Security is implemented, each workstation is restricted to specified users and to specified roles. If workstation security were implemented in the above examples, the workstation Bob uses would be assigned to him and to the task of creating results cartridge, and the workstation Jane uses would be assigned to her and to the task of entering candidate data. Bob can do his job on his workstation, and Jane can do her job on her workstation. However, Bob cannot use Jane's workstation, and Jane cannot use Bob's workstation.

System Setup Overview

In the System Setup module, you enter information about your WinEDS system, your jurisdiction and the way your jurisdiction conducts elections. This is information that generally remains the same from one election to the next.

The information you enter will be used in Profile, and in Election Creation and Election Setup.

PROFILE Overview

In the Profile module, you enter information about your jurisdiction and its voting machines. This is information that generally remains the same from one election to the next.

The information you enter will be used in Election Creation and Election Setup.

The Profile module has seven areas:

Political Subdivision Maintenance

Voting Location Maintenance

Precinct Maintenance

Office Maintenance

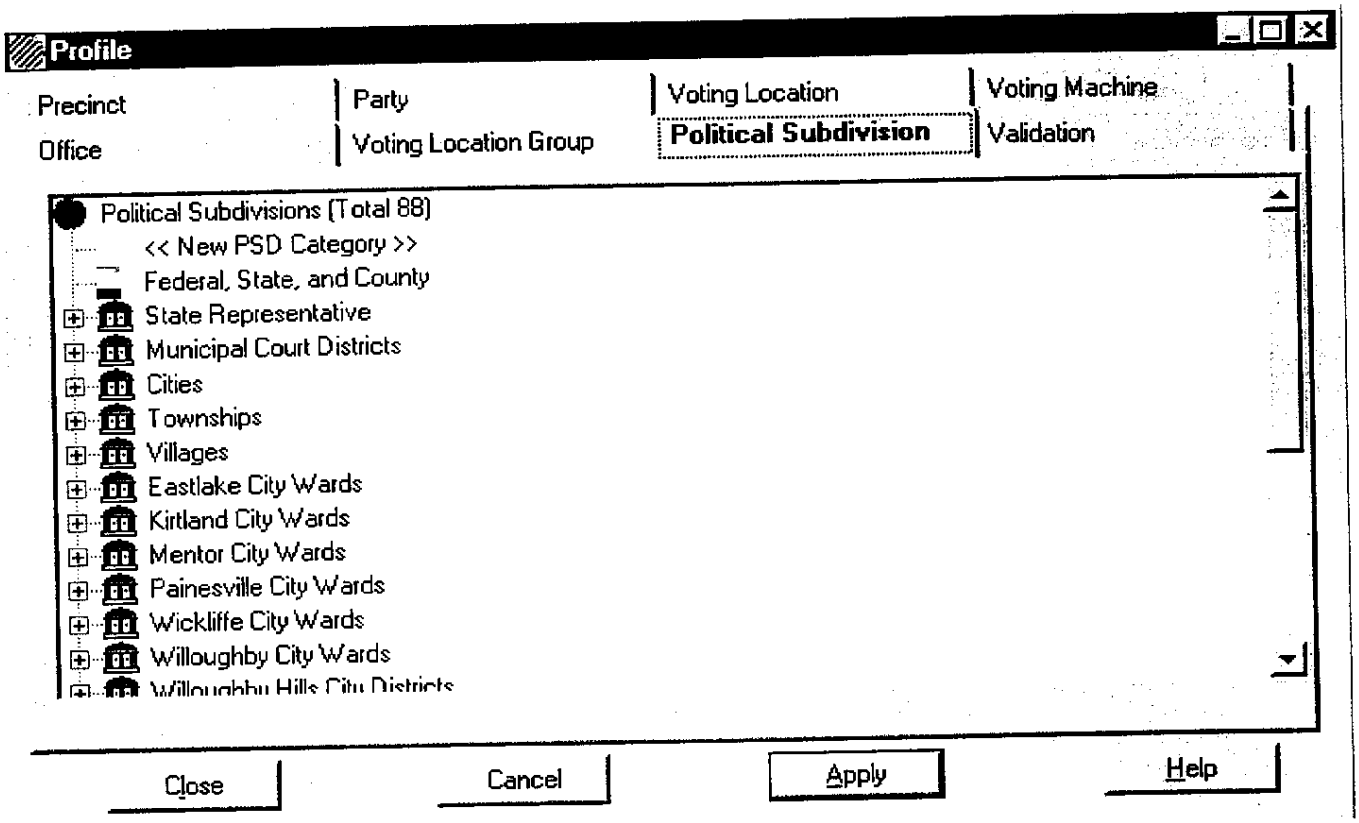
Party Maintenance

Voting unit Maintenance

Voting Location Group Maintenance

Validation

Consolidated Precinct



Reports Overview

In the Reports module, you can set up and preview, print, or export preformatted reports containing:

- data you have entered into WinEDS, *and*
- data calculated by WinEDS from votes cast in an election.

When you select a report to open, you can specify that it will have a line for an official signature and a line for entering the date. This report is then called an ***official report***.

You can save a report, with the data in it, as a ***historical report***. A historical report is a "snap-shot" of data at a specific moment in time. Historical reports are especially useful to preserve a record of the progress of an election on election night. Historical reports are stored as part of the election database in the WinEDS system.

You can also set up and preview, print, or export historical reports generated by WinEDS, as well as historical reports generated by Infomaker or by PowerBuilder.

Reports: List of Report Titles

Security

- Log Report
- Role Report
- User List Report

System Setup

- Default Option Assignment Report
- Election Parameter Report
- Proposal Response Report
- System Configuration
- Tally Type Report
- Terminology Report

Profile

- Consolidated Precincts
- Precinct Definition List
- Precinct Detail
- Precinct List
- Location Assignment Report
- Location Detail
- Location Group Assignment
- Location Group List
- Location List
- Machine Detail
- Machine List
- Office Detail
- Office List
- Party List
- Political Subdivision Assignments
- Political Subdivision List
- Voter Registration Report

Election

- Election Detail
- Election List
- Log Report

Election Setup

- Ballot Display Report
- Candidate Button Report
- Consolidated Precincts
- Candidate Detail
- Candidate List
- Contest Detail
- Contest List
- Contest/Candidate Report
- Precinct Definition List
- Location Group Assignment
- Location List
- Machine Assignment Card
- Machine Assignment Report
- Machine Delivery Instructions
- Party List

- Precinct Detail
- Precinct List
- Location Assignment Report
- Location Detail
- Political Subdivision Assignments
- Political Subdivision List
- Proposal Detail
- Proposal List
- Voter Registration Report

Ballot Management

- AVC Operator Panel Insert (B&W)
- AVC Operator Panel Insert (Color)
- Ballot Layout Report
- Ballot Style Report
- Layout Assignment Report
- Layout Content Report
- Layout Option Switch Report
- Rotated Ballot Layout Report
- Rotated by Precinct Report
- Rotated Layout Content Report

Cartridge

- Cartridge Labels (Assignment Code)
- Cartridge Labels (Layout Name)
- List of Cartridges

Logic and Accuracy

- Currently no reports.

Early Vote

- Early Voting Detail By Date
- Early Voting Detail By Session
- Early Voting Machine Turnout By Date
- Early Voting Machine Turnout By Session
- Early Voting Summary By Date
- Early Voting Summary By Session

Election Day

- Data Entry Machine
- Data Entry Precinct
- Precinct Report
- Precinct Report – 3 Column
- Precinct Turnout Report
- Full Summary Report
- Machine – Under Vote
- Machine – Blank Vote
- Machine Processed Report
- Machine Report
- Processed Report
- Status Report
- Subdivision Report
- Summary Report
- Summary Report – 3 Column
- Turnout Report
- Write-in Detail by Political Subdivision
- Write-in Detail by Precinct
- Write-in Machine Detail

Post Election

- Canvass Report
- Cartridge Event Log
- Precinct Cross-Tabulation Report
- Election Returns
- Public Counter Report
- Precinct Turnout by Party
- Statement of Vote Book
- Statement of Vote Report
- Winners Report

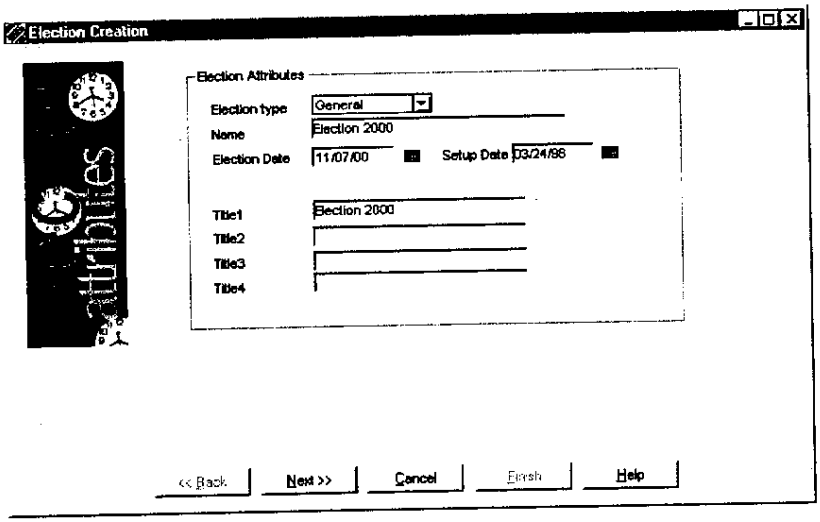
Election Overview

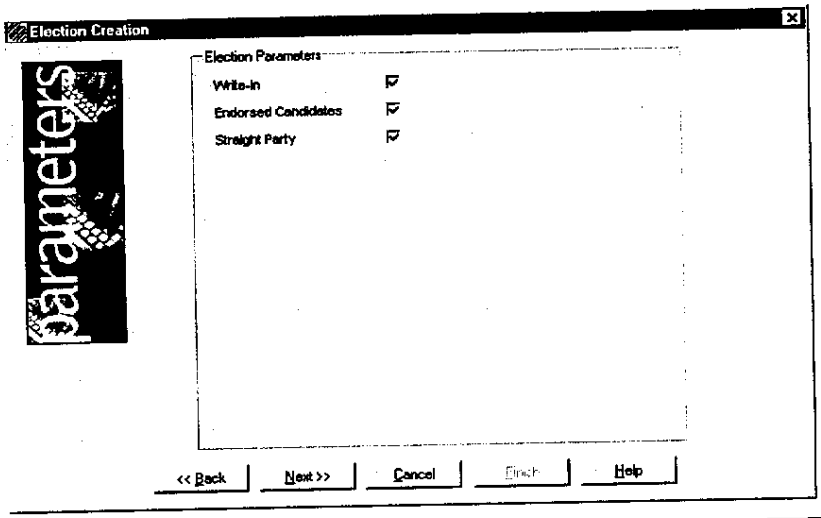
On the **Election Creation** windows of the Election module, you can "create" a new election. To create an election means to:

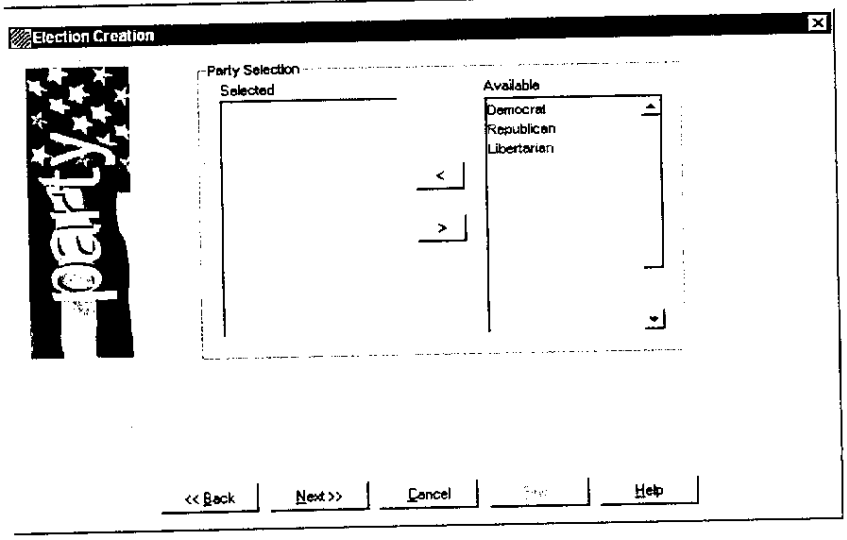
- give the election a name, and assign it an election type, date and other attributes,
- select server paths to store the election and the election log,
- enter election parameters, for example, the type of primary, whether write-in candidates, straight party, endorsed candidates and rotation are permitted, and whether the election is to be conducted by precinct or by location,
- select the parties that will participate (only in a primary),
- select the offices that are to be contested,
- confirm that the correct PSD's and precincts have been selected.

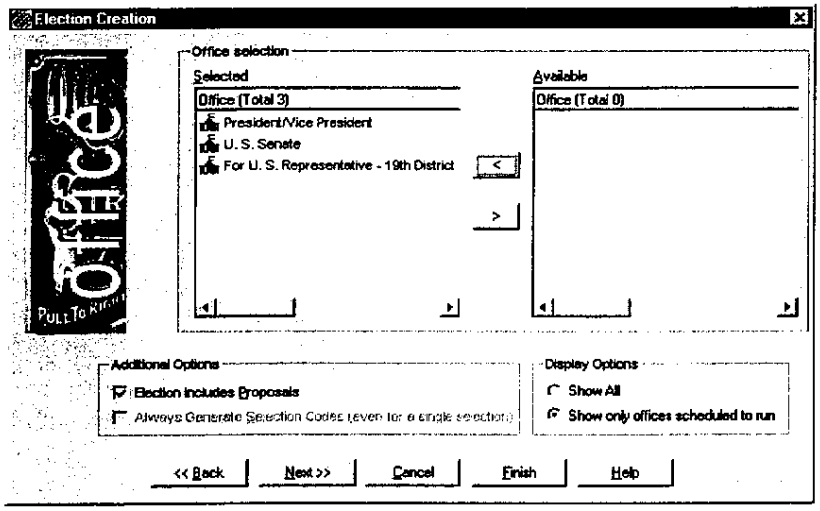
Election Creation is organized as a "wizard" with a sequence of 6 windows (7 windows for a primary). You enter information on each window and click **Next** to move to the next window.

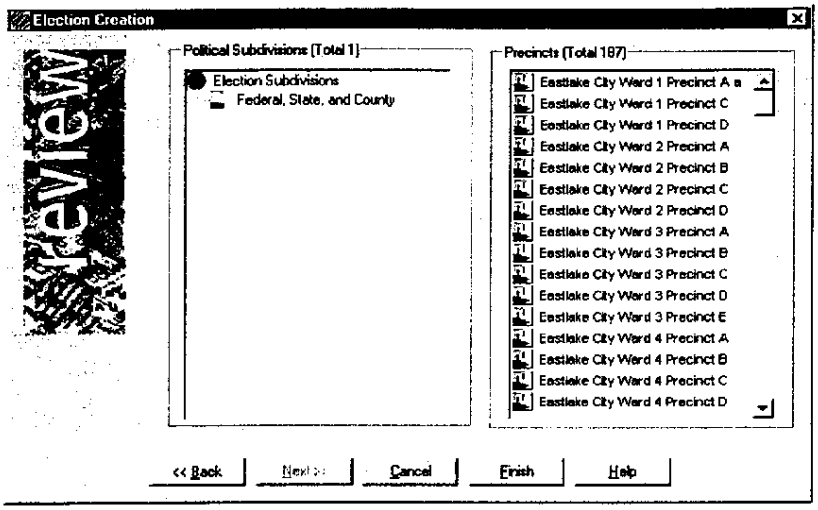
Once an election has been created, you must use the **Election Properties** window to make changes. You can change only *some* of the election attributes and *some* of the election parameters.

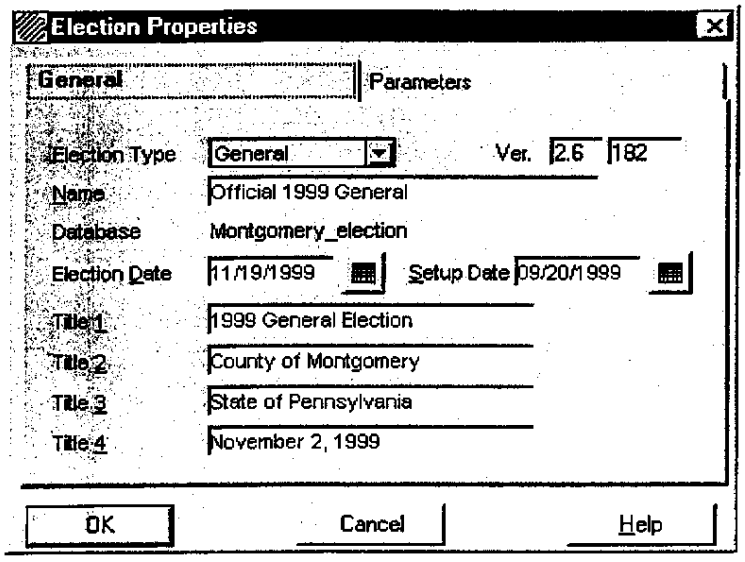







Election Creation
Office
Office selection
Selected
Office (Total 3)
President/Vice President
U. S. Senate
For U. S. Representative - 19th District
Available
Office (Total 0)
Additional Options
Election Includes Proposals
Always Generate Selection Codes (even for a single selection)
Display Options
Show All
Show only offices scheduled to run
<< Back
Next >>
Cancel
Finish
Help


Election Creation
Political Subdivisions (Total 1)
Election Subdivisions
Federal, State, and County
Precincts (Total 187)
Eastlake City Ward 1 Precinct A a
Eastlake City Ward 1 Precinct C
Eastlake City Ward 1 Precinct D
Eastlake City Ward 2 Precinct A
Eastlake City Ward 2 Precinct B
Eastlake City Ward 2 Precinct C
Eastlake City Ward 2 Precinct D
Eastlake City Ward 3 Precinct A
Eastlake City Ward 3 Precinct B
Eastlake City Ward 3 Precinct C
Eastlake City Ward 3 Precinct D
Eastlake City Ward 3 Precinct E
Eastlake City Ward 4 Precinct A
Eastlake City Ward 4 Precinct B
Eastlake City Ward 4 Precinct C
Eastlake City Ward 4 Precinct D
<< Back
Next >>
Cancel
Finish
Help


Election Properties
General
Parameters
Election Type
General
Ver.
2.6
182
Name
Official 1999 General
Database
Montgomery_election
Election Date
11/19/1999
Setup Date
09/20/1999
Title 1
1999 General Election
Title 2
County of Montgomery
Title 3
State of Pennsylvania
Title 4
November 2, 1999
OK
Cancel
Help

Election Setup Overview

In the Election Setup module, you enter information for the election that is currently open. The Election Setup module has seven areas:

Election Data: Contest/Candidate

Election Data:
Candidate/Precinct Level Contest

Election Data: Proposal

Election Data: Control Contest

Election Data: Validation

Machine Assignment

Ballot Management

Create Cartridge

External Codes

On the five tabs of the **Election Data** window, you enter information about each contest and each of the candidates in that contest and about each proposal and the political subdivision in which it is contested. The **Validation** tab provides status information regarding the election data as it is currently defined. The **Candidate/Precinct Level Contest** tab will appear only if precinct level contests are allowed in your jurisdiction.

On the **Machine Assignment** window, you assign voting machines to precincts or to voting locations, depending on whether the election is conducted by precinct or by voting location.

On the **Ballot Management** window, you create the ballots. You create templates for each tally type, and you review and adjust all the ballot layouts.

On the **Create Cartridge** window, you "create" results cartridges for all the voting machines.

On the **External Codes** window, you enter alternate codes and state codes for contests and candidates. The alternate codes are used for linking data with other external tabulation systems and the state codes are used for linking data for the State Reporting Export.

Election Day Overview

In the Election Day module, you tally the votes cast in the current election, and view election statistics "on-line."

Election Day has three units:

Tally Processing

- Election Night Statistics
- Cartridge Processing
- Refresh Data Store

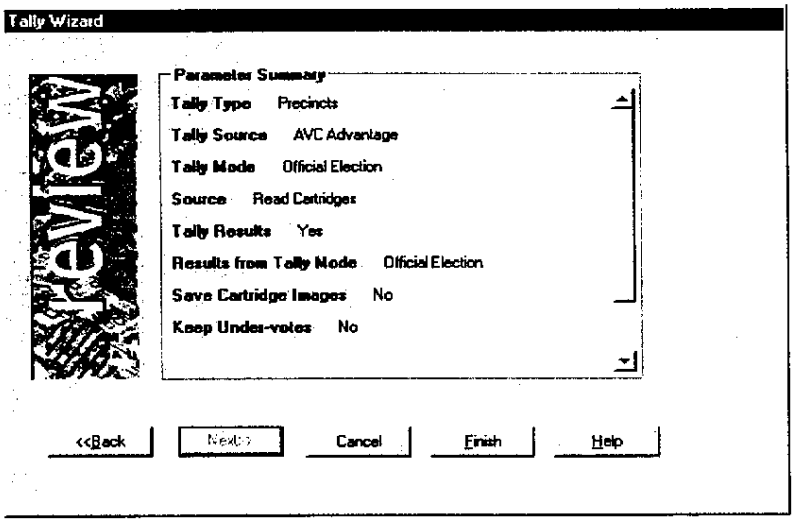
The Tally Processing module and the Statistics module facilitate tabulation of results and on-line reporting for Election Day. The cartridge processing module allows you to monitor the cartridge reading process.

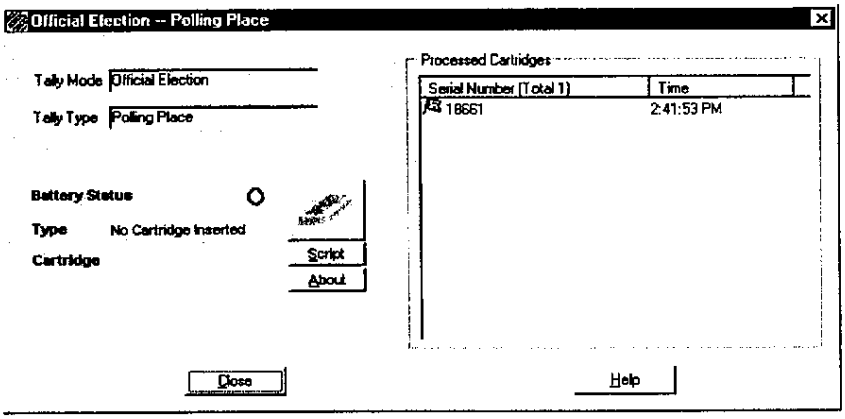
The Tally Processing unit and Election Night Statistics unit are designed so that election statistics can be viewed in real time (on-line), as the vote is being tallied. For example, the vote can be tallied on one workstation, while statistics are viewed on another workstation.

In Tally Processing, you tally the vote from:

- Election Day cartridges,
- Early Vote cartridges, *and*
- External Data Input.

Cartridge data can be read electronically, using the Cartridge Reader.





The Election Night Statistics module provides real-time (on-line) statistics as the vote is tallied on election night. You can view statistics by contest and by precinct.

The power of Election Night Statistics is that you can view statistics "live." You can quickly zero in on exactly what you want to view. ***Example:*** on the **Contests** tab, you look at the overall vote in each contest, the turn out in each precinct, and how each candidate is doing in each precinct. ***Example:*** on the **Precincts** tab, you look at the status of the tallying for each precinct.

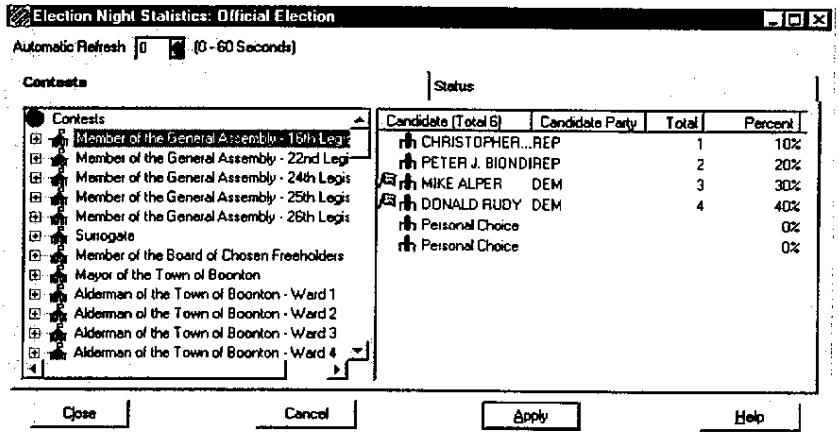
Some of the statistics are similar to those available in WinEDS reports (for example, the Election Summary Report, the Precinct Summary Report and the Status Report). You can view and print these reports from the Reports module.

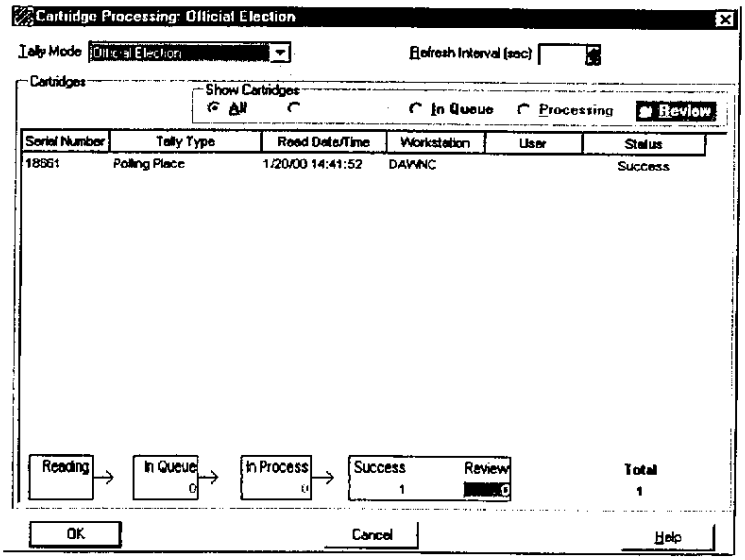
The sets of statistics you can view on the **Contest** tab are:

What you select:	**What you view:**
contests	▪ list of contests ▪ PSD for each contest ▪ list of candidates
specific contest	and, for each candidate: ▪ contest party ▪ candidate party ▪ total votes cast ▪ percent of overall vote ▪ name of precinct
specific precinct, under a contest	and, for that precinct: ▪ turnout ▪ registered voters ▪ turnout percentage ▪ name of candidate
specific candidate, under a precinct, under a contest	and, for that candidate: ▪ contest party ▪ candidate party ▪ total votes cast ▪ percent of overall vote

The sets of statistics you can view on the **Precinct** tab are:

What you select:	What you view:
nothing	▪ list of precincts and, for each precinct: ▪ number of machines processed ▪ number of machines awaiting processing ▪ percent of machines processed
specific precinct	▪ list of voting machines used in the precinct and, for each machine: ▪ status (read or unread) ▪ workstation used to read it ▪ ID of workstation user ▪ date read





The Refresh Data Store module provides the ability to manage each component of the tally data store.

From the Refresh Data Store window the there are several options for refreshing, rebuilding or resetting the data store. The options include:

1. Select the Tally Mode to apply the change to,
2. Delete the data store using Reset Tally,
3. Refresh Election and Turnout Summary,
4. Rebuild Election and Turnout Summary,
5. Refresh Precinct Summary,
6. Rebuild Precinct Summary,
7. Rebuild Selection / Party,
8. Refresh Processed Precincts,
9. Rebuild Processed Precincts and
10. Set Processed Precincts to 100%.

Post Election Overview

In the Post Election module, you declare winners and archive the data for the election that has just been conducted.

The Post Election module has 5 areas:

Resolve Write In

Declare Winners

Election Archive: Back Up

Election Archive: Restore

Election Archive: Certify

Resolve write in

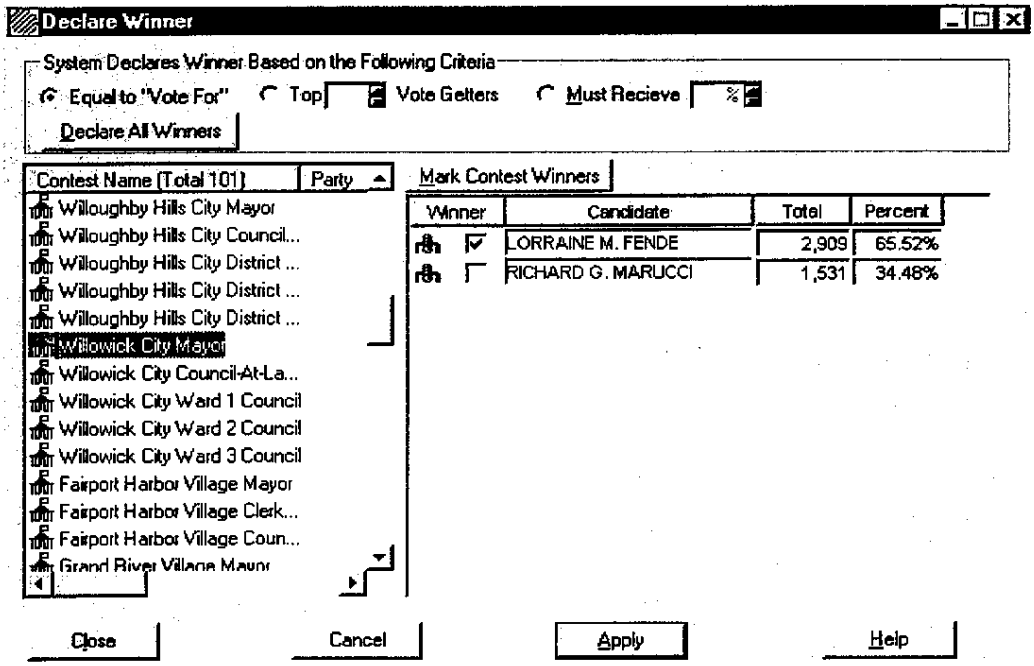
In **Write In Resolution** window in the Post-Election module, you can:

- match up the varied forms of the names of write-in candidates for each contest,
- add the candidate's names and totals to the election data.

Declare Winners

Because of the importance of declaring winners, WinEDS requires you to look at the results for *each* contest as part of the process of declaring the winner. In Declare Winners, for *each* contest, you will select the criteria of winning, review the results obtained by WinEDS and declare the winner(s).

You must complete tallying the vote for the current election before declaring winners.



Declare Winners Window

Backup

The Backup module provides you with the tools to make a backup of an election in the WinEDS system.

You can make a backup of an election any time after the election is created. You can repeat the backup procedure any time you have made changes in the election.

Restore

The Restore module provides you with the tools to restore an election for which a backup has been made. You can restore an election when its election file has been corrupted or destroyed, ***as long as you have previously made a backup of the specific election***

Certify and Archive

The Certify and Archive module provides you with the tools to:

- certify an election,
- take an election off-line,
- bring an election on-line.

To certify an election means to certify that:

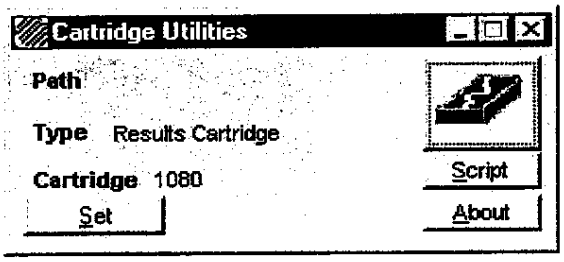
1. All the votes have been tallied.
2. Winners have been declared in all contests.
3. The election has been backed up.

Tools Overview

In the Tools module, you can change the password, use the cartridge utility, import data, export data, refresh summary data and customize the appearance of toolbars.

Tools has six areas:

- Change Password
- Cartridge Utilities
- Import
- Export
- Data Wizard
- Customizing Tool Bars



Network Security Issues with WinEDS

Network Security

It is recommended, for security purposes, that the WinEDS be operated on its own closed network. This recommendation is in line with the Federal Election Commission's Standards for Punch Card, Mark Sense and DRE System dated 1/90 section 5.6.1. This recommendation is intended to ensure that a reasonable security environment exists. Any operation of the system on existing networks will require the using jurisdiction to do a thorough security analysis to ensure that the application environment is secure.

Additional Security Guidelines and Procedures

The guidelines and procedures address the following topics:

Physical Access to System Components
Network Configuration
Component Configuration
Operating System Security
Network Security
Database Management System Security
Application Login Security
Application Role Security
Application Workstation Security

Physical Access to System Components

The using jurisdiction should implement physical security measures that ensure that only authorized election personnel can gain physical access to the components of the WinEDS system. This should include but not be limited to:

- Housing the system components in a locked room such as a computer center with a security monitoring system.
- Ensuring that only authorized system users shall have authorization to the secured storage / operational areas.
- If remote tally workstations exist in the system configuration, these workstations shall not be left unattended at remote tally sites. They should be stored in a secured area until such time as they are needed at the remote site. They should be returned promptly to the secured storage area following the completion of election night tally.

- If the Tally workstations have local input/output devices such as floppy disk drive or CD-ROM, these devices should be protected and locked to prevent unauthorized uploads and downloads.

Network Configuration

The using jurisdiction, ideally, should configure the network such that it is a closed and dedicated operating environment. Specifically, it is recommend (FEC 5.6.1) that:

- The WinEDS network contain only the hardware components necessary to operate the WinEDS system and that the network NOT be connected to any other network.
- The WinEDS network contains only the software components necessary to operate the WinEDS system.
- The WinEDS network should NOT be connected to the Internet or any other external gateways or networks.

In the event that the Network configuration is NOT a closed and dedicated operating environment, the using jurisdiction should conduct a full security analysis of their operating environment to ensure that an adequate level of system security exists. Upon completion of the security analysis, the using jurisdiction must implement measures to ensure that any deficiencies noted in the report have been addressed.

Component Configuration

The using jurisdiction should configure each system component according to the component manufacturer's guidelines and recommendations. The documentation for each system component, both hardware and software, shall be organized and secured in a manner appropriate for easy access for authorized personnel. This should include licenses, manuals, software and documentation CDs, warranty information and vendor contact information. Where appropriate, any documentation regarding specific configuration settings should also be archived.

Operating System Security

The using jurisdiction should evaluate operating system security options and develop a security policy that is appropriate for their operating environment. At a minimum, the following items should be considered and included in the policy development:

- Password length and format (recommend a minimum of 6 characters, 8 preferred)
- Use of Power Up passwords on all system components with password capability (recommended)
- Use of unique User password for Operating System password
- Use of unique User password for Network logon
- Develop maximum password age (password expires every x day – recommend 30 days)
- Determine if system will lockout account after x bad logon attempts (optional)
- Determine if system will restrict logon to certain times of the day (optional)
- Determine if system will restrict logon by users to certain workstations (optional)
- Determine policy for access to temporary or seasonal employees via disable account option.
- Determine policy for "Sharing" resources. Under what situations can shares be created, who has permission to the share and what privilege level will they be granted.
- Create and monitor security log events to detect login failures and unauthorized access.

Network Security

The using jurisdiction should evaluate network security options and develop a security policy that is appropriate for their operating environment. At a minimum, the following items should be considered and included in the policy development:

- Assigning a Network Administrator and a backup Network Administrator and outlining duties and responsibilities
- Use of unique User password for Network logon
- Password length and format (recommend a minimum of 6 characters, 8 preferred)
- Determine which network protocols should be running. (Recommend that only the minimum required should be running)
- Evaluate network configuration to ensure that only authorized WinEDS users can gain access to WinEDS network resources.
- Evaluate hub, router and firewall configurations to ensure appropriate levels of access and security.

- Develop a security test plan that can be periodically conducted to monitor the current security level.
- Monitor security logs to determine unauthorized access to shared resources. Jurisdictions may deploy automated monitoring tools for this purpose.

Database Management System Security

The using jurisdiction should evaluate DBMS security options and develop a DBMS security policy that is appropriate for their operating environment. At a minimum, the following items should be considered and included in the policy development:

- Assigning a WinEDS Administrator and a backup WinEDS Administrator and outlining duties and responsibilities
- Use of unique User logins for DBMS login
- Restricting the client Net Library Configuration to the minimal protocols necessary to operate the system.
- Develop a process for limiting the System Administrator (SA) password to WinEDS Administrator and backup WinEDS Administrator and storing a copy the current password in a secured vault or area that is accessible by only Senior Management personnel.
- Develop a DBMS security test plan that can be conducted periodically to ensure that only authorized personnel can gain access to the DBMS.
- Monitor user login permissions to detect unauthorized access.

Application Login Security

The using jurisdiction should evaluate WinEDS user login options and develop an Application Login security policy that is appropriate for their operating environment. At a minimum, the following items should be considered and included in the policy development:

- Each user should login with a Unique login/user id (Recommended)
- Use of unique User logins for WinEDS login
- Determine how frequently password expires (30 days recommended)
- Determine login attempts before application terminates (3 recommended)
- Concurrent logins (1 recommended)
- Determine policy for access to temporary or seasonal employees via disable account option. (Recommend setting seasonal employees to Inactive in non election periods)

- Monitor application event log for security breaches and unauthorized access.

Application Role Security

The using jurisdiction should evaluate WinEDS user role definitions and develop a user role policy that is appropriate for their operating environment. At a minimum, the following items should be considered and included in the policy development:

- Create Roles that provide access to system functions that allow a single task to be performed.
- Document the functions that each role will have access to and which job functions and users will be assigned which roles.
- Assign as many roles (specific tasks) to each user as required to conduct their job function.
- Only assign the Administrator Role to the WinEDS Administrator and the Backup Administrator.
- Avoid logging into the application as the System Administrator. Each user should always login using their user login.
- Monitor Role and User permission to detect unauthorized access.

Application Workstation Security

The using jurisdiction should evaluate WinEDS workstation security and develop a workstation security policy that is appropriate for their operating environment. At a minimum, the following items should be considered and included in the policy development:

- Determine if workstation security is desirable in your operating environment.
- Determine which users should be able to login from which workstations and make the appropriate user / workstation assignments.
- Determine which roles can be performed from which workstations and make the appropriate role / workstation assignments.
- Monitor user and role assignments to detect unauthorized access.

Hardware Specification for the WinEDS Server

Item	Recommended
Processor	Duel Pentium III 833 MHz
Operating System	Windows NT 4.0 or 2000 Server
RAM	256 Mb
Hard Drive	(6) 9GB Ultra 3 SCSI (RAID Configuration)
CD ROM Drive	32X
Backup Device	Tape Drive or CDR
Modem	Optional
Network Card	10/100 Ethernet Card
UPS	Smart UPS - 700 Watts +

* Maximum Data Security can be achieved by utilizing a backup server with attached drive array.

Hardware Specifications for the WinEDS Workstations

Item	Recommended
Processor	Pentium III 700 MHz and up
Operating System	Windows 98 or 2000 Professional
RAM	128 Mb
Hard Drive	20 GB and up
CD ROM Drive	32X
Backup Device	Optional
Modem	Optional
Network Card	10/100 Ethernet Card

WinEDS Network Specifications

The recommended network configuration for WinEDS is a Microsoft Network, with Ethernet hardware, using either the NetBEUI or TCP/IP network protocol.

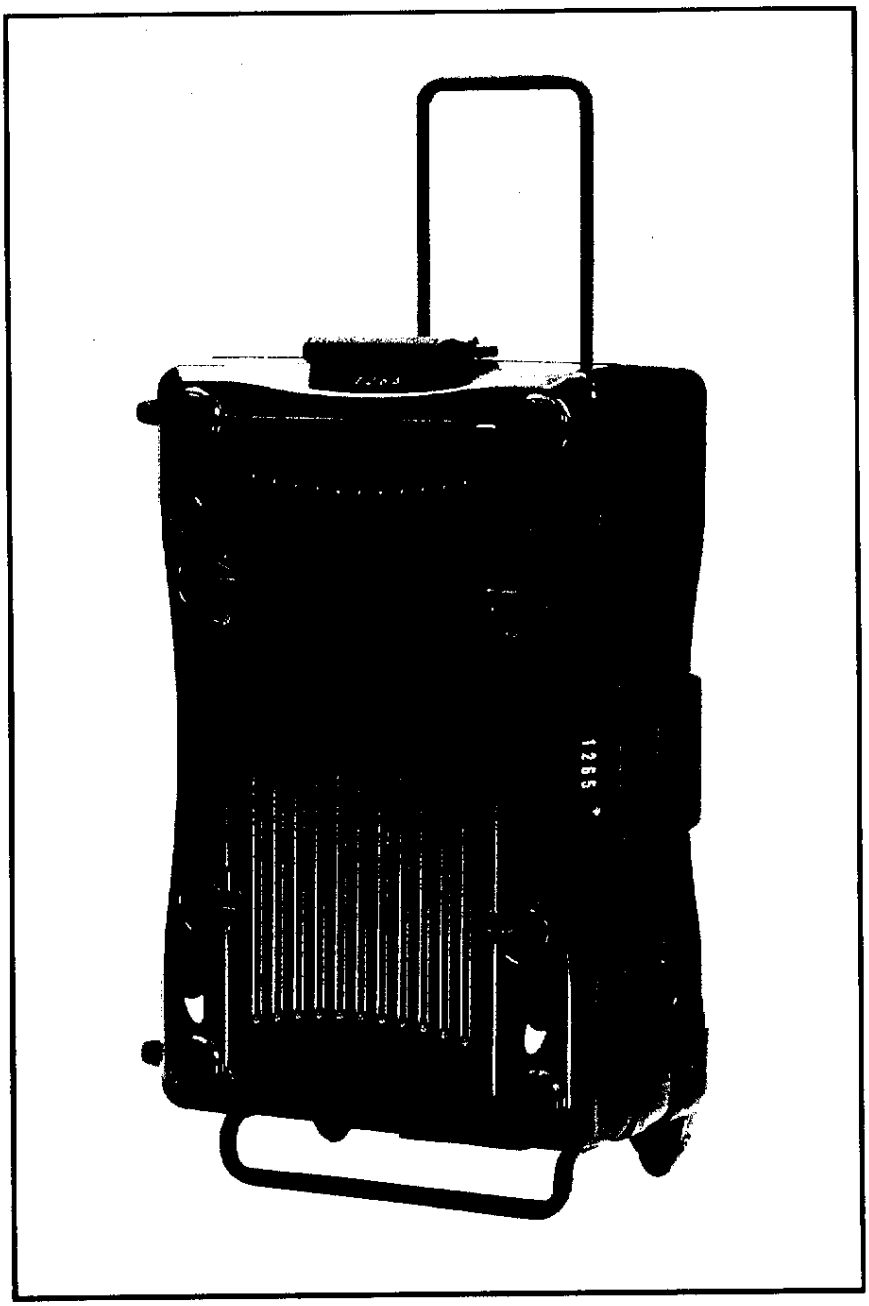
Item	Recommended
Ethernet Hub	10/100 MB/sec
In-Office Cable	RJ45 (Twisted Pair)

Section 8

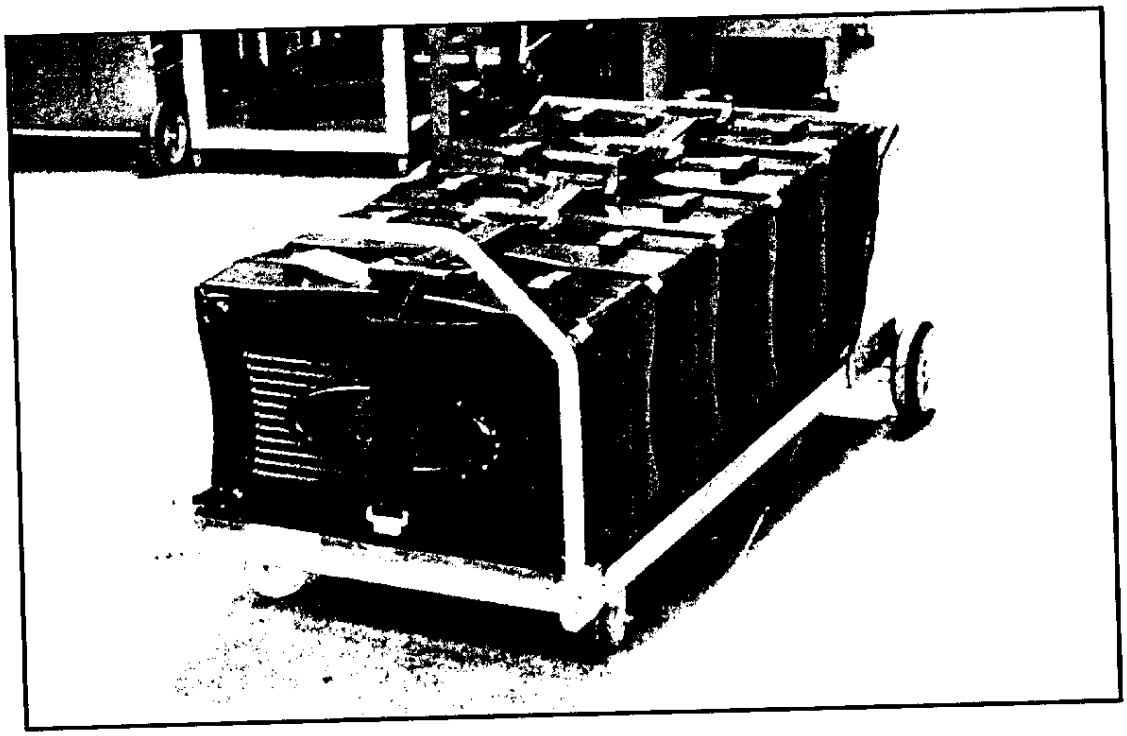
Warehousing the AVC Edge®

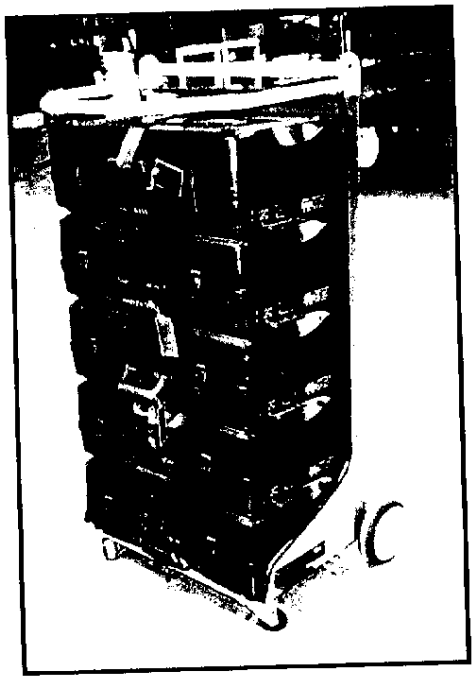
Transportation of Voting Units

There are two different method of transportation that involves the use of wheels to make moving machines easy and efficiently. There is an optional lid available that has built-in wheels and handle to allow the AVC Edge® to be rolled as a carry-on bag.



There is also a cart available that can hold up to five AVC Edge® machines. This cart has four casts in the vertical position and the horizontal position to accommodate the best space solution. Usually the cart is used in the horizontal position in the warehouse and in the polling site. The vertical position is used for transportation in the truck so more machines can be loaded on the truck. Also, the vertical position is used in the warehouse where the carts are not placed on pallet racks.





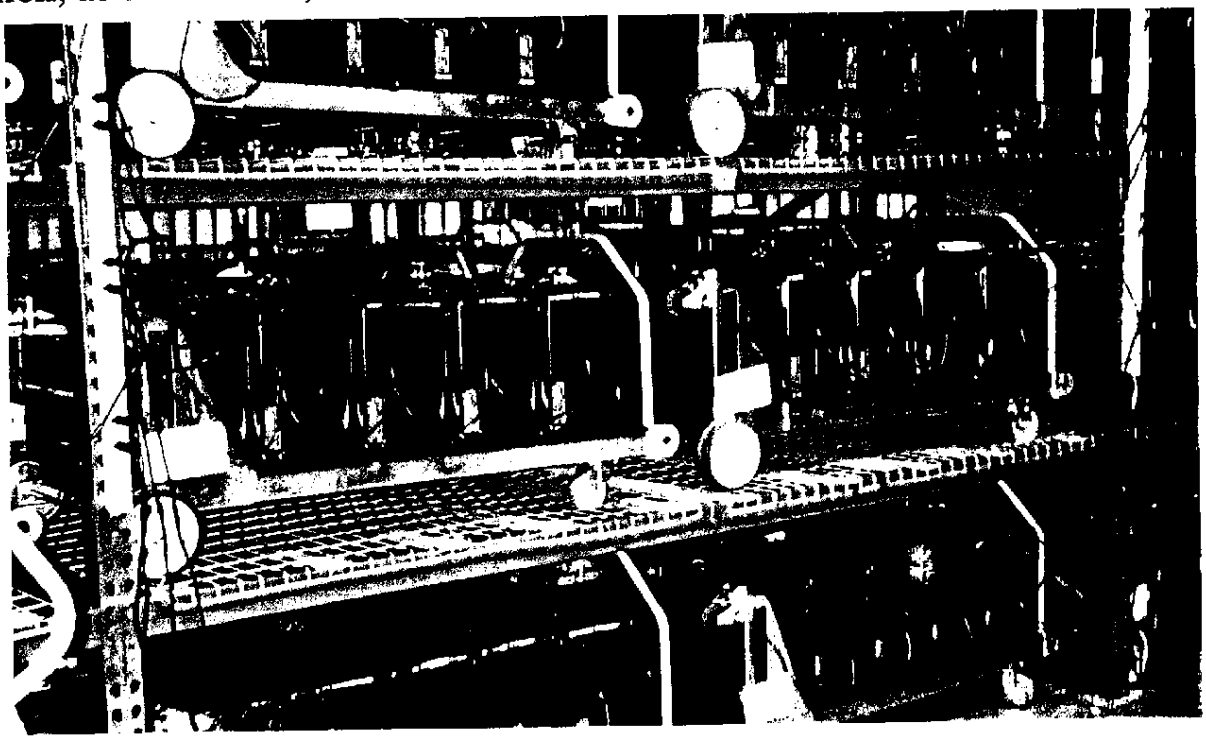
The AVC Edge® can be transported by the wheeled lid or transportation cart described above. The machine is designed to withstand the rigors of shipping to the polls in a truck. In Riverside County, California, four common carriers were used to transport machines to the polling locations. The machines were picked up by the hauling companies on large eighteen-wheelers and taken to the trucking company depot center for transfer to the smaller trucks for delivery to the polling locations. Riverside County is a very good practical test for the durability of the machines in that it is over 8000 square miles of land area with the distance from east border to west border of the county being 200 miles.

The AVC Edge® is durable. It meets the Federal election Commission standards, which means that it has been through extreme durability testing. The most significant test, though, is experience. Riverside County, California subjected the AVC Edge® machines to the extreme limits of transporting in November and all machines arrived at the polls and back to the warehouse in excellent condition.

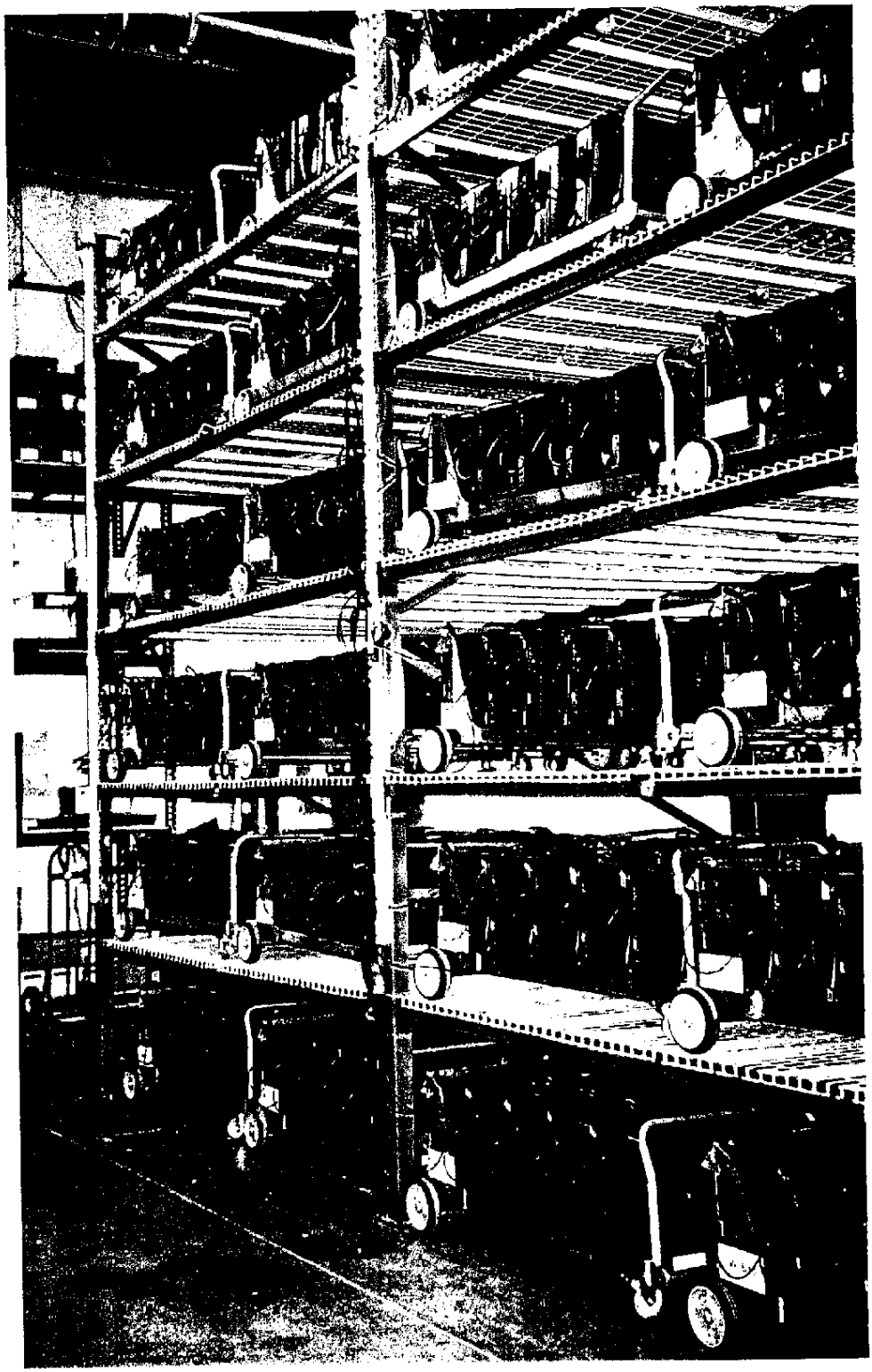
The AVC Edge® rolls easily over rough surfaces and will go through a standard 30" door on the transportation cart or rolling on the wheeled lid.

Storage in the Warehouse

The AVC Edge® is adaptable in storage. By utilizing the transportation carts as a pallet rack, the carts can be placed in pallet racks efficiently. On a typical 10 foot by 6 foot shelf, as seen below, 20 machines on four carts can be stored.

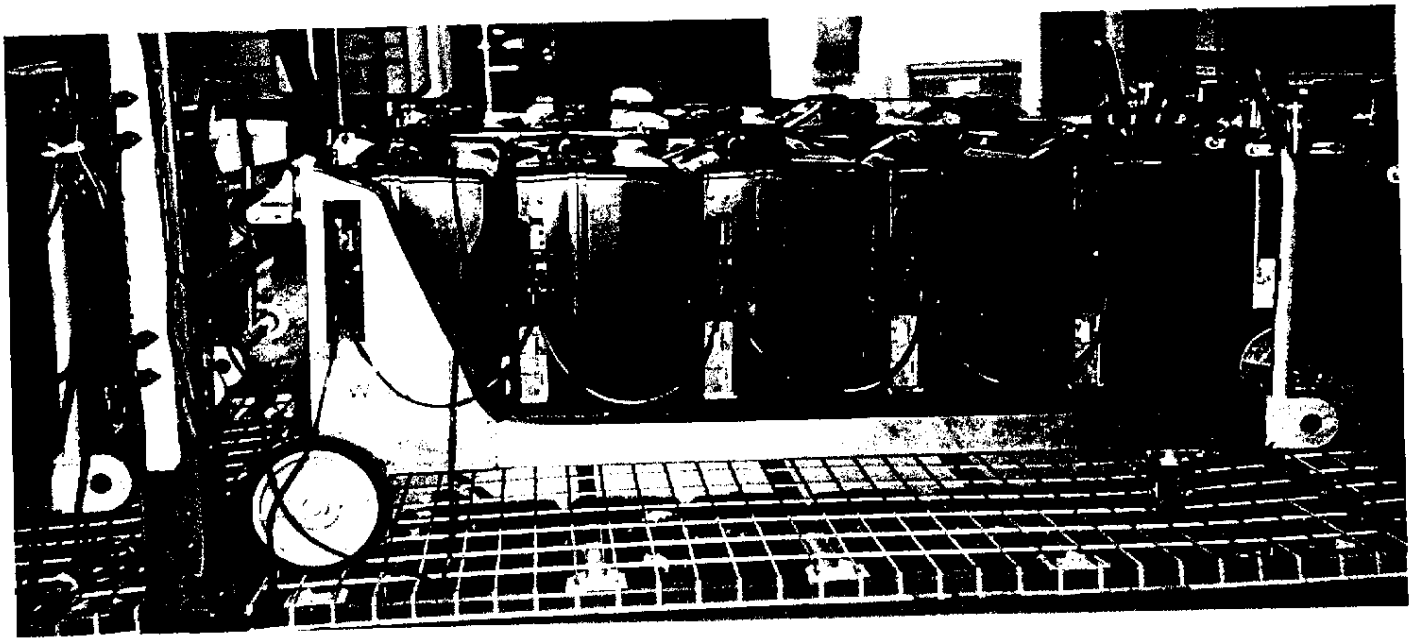


The AVC Edge® pallet rack system can go up as many levels as need, but six levels is efficient and as high as most fork lifts can lift. Riverside has six levels as seen below.



Battery Charging in the Warehouse

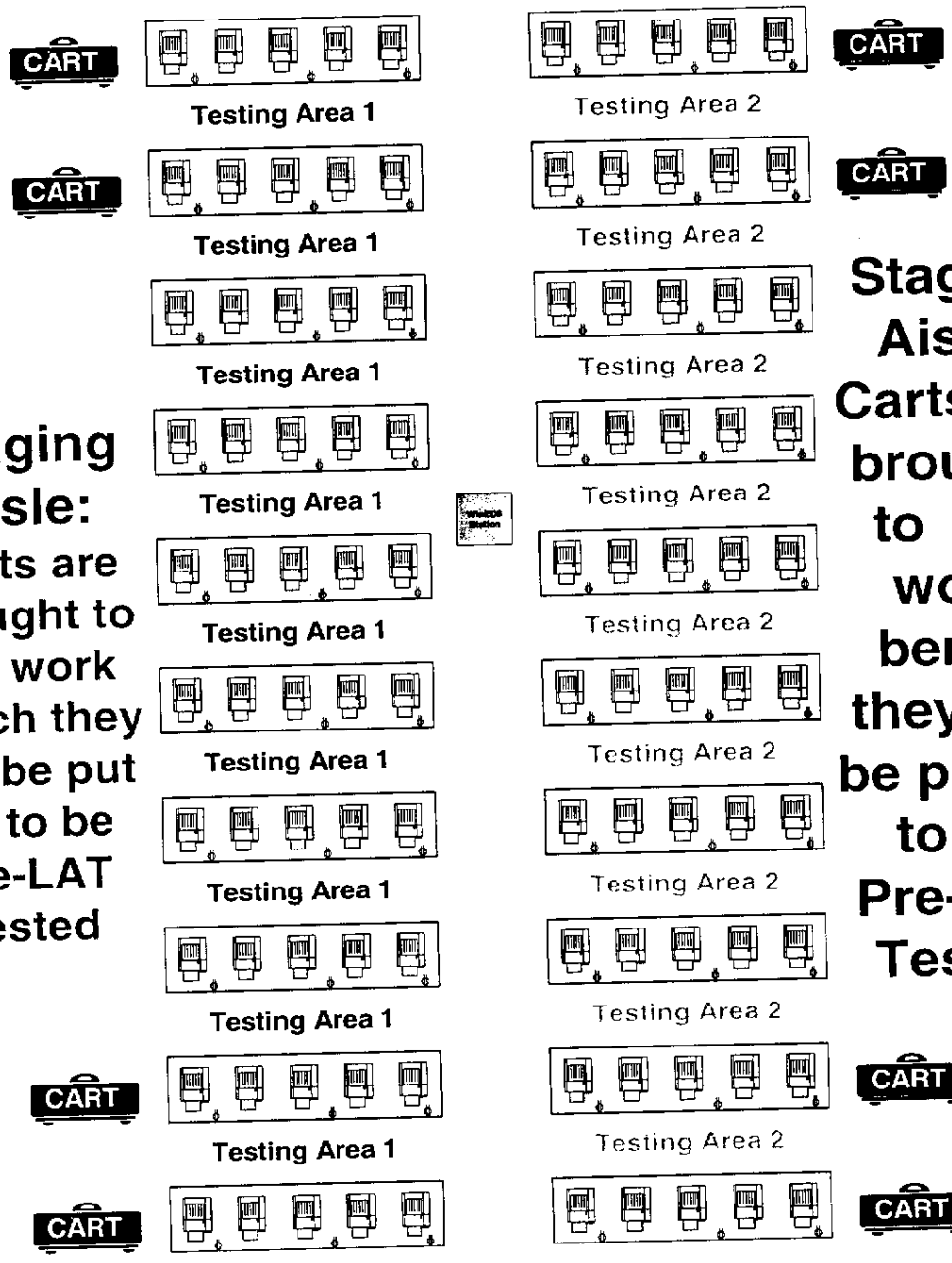
To maintain the internal batteries of the AVC Edge® voting unit properly, they must be recharged every one to two months. Plugging it into 110 volt AC power for approximately 18 hours recharges the voting unit. The plug receptacle on the voting unit is located on the outside of the case. Below, you see the voting units daisy-chained using red, 2-foot cords. The first machine is plugged to the power strip that runs up the pallet rack standard with a 6-foot, red power cord. The significance of red is to indicate that those cords stay in the warehouse. The black cord that is located in the cover of each unit goes to the polling location with the machine.



Testing Area in Warehouse

The preparation for an election of the AVC Edge® voting units takes place in the testing area. This is an area of floor space dedicated for this purpose. It consists of 8-foot tables to place the voting units onto for loading of the election definition by inserting the Results Cartridges and conducting the Pre-Election Logic and Accuracy Tests. Other things that are done while the machines are on the tables is possibly updating the firmware if necessary and sealing the Cartridge Door and the Open/Close Polls Door. The following is a typical logistical plan for preparing the machines for an election. The layout on the page after the logistical plan is a graphic idea of a testing area. This plan and layout will change from warehouse to warehouse, but is similar to most.

Staging Aisle for Delivery of Carts to Testing Area from Warehouse



Staging Aisle for Delivery of Carts to Testing Area from Warehouse

Logistical Plan

a. Machines will be stored in storage bins that are six bins high.
   i. Each bin will contain four AVC Edge® Cart
   ii. Each Cart will contain 5 AVC Edge® Voting Machines that are for one particular precinct.
   iii. Each bin will be labeled as to Aisle Number, Section Number and Rack Number.
   iv. Each cart will be labeled as to Aisle Number, Section Number, Rack Number and Cart Number.
   v. The AVC Edge® machines will be daisy-chain plugged together with a 2 foot red power cord prior to being placed in its bin.
   vi. The bin will have a plug next to it with an 6-foot red power cord to plug to the lead machine of each cart.
   vii. Machines will be placed in the second through sixth bin by fork lift.

b. Election Preparation - Warehouse
   i. Fork lift operator locates and brings down needed cart of machines
   ii. Warehouse Helper rolls to Testing Area 1 until 10 carts occupy 10 tables.

c. Election Preparation – Testing Area
   i. There are two Testing Areas. First, the Testing Setup/Closer Staff set up the machines in Area 1. The Testers start Pre-LAT Testing Area 1 as the Testing Setup/Closers are preparing Area 2. When the Testers finish Area 1, they go to Area 2 and begin Pre-LAT testing. The Testing Setup/Closers start closing down the machines in Area 1. After all machines are placed back on their carts, they then start setup on a new group of machines in Area 1. When that is finish, the Testers come and begin testing on Area 1 and the Setup/Closers go to Area 2. And this continues until all machines are completed.

d. Election Preparation – Return to Warehouse
   i. As machines are placed back into their carts the Warehouse Helpers take them back to their bins, where the Forklift Worker places them. The Warehouse Helper then takes machines to be tested to the testing area.

e. Machine Delivery to Precincts
   i. When a truck is scheduled to pickup a load of machines, the Forklift Worker takes the correct Cart out of the bin and the Warehouse Helper takes them to the Holding Area where they place them in the order they will be loaded on the truck.

2. Warehouse Staff
   a. Fork Lift Operator
      i. When the machine Pre-LAT begins for an election, the forklift operator brings down the carts.
      ii. Returns tested machines on carts to their assigned bins.
      iii. Takes machines down for taking to put on trucks.
      iv. Must know how to operate forklift safely, know the location of bins and direct helpers to deliver the carts to testing or shipping. This person manages the logistical plan in the warehouse.

   b. Warehouse Helpers
      i. Part-time workers would suffice. Could assist Testing Area Setup/Close-up Worker.
         1. Rolls the cart to Testing Area or Shipping Area.

3. Testing Area Staff
   a. Setup/Close-up Worker. They can be part-time workers. They can assist Warehouse Helpers.
      i. Setup – When Carts arrive Testing Area for testing.
         1. Places machines on Tables
         2. Plugs them in with 2 foot Power Cables.
         3. Removes Cover
         4. Sets up LCD Display
         5. Turns on Power
         6. Monitors Power up Errors
         7. Flags problem machines
         8. Makes sure they are at Maintenance Diagnostics
         9. Distributes 2 Seals to each machine.
         10. Distribute Machine Envelope to each machine.
         11. Distributes Results Cartridge to specific Machine.
         12. Distributes Vote Simulation Cartridges to each machine
      ii. Close-up – When testers are through testing
         1. Fold up Printout
         2. Place Printout in Machine Envelope.
         3. Seal Cartridge Door.
         4. Seal Polls Switch Door.

5. Record Seal Numbers.
6. Turn off Power.
7. Unplug Machine.
8. Lower LCD Screen.
9. Replace Cover.
10. Put Machines on Cart.

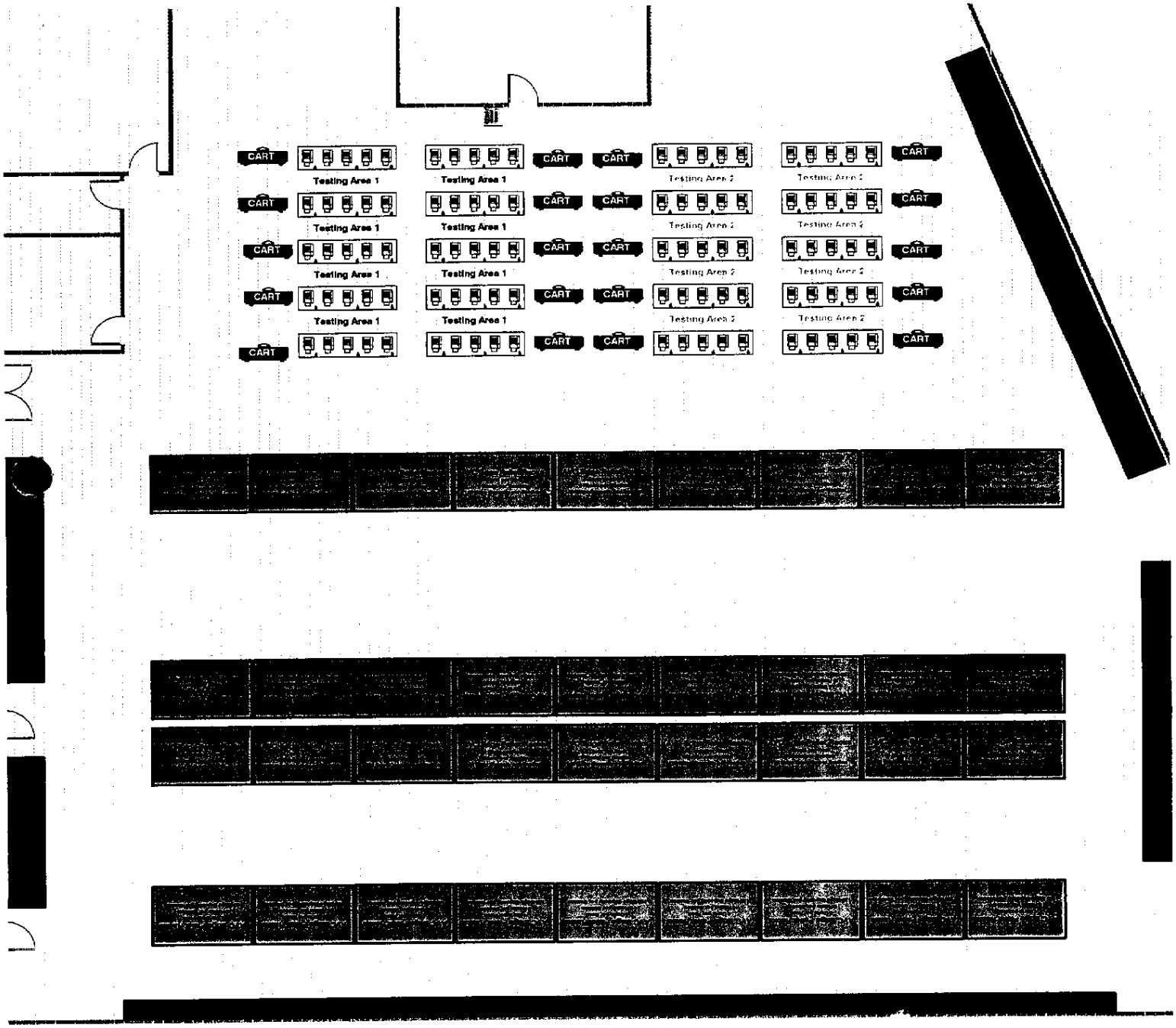
b. Tester – These are knowledgeable in the AVC Edge® and should be well-trained, reliable workers.
   i. Pre-LAT Testing
      1. Place Results Cartridge in Machine.
      2. Turn Polls Switch to Open.
      3. Start Vote Simulation Mode.
      4. Put in Vote Simulation Cartridge.
      5. Start Vote Simulation.
      6. After Simulation is finished, exit Vote Simulation.
      7. While in Pre-LAT, Polls Open, put an inactive Voter Card in Activation Port, wait for Pink Screen and press Yellow Activate button to remove Voter Card. Do this 5 times to test Card Activation mechanism in machine.
      8. Close Polls.
      9. Record Protective Counter Number.
      10. Power Down.
      11. Optional: Read Cartridges into WinEDS.
      12. Reinstall Cartridge
      13. Power Up.
      14. Check machine came back in Official Election Mode, Ready to Open Polls.

c. Technician – Factory Trained AVC Edge® Technicians.
   i. Oversee and help Testers and Testing Helpers
   ii. Troubleshoot AVC Edge® machines
   iii. Assist in loading Results Cartridges and Vote Simulation Cartridges

d. WinEDS Operator – Could possibly be one of the Technicians. Factory Trained in WinEDS. This person could also be the WinEDS Administrator who sets up WinEDS for an election.
   i. Loads Results Cartridges
   ii. Troubleshoots and makes Machine Assignment changes if needed.

Warehouse Floor Layout

The floor layout for the warehouse varies according to the warehouse structure. A typical layout can be seen below.



Section 9

Functional Description of the Election Process for the AVC Edge®

FUNCTIONAL OVERVIEW:

The following is a functional description of the complete process from the beginning of the election process to the end of the election process.

1. MAINTENANCE DIAGNOSTICS

Maintenance Diagnostics allows the technician to test all the major subsystems and assemblies, correct any error conditions, adjust the LCD brightness, calibrate the touch screen, and set the internal clock.

2. RESULTS CARTRIDGE PROGRAMMING

The AVC Edge® receives the election definition from WinEDS through the Results Cartridge. Prior to the elections, the profile information, which contains all of the precincts(voting locations and political subdivision assignments) and contests is entered into WinEDS for each election type. This information only needs to be entered once and then modified in future elections.

Upon completion of the profile data, the candidates and/or questions for the particular election are entered into the system. A basic procedure for entering and validating the information is followed.

Upon completion of the data entry, WinEDS creates a results cartridge for each AVC Edge® to be used in the election. The results cartridge contains all of the ballot styles for the precincts that have been assigned to each AVC Edge.

3. RESULTS CARTRIDGE INSERTION

The AVC Edge® is set up simply by insertion of the Results Cartridge into the system . This is accomplished by opening the Cartridge Access Door and plugging the Results Cartridge into the left port. The technician then proceeds to the Pre-Election Logic and Accuracy Test.

4. PERFORM THE PRE ELECTION LOGIC AND ACCURACY TEST

The AVC Edge® must perform a Pre Election Logic and Accuracy Test ("Pre-LAT"). Essentially, this is a simulation of the election day voting process under which the AVC Edge® will operate.

The Pre-LAT begins by moving the Polls Switch to the Open Position. The AVC Edge® automatically begins to verify that the ballot control logic and the system parameters residing in internal memory are the same as that in the Results Cartridge. When verification is complete, a Pre-LAT Zero Proof Report is printed to show that all candidate and question counters are at zero when the Pre-LAT begins.

The technician activates the AVC Edge® (simulating the Poll worker), and then enters simulated voter selections (thus exercising the ballot control logic) and then casts votes. It is recommended that a predetermined voting pattern be entered into the AVC Edge. The voting pattern should insure that each candidate receives at least one vote, should test over- voting in each contest, and should test any complex ballot features, such as endorsed candidates or primary elections. Use of such controlled test data insures vote counting accuracy.

After all the Pre-LAT voter data has been entered, the polls are closed by moving the Polls Switch to the Closed position. The AVC Edge® will print the Pre-LAT Results Report (extra copies of this report may be printed, if needed). It is also possible to obtain a visual display of vote totals by pressing individual voting selector switches. The Results Report should be compared to the controlled test data to verify that the AVC Edge® is correctly counting votes.

Upon completion of verification of the Pre-LAT, the technician signs the verification section on the Results Report indicating successful completion. Note that during this test the Public and Protective Counters increment just as if the AVC Edge® were in the election mode.

VOTE SIMULATION (OPTIONAL FEATURE) - The vote simulation feature provides for the automatic selection of candidates and casting of votes during the Pre-LAT. This provides for high volume testing and for more extensive testing than might otherwise be practicable through a purely manual pre election logic and accuracy test.

Vote Simulation is done with a vote simulation cartridge. This cartridge is programmed by WinEDS with a series of votes called a script. One script can be created for each ballot style and used on several machines.

Vote simulation is initiated by inserting the vote simulation cartridge into the right cartridge port before the Pre-LAT polls are opened. When the technician opens the Pre-LAT polls, he responds yes on the LCD display to begin vote simulation. A zero proof report is printed, the machine casts the ballots stored on the vote simulation cartridge and processes them exactly as if they had been cast through the voter panel.

At the completion of the simulation script, the technician can continue voting manually. When the polls are closed, the Pre-LAT results report is printed indicating they were generated by vote simulation.

5. SEALING THE AVC Edge

After the Pre-LAT has been completed, the AVC Edge® is ready to be sealed for shipment to the polling site. This process includes recording the Protective Counter Number, placing a numbered seal through the Results Cartridge , placing a numbered seal through the Polls Switch Cover and placing Pre-LAT Zero Proof Report and Results Reports into the Machine Preparation Envelope. The AVC Edge® may then be placed in the closed position.

6. LOAD MACHINES AND DELIVER TO POLLING SITES

The AVC Edge® has been designed and constructed with material that will withstand the rough handling that often occurs during transportation. The packaging design concept allows for maximum protection of electronic components against the environment, including vibration and shock. Machines are stacked and bound by voting location for delivery.

7. SETTING UP THE AVC Edge® ON ELECTION MORNING

The general ergonomic design of the AVC Edge® provides for easy setup into the voting position by poll workers, even those of limited size or stature. To set up the AVC Edge, the poll worker places the AVC Edge® on a table or floor exposing the leg access compartment. They remove the legs and power cable. They place the legs on the machine. They then turn the machine onto its legs. The power cable is plugged into the machine. Where multiple machnes are used, the plug is then plugged into the plug recepticle of the machine next to it. Each machine is "daisey-chained" to each other, with the last machine being plugged into a wall outlet.

Next, the cover is removed from the lower unit of the AVC Edge. The power switch, which is located on the back of the machine is then turned to the On position. The LCD display is raised to the proper height and the secrecy panels are extended.

8. OPENING THE POLLS

To open the polls, the poll worker breaks the seal from the Polls Switch Door and turns the Polls Switch to the Open position. The system automatically goes through a verification process to determine that the AVC Edge's internal memory is the same as that which resides on the Results Cartridge. Upon completion of Election Verification, the Official Election Zero Proof Report is printed.

AVC Edge® Serial Number, Ballot Revision Code, Polling Place Identification Number, Public Counter, and Protective Counter can also be verified by comparing the Zero Proof Report with the information printed on the Security Document.

Once the Zero Proof Reports from each machine have been verified, the poll workers sign the verification statement on the Zero Proof Report, specifying the Protective Counter Number, Public Counter Number, and that each candidate and question counter is at zero. The AVC Edge® is now ready for voting.

9. ELECTION DAY VOTE PROCESSING

When the voter checks in to vote, the voter is given an Activation Card that contains the appropriate information for precinct, party, etc. The voter inserts the Activation Card into the front of the AVC Edge, which then validates the card and brings up the appropriate ballot for the voter. The voter proceeds through the ballot making selections by pressing on the touch screen and casts his/her vote at the end of the ballot. The AVC Edge® records the selections on the Results Cartridge and on the memory resident in the AVC Edge. The AVC Edge® returns the deactivated Activation Card to the voter. The voter returns the Activation Card to a poll worker and exists the polling site. The Activation Card can be re-activated for other voters by poll workers using the Activation Station located at the sign-in table.

This process is repeated once for each voter.

10. UPDATE TOTALS AND AUDIT*TRAIL RECORD

After the voter press the Cast Vote button located on the last page of the ballot, the AVC Edge® performs an internal cross-check of the redundant memory areas (Audit Trail and Results Cartridge). This cross-check makes sure the two memories are identical, down to the bit level; it includes the vote totals and ballot image storage areas. Any discrepancy is cause for halting the voting process on this

machine. Next, an internal "recount" is performed. This recount validates each ballot image and recalculates the summary totals from the ballot image data. Any mismatch between the ballot image totals and the summary total counters will be detected. After a successful cross-check, the poll worker may activate the machine for the next voter.

Since the AVC Edge® retains a ballot image record for each voter, it is important that these ballot images not be saved in the order in which they were cast as that would provide the ability to learn how an individual cast their vote. When the AVC Edge® allocates storage space for ballot images and write-in data, it takes the following steps to assure storage of this data is sufficiently random to avoid identification of voter data with individual voters.

1) Storage space is allocated in large blocks rather than on a per-voter bases. When an allocation is required, a random number of storage blocks between 25 and 50 are allocated.
2) Access to the storage blocks is via an indirect table of block numbers. This table is shuffled randomly when the blocks are allocated, so that the sequence of storing ballot images within the storage blocks is random.

The randomizing function in the AVC Edge® uses a mathematical pseudo-random number generator that is further randomized by the value of the AVC Edge's internal real time clock at the time of the random number request.

11. CLOSING THE POLLS

At the designated hour, the polls are closed by opening the Polls Switch Cover and turning the Polls Switch to the closed position. The AVC Edge® automatically prints the Results Report(additional copies may be generated). The system automatically sets the polls-closed interlocks.

The poll workers verify the Results Report and sign the verification statement indicating that the totals for each candidate, each question, the Public Counter and the Protective Counter are correct.

12. REMOVAL AND TRANSFER OF THE RESULTS CARTRIDGES AND CONSOLIDATION CARTRIDGE

The standard configuration of the AVC Edge® uses the Results Cartridge to transmit the machine results to the tabulation system (WinEDS). This is accomplished by breaking the physical seal that assures that the Results Cartridge has not been tampered with and then removes the cartridge. It is then transported to the tabulation location. WinEDS is designed to incorporate numerous Remote

Tally workstations, which are linked to the server through dial-up networking. This makes it quicker for the election worker to deliver it to the tabulation system and consequently, results are ascertained quicker. This has the advantages of being less expensive, easier for the election worker, and eliminating the emotional allegation of some sort of nefarious hacking into a networked voting device.

The AVC Edge® can also be configured to transmit results via modem when polls close. In this configuration, it is the responsibility of the owning jurisdiction to provide the required telecommunications infrastructure and equipment to connect to an RS-232 type serial port on the AVC Edge.

13. CLOSING DOWN THE AVC Edge

To close down the AVC Edge, the poll worker turns the power switch to the Off position, closes the secrecy panels and then lowers the LCD Display to the storage position The AC Power Cord is unplugged from the outlet and machine. The top cover is secured in place. The machine is turned onto the top cover and the legs are removed. The power cable is folded and stored in its compartment inside of the leg storage compartment. Then the legs are stored and the leg storage compartment is closed. The AVC Edge® is placed in its pickup location within the polling site.

14. PERFORMING THE POST ELECTION LOGIC AND ACCURACY TEST

A standard feature of the AVC Edge® that may be used optionally by the user is the Post Election Logic and Accuracy Test ("Post-LAT"). This feature is used to verify that the AVC Edge's logic and the ability to count votes accurately has not been compromised since the Pre-LAT. The Post-LAT is very similar to the Pre-LAT in that the first thing done is to print out a Zero Proof Sheet. Then the AVC Edge® is voted. Vote Simulation may be used. When the voting is completed, a Results tape is printed to verify the logic and accuracy.

Section 10

Security for the AVC Edge®

INTRODUCTION

Security is a blanket term, which involves a variety of elements designed to mitigate potential risks and threats. In general, secure systems will control, through use of specific features, access to information such that only properly authorized individuals, or processes operating on their behalf, will have access to read, write, create, or delete information.

The design of a secure environment involves the use of three types of *controls*:

Preventative Controls:

The purpose of this type of control is to prevent the occurrence of one or more specific risks or threats. These controls can be use as a means of restricting or limiting access to data, functionality, or components. They may also be used to directly interdict potential threats or outside attack.

Detective Controls:

All risks, threats, or attacks cannot be prevented — e.g., a system which permits outside dial-up access can use preventative control to stop unauthorized access, but it cannot prevent recurring attempts. In these cases, it is important to at least detect or record that such an event occurred. Detective controls are intended to identify real, potential, or attempted breaches in security. They are also often used to record an audit trail of activity, which can be subsequently examined to identify potential problems or risks.

Corrective Controls:

Even with preventative and detective controls in place, it is possible that damage or loss could occur (e.g., an authorized person uses such authorization to damage the system). Corrective controls are procedures or mechanisms, which enable recovery from the loss or damage.

The security of any system, organization, or environment is not the result of merely one or two system components. It is the result of a variety of features, controls, architectural decisions, and procedures combining and building upon each other to produce a *security infrastructure*.

Security is fundamental to the election process. Security implies that the system must be reliable, it must accurately record votes and it must maintain the integrity of those votes. Security is achieved through features and controls, which are inherent in the system design and through administrative controls. The acceptable level of security cannot be achieved with just one. Both types of controls must be present. This document is an overview of the security features and controls in the design of the AVC Edge® Direct-Record Electronic voting machines.

SYSTEM OVERVIEW

The AVC Edge® Voting System consists of two major components, the AVC Edge® Electronic Voting unit and the Election Database System (WinEDS) Central System.

The AVC Edge® incorporates a color LCD with an integral touchscreen, a control panel for use by election poll workers, appropriate electronic circuitry and processing devices for performing specified system functions, internal memory for storing ballot data and voting records, a removable Results Cartridge with non-volatile memory, protective and public counters, and integrated voter privacy panels.

The Results Cartridge is designed so that it can be inserted into the voting machine, record voting results, be removed from the machine at the closing of the polls and be read by the WinEDS Central System. The Results Cartridge stores:

- an electronic representation of the ballot,
- ballot logic to enable the voter to make those selections to which he or she is lawfully entitled,
- the aggregated vote totals,
- a randomized record of all individual ballots cast, and
- a chronological log of significant machine operations, including error conditions.

The WinEDS Central System ("WinEDS") is a computer software system, which contains application software developed specifically for election requirements. The WinEDS System consists of the following subsystems:

- Election setup, which provides functions to initialize an election, define the political parties, offices and party positions, political subdivisions, types of elections and other global election variables.
- Candidate management, which allows the election office to identify the contests and candidates for an election.
- Ballot management, which provides for the layout of the visual ballots and the generation of the ballots in electronic or paper form.
- AVC Edge® management, which provides functions that helps manage AVC Edge® testing, maintenance and election preparation.
- Election results management, which provides the functions for election night tally of Results Cartridges and paper ballots (Absentee Ballots), the re-canvass of the election and the certification of all contests to the political parties and state election reporting agencies.

AVC Edge® DESIGN OVERVIEW

The AVC Edge® is a direct descendant of the very successful AVC Advantage voting machine. The AVC Advantage is a tried & true product, with a 13-year history. Over 20,000 systems are in use. In countless elections, and with countless numbers of votes cast, *not a single vote has been lost to equipment malfunction or software error.*

Security & integrity of the voting process were cornerstones of the design philosophy of the AVC Edge. The design has features that enhance system security and maximize resistance to virus and Trojan horse type attacks. These will be discussed in more detail below.

AVC Edge® SECURITY

It is helpful to look at *where* in an election cycle attacks could be mounted, so that there is a context for the security features in the system. Where can attacks be made?

- During development of the AVC Edge's software.
- During ballot definition and cartridge generation at WinEDS.
- During transport of programmed Results Cartridges to the AVC Edge® warehouse.
- During the AVC Edge® technician's Ballot Verify and Pre-LAT process.
- During the Election.
- During transport of the Results Cartridges to the tally site.
- During tally at WinEDS.

In a similar vein, the results of attacks on the election cycle can be categorized as:

- Denial of Service
- Alteration of Vote Data

Denial of Service attacks, which might typically be of a vandalism nature, are an equal threat to all voting systems, electronic or paper based. Alteration of Vote Data attacks (or the loss of vote data) are of more importance; the sections that follow will describe the safeguards in the AVC Edge® that make such attacks closer to impossible on the AVC Edge® than with any other voting system.

One important point to also keep in mind is that a *meaningful* attack, in either category, must involve affecting a large number of votes. After programmed Results Cartridges leave WinEDS, they move into the hands of *several* AVC Edge® technicians for machine preparation, and on election day, the AVC Edges are in the hands of *hundreds* of poll workers, at multiple physical locations. Collusion at this level is unlikely to go undetected.

Loading the Ballot Onto the AVC Edge

Each AVC Edge® goes through an automatic validation process to load the WinEDS-defined ballot. It must then also go through a Pre-Election Logic & Accuracy Test (Pre-LAT). It is not possible to bypass these steps.

The ballot load and Pre-LAT operations are typically performed by AVC Edge® technicians, with the machines still in the storage warehouse.

When WinEDS generates a ballot and loads it onto a Results Cartridge, it includes the following integrity checks:

- Each Results Cartridge is "branded" with the destination AVC Edge's serial number.
- A CRC is calculated for each of the data files that comprise the ballot definition. These CRC values are stored along with the ballot data.

During the loading of a ballot, the AVC Edge® initializes itself for the upcoming election based on the ballot files read from the Results Cartridge. The ballot definition on the Results Cartridge is subjected to the following tests before it is loaded into the AVC Edge:

- The serial number on the Results Cartridge must match this AVC Edge.
- The ballot file CRC values calculated & stored by WinEDS are validated.
- Make sure there is no vote data already stored on the cartridge, of any type: Ballot images, write in names, candidate totals counters and selection code totals counters.

- Make sure that file sizes make sense, for example that there are an equal number of candidates in the ballot definition as there are candidate summary totals counters.

Any failure in the above tests will cause the AVC Edge® to declare an error, and to reject the Results Cartridge.

Once the tests listed above are completed successfully, the data from the Results Cartridge is copied into the AVC Edge® Audit Trail memory. From this point forward the AVC Edge® will not operate without the correct Results Cartridge installed.

The Pre-Election Logic and Accuracy Test (Pre-LAT) verifies the logical correctness of the ballot and its match to the visual ballot. During this test all activity is the same as it would be in an official election and the same software logic is exercised, with the important exception that the vote data is stored separately from the Official Election vote data.

Voting during Pre-LAT can be either manual, or automatic via a vote simulation script. This vote simulation feature, which is only available in Pre- and Post-LAT, allows the ballot logic to be tested, with large numbers of votes (in excess of 100,000 candidate selections), and without the possibility of data entry errors.

Upon closing of Pre-LAT polls, the AVC Edge® prints a Pre-LAT results report. The totals can be compared to the predicted totals from manual voting or Vote Simulation scripts.

Conducting the Election

During the Election, the Results Cartridge must always be inserted in the AVC Edge®. If it is removed, the AVC Edge® will stop its normal operations, generate an error indication and make an entry in the Event Log. In addition, the Auxiliary Port must be kept empty. Attempting to insert *any* cartridge type into this port will also stop normal operations, generate an error condition and make an Event Log entry.

A numbered seal can be installed to physically ensure that the Results Cartridge is not removed.

At the opening of the polls, a zero proof report is generated which includes the poll site, precinct number, public counter and protective counter, and all ballot information with the state of the internal vote counters. This report proves to the poll site officials that the AVC Edge® has no previously stored vote data.

The process for recording votes includes the use of redundant memories, one resident on the AVC Edge® CPU board (Audit Trail memory), and the other in the Results Cartridge. These memories are verified to be identical after each voter is finished, and also each time the AVC Edge® is turned on while in Election Mode. Any error or mismatch in the verification process will generate an orderly shutdown and an error message.

The vote recording process begins when the voter presses CAST VOTE. The Election Program composes the voter's Ballot Image record and increments the totals counter of each candidate that the voter selected. A CRC value is calculated and appended to each Ballot Image. This data is saved to both the Audit Trail memory on the CPU board and the Results Cartridge. All operations are double-checked (reading back data just written, etc.) during the vote saving process. After all the voter data is stored the public and protective counters are incremented. Any error that may occur during the vote save process is uniquely reported and causes the voting process to stop on this AVC Edge.

The AVC Edge® then performs an internal cross-check of the redundant memory areas (Audit Trail and Results Cartridge). This cross-check makes sure the two memories are identical, down to the bit level; it includes the vote totals and ballot image storage areas. Any discrepancy is cause for halting the voting process on this machine. Next, an internal "recount" is performed. This recount validates each ballot image and recalculates the summary totals from the ballot image data. Any mismatch between the ballot image totals and the summary total counters will be detected. After a successful cross-check, the poll worker may activate the machine for the next voter.

Since the AVC Edge® retains a ballot image record for each voter, it is important that these ballot images not be saved in the order in which they were cast as that would provide the ability to learn how an individual cast their vote. When the AVC Edge® allocates storage space for ballot images and write-in data, it takes the following steps to assure storage of this data is sufficiently random to avoid identification of voter data with individual voters.

1) Storage space is allocated in large blocks rather than on a per-voter bases. When an allocation is required, a random number of storage blocks between 25 and 50 are allocated.
2) Access to the storage blocks is via an indirect table of block numbers. This table is shuffled randomly when the blocks are allocated, so that the sequence of storing ballot images within the storage blocks is random.

The randomizing function in the AVC Edge® uses a mathematical pseudo-random number generator that is further randomized by the value of the AVC Edge's internal real time clock at the time of the random number request. This pseudo-random number generator has been reviewed by independent computer experts and been deemed sufficiently random that it would not reasonably be reversible based on the amount of data that would serve as the basis for the reversal.

Tallying Results

When polls are closed, the AVC Edge® immediately calculates and stores cryptographic signatures of each of the totals data files (ballot images, write in names, candidate summary totals, and selection code summary totals). The cryptographic signature values are stored in both the Audit Trail and Results Cartridge memories.

Next, the AVC Edge® prints a Results Report. This report shows the value of each candidate counter (including ballot measures) and also shows voter turnout data per precinct or primary party, if applicable.

Once the report is complete, the Results Cartridge can be removed and transported to the WinEDS system for tally. Typically, this transport is done in a secure manner - the cartridges are placed in a sealed case and transported by at least two poll workers.

Once at WinEDS, the cartridges are tallied. WinEDS validates the ballot definition on the cartridge to make sure the cartridge has come from the correct election definition. Cartridges that have an incorrect ballot are rejected. WinEDS also maintains lists of cartridges that were assigned to this election, and of cartridges that have already been tallied. Each time a Results Cartridge is presented for tally, it is checked against these lists.

If a question arises about the integrity or accuracy of the election night tally, several safeguards can be relied upon:

- The cryptographic signatures of the totals information can be re-validated.
- There is still a redundant copy of the vote data, and ballot, on each AVC Edge. An AVC Edge's Results Cartridge can be returned to the AVC Edge®, and the two copies verified to still match.
- The data that WinEDS tallied from the Results Cartridge can be verified against the Results Report printed by the AVC Edge® when polls closed.
- WinEDS can print data directly from a Results Cartridge. Results Reports, Ballot Image details, and the Event Log can all be printed.

- Additional copies of the Results Report can be printed from the AVC Edge's Audit Trail memory.

To test that the AVC Edge® is still operating properly, with the correct ballot, a post-election Logic and Accuracy Test (Post-LAT) can be run. This mode is functionally the same as the Pre-LAT mode, including the availability of Vote Simulation.

What would happen if a Results Cartridge were lost or damaged while in transit to WinEDS for tally?

There are two methods of dealing with this situation. The first is to use WinEDS to manually enter the vote data for the AVC Edge, from the printed Results Report. The second method is to use a special "Audit Trail Transfer" Cartridge. This cartridge, in conjunction with a firmware function only available at polls closed, allows for transferring an exact copy of the AVC Edge's Audit Trail memory to the cartridge. WinEDS can then do its tally from this cartridge. Finally, additional copies of the Results Report can be printed from the AVC Edge's Audit Trail memory.

OTHER POINTS AND ISSUES

Can Malicious Software Be Introduced Into the AVC Edge?

No. Here are the reasons why:

In order to verify that the correct firmware is installed in each machine, Sequoia has administrative controls in place from the time the firmware is written and compiled until the time it is locked and sealed in each AVC Edge. The points in this sequence are when:

- The firmware is written and the master program ROM created,
- The master ROM is reproduced for installation in each AVC Edge, and
- The AVC Edge® machines are delivered to a customer.

The AVC Edge® firmware is written in a high level language and is well designed and written so that it can be easily read and understood. This has been confirmed by the FEC certification process. Sequoia conducts comprehensive testing as part of the qualification acceptance testing of the AVC Edge.

The AVC Edge® software is under strict configuration management control. This means that there are verifiable means of controlling, accounting for, and verifying any and all changes to the baseline machine firmware, which has been the subject of detailed review. The firmware is compiled twice, by different people, on different computers and the results verified to be identical.

During the assembly of the AVC Edge® there are manufacturing controls to provide assurances that the correct version of firmware is being installed in each machine. Also in manufacturing there are procedures that allow SPVE to verify that the known version of software is, in fact, the version installed on the AVC Edges.

Each machine is a stand alone processor. Errors cannot be promulgated from one machine to another. The machines cannot be accessed by telecommunications. Access to the machine is limited by administrative procedures and is also limited by the physical design of the machines.

In summary, there are controls from the source code review through the manufacture and delivery of the AVC Edge® to protect the integrity of the program ROMs. Thereafter, the AVC Edge® design limits access to the program ROMs through physical means -- locks and seals -- and logical means -- checksums at power up and program initiation. Finally, by machine design the machine is not accessible to the outside except through the Results Cartridges.

What are the safeguards against tampering, theft or damage of the AVC Edge®?

When WinEDS generates a ballot and loads it onto a Results Cartridge, it includes the following integrity checks:

- Each Results Cartridge is "branded" with the destination AVC Edge® serial number.
- A CRC is calculated for each of the data files that comprise the ballot definition. These CRC values are stored along with the ballot data.

During the loading of a ballot, the AVC Edge® initializes itself for the upcoming election based on the ballot files read from the Results Cartridge. The ballot definition on the Results Cartridge is subjected to the following tests before it is loaded into the AVC Edge®:

- The serial number on the Results Cartridge must match this AVC Edge®.
- The ballot file CRC values calculated & stored by WinEDS are validated.

- Make sure there is no vote data already stored on the cartridge, of any type: Ballot images, write in names, candidate totals counters and selection code totals counters.
- Make sure that file sizes make sense, for example that there are an equal number of candidates in the ballot definition as there are candidate summary totals counters.

  Any failure in the above tests will cause the AVC Edge® to declare an error, and to reject the Results Cartridge.

Once the tests listed above are completed successfully, the data from the Results Cartridge is copied into the AVC Edge® Audit Trail memory. From this point forward the AVC Edge® will not operate without the correct Results Cartridge installed.

As part of the pre-election setup process, the Results Cartridge is sealed in the voting machine.

For tampering to occur between the time the machine is delivered and set up for use, access and knowledge are needed. Can a machine be physically tampered with? Certainly. But not in a way that cannot be easily detected when the machine is set up.

- Physical damage/destruction will be obvious by visual inspection.
- Verification of the numbered seals will detect any access to the memory or controls on the machine.
- Alteration of data on the removable memory device will be detected when the machine is powered up and verifies that the removable and internal memories are exact duplicates.
- Alteration of data on both internal and removable devices, for example to "preload" votes for one candidate, will be apparent (a) when the polls are opened and the zero proof report printed, (b) when validating the summary totals and ballot images, or (c) when the poll workers validate that the public counter number is at zero.
- Because the AVC Edge® follows a rigid sequence through the election, and polls cannot be re-opened, it will be apparent to the election officials if a machine has been voted on prematurely, and the event log can be reviewed to verify such.

What About a Printed Receipt for the Voter?

The AVC Edge® does not provide any sort of printed receipt (with the voter's selections indicated) to the voter. Consider what the implications of such a receipt are:

- Vote buying. DRE voting systems are essentially immune to traditional vote buying schemes, such as handing pre-voted paper ballots to voters before they enter the polling place. With a receipt, such schemes would be back in business.
- What if a voter says the receipt is different than the selections that were made? With the anonymous vote storage of the AVC Edge, there is no method to prove or disprove such a claim.
- If nefarious forces are at work inside the voting machine, the receipt could be printed to match the voter's inputs, while merrily recording something else altogether.

What type of memory storage is used in the AVC Edge®?

The AVC Edge® uses a Flash ROM memory cartridge, based on the PCMCIA (PC Card) interface standard. The internal Audit Trail memory of the AVC Edge® is based on the same Flash ROM technology. The data retention life of this memory is in excess of 20 years, and its reliability is specified as less than 1 non-recoverable error in 10^{14} operations.

Additional stability is achieved through the use of error detecting codes and redundant storage of all vote data:

- Each ballot image record is stored with a CRC-16 check digit that can detect any corruption of the data in the record.
- When polls close, cryptographic signatures of the vote data are calculated and stored. These signatures are based on a "seed" value known only to each individual AVC Edge® and to WinEDS. Calculation or validation of these signatures can only be done with prior knowledge of the seed value; this measure serves as both a guard against corruption of and against tampering with the vote data.
- Vote data is stored in both summary total and ballot image format. A simple cross-check operation, that can be done from the polls closed machine state, can validate that the ballot image data tallies to the same values as stored in the summary total format.
- Vote data is stored both in the removable Results Cartridge memory device and in the AVC Edge® internal Audit Trail memory. A simple crosscheck operation that can be done from the polls closed machine state can validate that the two copies are identical.

- In the case that a Results Cartridge memory device is lost or suffers a catastrophic failure, the AVC Edge®, from its polls closed state, can copy its internal Audit Trail memory contents to a special Audit Trail Transfer memory cartridge.

Other AVC Edge® Security Features

1) The AVC Edge® is designed to allow the attachment of seals to its various parts to ensure that there is no unauthorized access. These seals are typically serialized, and recorded on election paperwork, and they cannot be removed without destroying them. Also, the cartridges cannot be taken apart without causing physical damage, providing additional evidence of tampering.

2) The AVC Edge® uses a software-controlled power down. The Power On/Off switch located on the unit, *unlike a standard PC*, does not directly shut off the power. Rather, it sends a power down request to the firmware. If the firmware is in the middle of an important operation, such as saving a vote, it will delay the power down until it is safe, unlike on a PC, where a power interruption during a file write operation can cause all sorts of havoc, including corruption of disk memory.

3) The AVC Edge® maintains an audit log, called the Event Log. This log is stored redundantly, on both the Audit Trail and Results Cartridge. Since all significant AVC Edge® events, including error conditions, are noted in this log, it is a valuable source of information on any anomalies that may have occurred.

4) The AVC Edge® has numerous security features built in. Physical security of the machines is also important; since that is under control of each jurisdiction, we offer the following recommendations:

   - House the machines in an access-controlled area.
   - Keep all spare parts, especially CPU boards and firmware sets, locked up at all times.
   - Keep all cartridges (Results, Consolidation, etc.) locked up when not being used.
   - Limit access to the machines, cartridges, spare parts, etc. as much as possible.
   - Make use of numbered security seals to ensure that Results Cartridges cannot be removed from the machines without evidence.
   - Perform a full inspection of each machine, including validating the firmware version, before election use.

Section 11

Recounts on the AVC Edge® System

Recounts for the AVC Edge® can be performed at three different levels.

A basic recount consists of rereading results cartridges from each machine used in the election. This is accomplished by rereading the cartridges in post election/recount mode in the central system. Totals from election night and the recount are then compared.

The next recount level consists of printing cumulative totals from each voting machine. These printouts are then summed up for each precinct and for the county as a whole. The machine printouts and their summation totals are then compared against the machine, precinct and county totals from the central system.

The final recount level consists of printing the audit trail containing ballot images from the machine or its corresponding cartridge. There is no identification of the ballot image to the voter. Each ballot image is counted manually in order to obtain machine, precinct, and ultimately county totals. Ballot image summations are then compared against the machine, precinct and county totals from the central system.

Section 12

Election Night Tally and Reporting on WinEDS

Sequoia Voting Systems provides Election Night tabulation with the proposed equipment or similar systems in many larger jurisdictions. We routinely are finished in less than three hours. The speed of completion of tally is a function of several things. They are:

- The number of remote tally sites
- The proximity of the remote sites to the precincts
- The data line speed used at the remote tally site
- The procedures used to send the Results Cartridges to the remote tally sites. Can a poll worker leave for the remote tally site with just the cartridges, prior to completion of equipment breakdown and all paper work.
- If not, the amount of paper work required by law before the poll workers can bring in the cartridges

Typical County Network System for Reading Election Returns

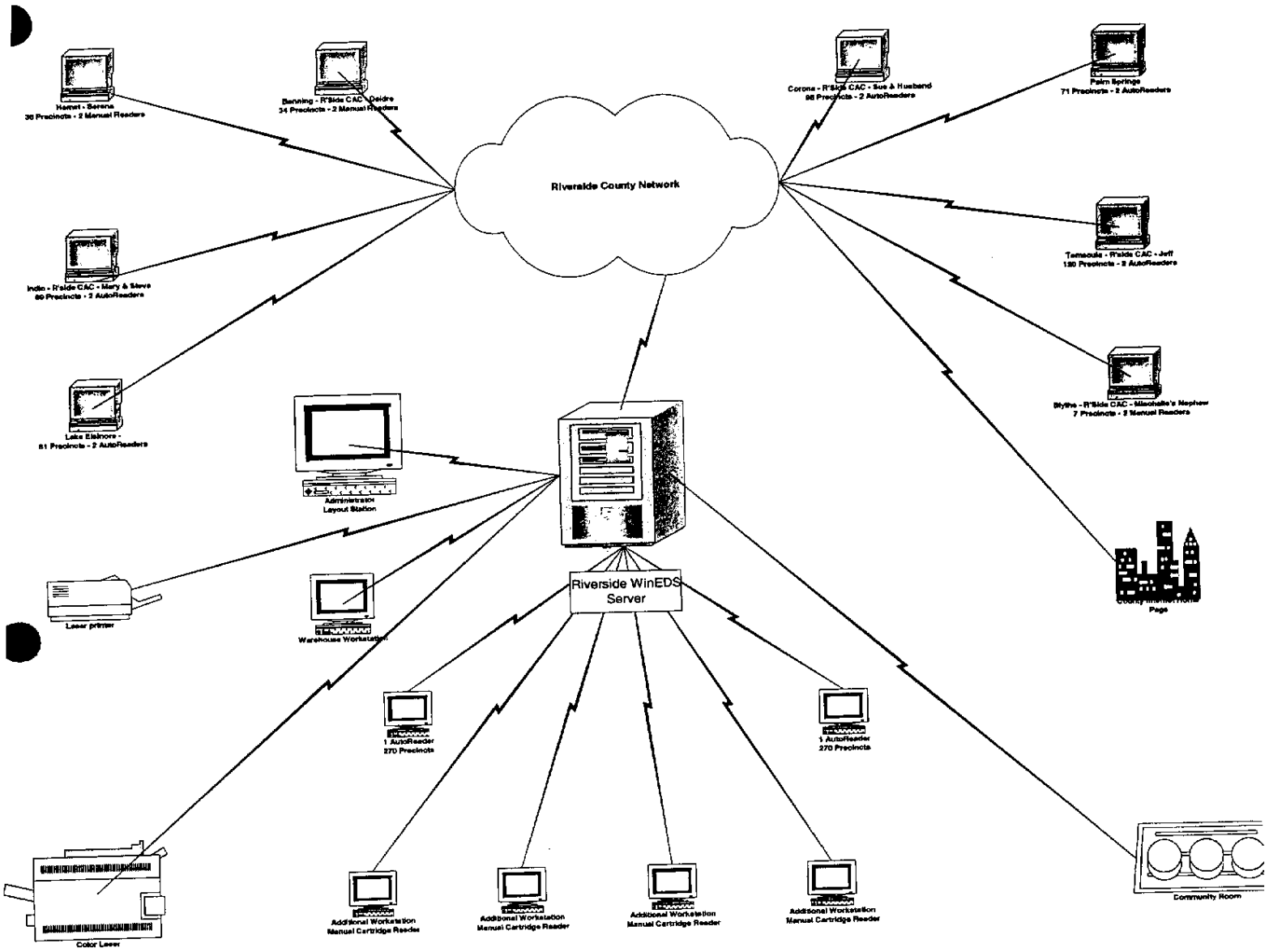
On Election Night, there are usually Remote Tally Sites that are connected to the Server either through the county network or on a closed network. Also, attached to the server can be LCD Projectors for displaying the results on a large screen. There are printers attached to the server for printing reports and other monitors for watching results or system administration. The results can be automatically sent to the county website in an HTML format or to FTP sites for the press. On the next page is an example of a County Network for Reading Results.

WinEDS® provides, throughout election night, a list of precincts where Election Day totals have been received and precincts that are still outstanding.

The central system can remove the results from any precinct and re-read the cartridge for that same precinct, in the event of errors in transmission.

WinEDS® has the ability to operate with standard network copiers/printers that are on the network or attached to workstations.

WinEDS® imports most standard text files from any system. This feature is presently used in multiple jurisdictions with several different vendors' systems and data is transferred easily without any problem.



Election Night Reporting

WinEDS® provides the Election Night reports. See the WinEDS Reference Guide and electronic copies of reports located in Appendix I on the Documentation CD. A list of standard reports in on page 5-5.

WinEDS® provides the ability to custom design report formats to include or not include all information. See the WinEDS Reference Guide located in Appendix I on the Documentation CD. Section 5, details Reporting and its flexibility.

The central system consists of many customizable reports that can be saved in over 20 different formats including Access, Excel, Dbase, SQL, ASCII Text, PDF and HTML. Reports are available for every component within the system (see list below). Also, the central system provides specific features outside the normal reporting structure. These include an election night scrolling slide show of results in real time; schedule exports to printers and FAX machines; FTP to media outlets and the Secretary of State (if necessary); and scheduled HTML exports for internet posting.

SYSTEM COMPONENT	REPORT TITLE
Election Day	Data Entry Machine Report
Election Day	Subdivision Report
Election Day	Status Report
Election Day	Write-In Detail Report by Machine
Election Day	Summary Report
Election Day	Precinct Report
Election Day	Turnout Report
Election Day	Machine Report
Election Day	Write-in Detail by Precinct
Election Day	Write-in Detail by Political Subdivision
Election Day	Full Summary Report
Election Day	Machine - Blank Vote Report
Election Day	Machine - Under Vote Report
Election Day	Data Entry Precinct Report
Election Day	Processed Report
Election Day	Precinct Turnout Report
Election Day	Machine Processed Report
Election Day	Precinct Report - 3 Columns
Election Day	Summary Report - 3 Columns
Post Election	Canvass Difference Report
Post Election	Canvass Report
Post Election	Winners Report
Post Election	Statement of Vote Report
Post Election	Cartridge Event Log Report
Post Election	Election Returns Report
Post Election	Public Counter Report
Post Election	Precinct Cross-Tabulation Report
Post Election	Precinct Turnout by Party
Post Election	Statement of Vote Book

Optional: Modeming Results from the Precinct

As an Optional, CDPD modems may be installed in one Card Activator in each precinct. If the County via the CDPD network chooses this wireless transmission of election night totals, no physical hard-wired phone line is required. With CDPD transmission, a wireless, CDPD modem is installed in the Card Activator. No physical travel is required to the polling location to verify phone lines in the event landline modems were used. At poll closing, a push of a button on the Card Activator is all that is required to transmit election night totals to election central. The Card Activator will give visual confirmation that the wireless transmission was successful. If transmission is not successful, poll-workers should be instructed to transport the Card Activator (along with results cartridges) to remote/tally receiving stations, or election central, where subsequent transmission can be accomplished.

An alternative to the CDPD modem is landline modems. This is less expensive, but it is an extreme hardship on the poll worker to perform on Election Night and it is extremely time demanding on the election technical staff verifying the data lines in each precinct. Although Sequoia does not recommend this method of transmission of Election Night Results from the polling place, the following describes the necessary lines and testing required for landline transmission. If the landline modem is used, then Standard Analog phone lines are all that is required for the transmission of Election Day results from polling places via the internal modem within the Card Activator located at each polling place. These phone lines are confirmed by traveling to each polling location. Using a standard touch-tone phone, getting an outside line, and calling election central to confirm the connection accomplishes confirmation. A small map layout of the polling site is made showing the location of the RJ-11 connector at the polling site that is to be used for transmission of Election Day results. The appropriate connector is marked in some manner acceptable to the election authority, whereby it is highly visible and readily identifiable to poll-workers. The map should be included with the precincts/poll locations register and other supplies for use in locating the phone line after the polls close. The Card Activator gives visual confirmation that transmission has been successful. If transmission is not successful, poll-workers should be instructed to transport the Card Activator (along with results cartridges) to remote tally/receiving stations where subsequent transmission can be accomplished.

These options will be available in late 2001.

Section 13

Training and Voter Education

Sequoia Voting Systems trains their users to become independent in technical maintenance, election definition creation with the central system and the administration of the system. The AVC Edge® requires no printed ballot, and WinEDS creates the electronic ballot automatically. If a printed Sample Ballot is needed, WinEDS will produce that in-house by your staff. Your staff is trained to do all election preparation and setup independent of Sequoia.

Voter Education Program

Sequoia Voting Systems as part of the Implementation Plan, will provide extensive voter education. We will provide public service videos to be used prior to the election on television, similar to the one we provided in Riverside, California using President Gerald Ford. We will design flyers to be mailed to voters. We will provide graphical assistance with you website. We will help design a PowerPoint presentation for office staff and others to demonstrate the machine to a civic or church group. Other voter training ideas is the placement of a machine with a short training video in malls and grocery stores. They only need to be attended by a volunteer or temporary helper, since the video provides the training.

There is no better method of establishing voter familiarity and comfortableness than hands-on experience. To do this prior to the first election of use, we recommend taking demonstration units with a quick "How to Vote" video to the malls and to grocery stores. Have a volunteer sit with the machine all day and simply activate the machine for each voter. Also, the same concept should be used when going to civic and church groups to explain the system.

There is no way to reach out to every voter so the use of public service commercials can familiarize the voter. But what it all comes down to is Poll Worker Training. Many voters will have never seen the new voting unit. The poll worker must inform them with quick and concise instructions and in a manner that is encouraging. Sequoia Voting Systems will help develop the training curriculum so this can be accomplished. Also, we will help design voter instruction for the voting unit privacy panels and polling location posters.

Election Office Personnel Training

All Training Manuals are included on the Documentation CD in Appendix I.

Below are sample training Agendas:

WinEDS Training Agenda

Item (Time)	Operation Manual Page Reference

DAY 1

Part 1: Introduction (8:30 – 11:00)

OVERVIEW OF WINEDS	**1-1**

Break (11:00 – 11:15)

Part 2: Security (11:15 – 12:30)

OVERVIEW	**2-1**
ROLE MAINTENANCE	**2-3**
USER MAINTENANCE	**2-11**
WORKSTATION MAINTENANCE	**2-19**
CHANGE PASSWORD	**10-2**

Lunch (12:30 – 1:30)

Part 3: System Setup - Section A (1:30 – 4:30, with Break)

OVERVIEW	**3-1**
GENERAL INFORMATION MAINTENANCE	**3-2**
TERMINOLOGY MAINTENANCE	**3-38**
ELECTION TYPE MAINTENANCE	**3-46**

DAY 2

Review (8:30 – 9:30)

Part 4: System Setup - Section B (9:30 – 12:30, with Break)

Lunch (12:30 – 1:30)

Part 5: Profile - Section A (1:30 – 4:30, with Break)

DAY 3

Review (8:30 – 9:30)

Part 6: Profile - Section B (9:30 – 12:30, with Break)

DAY 4

DAY 5

Review (8:30 – 9:30)

Part 10: Election Day - Section B (9:30 – 10:30)

Break (10:30 – 10:45)

Part 11: Post Election and Review (10:45 – 1:00)

AVC Edge® Technician Training: Level - 1

Day 1

9:00	**Introduction** **Tour of Harvard Manufacturing**
9:45	**Edge System Overview**
10:45	**Break**
11:00	**Terminology Assembly Logic** • Assembly Logic • System Power-Up
12:30	**Lunch**
1:30	**Operating Modes** • Maintenance Diagnostics • Troubleshooting
2:30	**Acceptance Test Procedures**
3:35	**Break**
3:45	**Tool Kit**
4:15	**Review**
4:30	**End Session**

Day 2

8:30	**Review**
9:00	**Disassembly Procedure** • Touch Screen Assembly
10:30	**Break**

10:45	**Disassembly Procedure** • Edge Unit
12:30	**Lunch**
1:30	**Basic Electronics, Internal Components** **Power and Logic, Battery Maintenance**
4:00	**Review**
4:30	**End Session**

Day 3

8:30	**Review**
9:00	**Machine Disassembly/Assembly Exercise** • Troubleshooting Components
11:15	**Break**
11:30	**RMA process**
12:30	**Lunch**
1:30	**Activation Card Writer (ACW)** • Overview • Programming • Card Processing • Assembly and Disassembly
4:00	**Review**
4:30	**End Session**

Day 4

8:30	**Review**
9:00	**Election Setup - Procedural Overview**
10:00	**Loading the Ballot**
10:15	**Break**
10:30	**Pre-Logic and Accuracy Test (PreLAT)** • **Opening Polls (Pre-LAT)** • **Verifying the Ballot** • **Manual Voting** • **Vote Simulation**
12:00	**Lunch**
1:00	**Final Election Preparation** • "Buttoning-Up" the machines
1:45	**Voting on the Edge, including Early Voting**
3:00	**Break**
3:15	**Poll worker Troubleshooting**
4:15	**Review**
4:30	**End Session**

Day 5

8:30	**Review**
9:00	**Post-Logic and Accuracy Test (PostLAT)** **Audit Trail Transfer** **Ballot Image Reporting**
9:30	**Error Conditions**

10:30	**Break**
10:45	**Troubleshooting Exercises**
11:45	**System Upgrades**
12:00	**Final Review**
1:00	**End Session**

AVC Edge® Poll Worker Training Agenda

TO BE TRAINED:

All Poll Workers for all Precincts

WHO WILL DO TRAINING:

Six people from Election staff
Two people from Sequoia Voting Systems Staff

(Training of Staff members to train Poll Workers, agenda for Training session, Training Video script and design of Training printed material to be provided by Sequoia Voting Systems, Inc. Sequoia will also be present to observe all session the first two days for observation and feedback.)

DATE OF TRAINING:

Chief Inspectors – (Approximately _____ to be trained. This includes, from each precinct, the chief inspector and one chosen poll worker to be the equipment expert. They must attend together.)

October _____, 2000 through October _____, 2000, there will be _____ classes per day of training sessions. These sessions will be held at _____ times. Each session will be capable of training 50 Chief Inspectors.

There will be _____ days of Make-up sessions held October _____, 2000 (_____ times). This will be held for any and all chief inspectors and equipment poll workers that failed to attend or need to attend for a second time.

Regular Poll Workers – (Approximately _____ to be trained)

October _____, 2000 through October _____, 2000, there will be _____ classes per day of training sessions. These sessions will be held at _____ times each day. Each session will be capable of training 300 regular poll workers.

There will be _____ days of Make-up sessions held October _____, 2000 at _____ time in the day. This

will be held for any and all poll workers that failed to attend or need to attend for a second time.

LOCATION OF TRAINING:

Must be a centrally located, large public facility capable of seating 100 - 200 people with ample parking.

TRAINING CURRICULUM:

Chief Inspector

1. **The Chief Inspector will watch an AVC Edge® training film that last approximately 20 minutes that is designed specifically for the County.**
2. The Poll Workers will be given the "Simple Steps to Operating the AVC Edge® Voting Machine".
3. The Poll Workers will then break up into small groups at each AVC Edge® voting unit (no more than 4 at a machine). Preferably both Chief Inspector and Equipment Expert Poll Worker from a precinct will attend the same session and go together to the same machine.
4. The Poll Workers will be instructed to have one person read the step-by-step instruction while the others perform each step.
5. When the machine is in the "Open Polls" mode, ALL poll workers will thoroughly acquaint themselves with voting the machine.
6. There will be staff workers present to answer all questions.
7. The goal is for each chief inspector to have setup a machine and voted it prior to the election, understanding all options for voting.

Regular Poll Workers

1. **The poll workers will watch an AVC Edge® training film that last approximately 20 minutes that is designed specifically for the County.**
2. The poll workers will be given the "Simple Steps to Operating the AVC Edge® Voting Machine".
3. The poll workers will then be thoroughly instructed on activating the voter cards and instructing voters on how to use the machine.

4. The Poll Workers will receive their general instructions.
5. When the poll workers are dismissed, they will be told that they must go to one of the 20 voting machines and activate a voter card, take it to a machine and then to vote at least once.
6. There will be staff workers present to answer all questions at the machines.
7. The goal is for each poll worker to have activated a voter card and voted the machine prior to the election, understanding all options for activating and voting.

TRAINING TOOLS:

AVC Edge® Training Film
Simple Step by Step Poll Worker Guide
Detail Poll Worker Manual

Section 14

Implementation of System

The detailed AVC Edge® Implementation Plan is located in Appendix E and electronically, it can be found in Appendix I on the Documentation CD in the Implementation folder.

On-Site Support

On-site support for full implementation through the November Election of 2002 will be provided as follows (please note, this does not include time spent by the Project Managers, Sequoia executives, or Training Specialists. A Project Manager will be assigned specifically for Palm Beach County. Their time on-site will vary over the course of the 1½-year installation):

2 Sequoia Product Specialists with approximately 10 visits (varying in length) for pre-installation meetings, jurisdictional database creation and conversions, election support, and other matters.

2 Sequoia Technicians on-site throughout the AVC Edge® Preparation Period.

6 Sequoia Technicians on-site for Election Day support.

Ongoing support will be assessed on a need basis. Sequoia's goal is to provide enough support and training upfront to allow the county to be self-sufficient. Phone support in the long-term is free, and onsite support as well as software customization will billed per published pricing.

Public Relations, Outreach, and Media Plan

INTRODUCTION

This Public Relations Plan is designed to review the basic strategy for media relations and layout the proposed events for 2000. As with most implementation guidelines, this plan is not intended to be a rigid outline of compulsory events. It is meant to lay the foundation for an evolving journey

into one of the most important years in the history of the County's Election Office.

REVIEW OF MEDIA RELATIONS

1. The administering of elections is the public's business, and the media is an important vehicle for reaching the public.

2. When dealing with the media, here are some general rules:

   A. Credibility is Crucial

   Be sure you have the facts right. Do not guess or state something that cannot be confirmed. Do not be afraid to say, "I don't know, but I'll find out."

   B. Accept the obligation to be well informed

   This is extremely important for Election Office staff members. Every staff member should spend 30 minutes acquainting themselves with how to Activate and Vote the AVC Edge® so they can demonstrate to others. It is recommended that all staff members attend the Poll Worker Training class to familiarize themselves with all aspects of the system.

   C. Brief is Better

   Whether writing a News Release, talking at a press conference or being interviewed, get the point across promptly. Do not give others the opportunity to edit your comments. Most importantly do not draw the focus of the media away from the issue at hand. For example, if a Press Conference is called to discuss the new voting machines, do not draw the focus from the machines by beginning a discussion of voter registration.

   D. Serve the media, but do not force feed it

   If the Election Office serves the media well, the Election Office will be perceived well by them, and that perception will be communicated to the public. It is important to remember that the "image" of the Election Office created in the mind of the public is a reflection cast by many people in different roles. **You either sharpen or distort that image**. By serving the media and not force-feeding them, you will sharpen our image.

STRATEGY POINTS FOR DEVELOPING A PR PLAN

1. **Any effort to engage the media must include a message.** Focused messages that promote a particular theme will drive a news

story. For example, a news conference to encourage individuals to participate in the election, promotes a particular theme. The messages in the news conference must focus on the theme, e.g., voter registration or the availability of a sample ballot.

2. **The messages of a news package must stay focused on the theme.** NEVER deviate from the theme. If a press release concerns early voting do not address a voter registration drive.

3. **Do not create a theme or message that does not exist.** (i.e., media exposure for the sake of exposure is ineffective). If nothing particularly newsworthy is taking place, do not try engaging the media simply because the media has not mentioned the Election Office for some time. Utilize this "off-time" to better inform the public about elections (e.g., speakers bureau, public demonstration of the machine in malls or groceries, distributing voter information pamphlets). These types of measures are beneficial to the public, and will create a more positive image for the Election Office. **It is far more important to <u>demonstrate</u> the message than to talk about it.** Calling a press conference to discuss the new voting system is less effective in gaining media attention than having a hands-on demonstration at a public forum.

4. **Act as a unit, not individually.** Acting as a unit does not mean that three staff members must be together during any public or media event. It does mean that when acting alone you should follow the outlined plan developed by the Election Office. By doing this, the following will occur:

- Every public engagement will focus on the particular message (or package) that the group has already decided is important.
- Knowing what the particular focus of an event is, affords the speaker/demonstrator an opportunity to better prepare and educate them on the topic.

5. **Promote the message, not the individual.** The perception of personal promotion can be detrimental, not only to the event, but to the Election Office. Certain steps can be taken to diffuse this erroneous perception:

- Having focused, informative message points will draw the attention toward what is being said and away from who is saying it.
- An initial introduction of the speaker/demonstrator is sufficient during an event, especially a news conference. Reiteration of individual names

and personal agendas can contribute to the perception of self-promotion.

6. **When delivering a focused theme whether by press release or in a news conference, try to incorporate visuals and appropriate statistics.**

IMPLEMENTATION OF THE 2001/2002 PLAN

With regards to the media, the Election Office energy should be focused upon three events; Early Voting during the November 2001 Election, the purchase of the new voting machines and the implementation of the machines for the November 2002 Election. The purchase of a new voting system for the County is a momentous occasion that will attract a great deal of media attention. The Election Office must utilize this attention to educate the public and create a positive image for the AVC Edge® voting machines and the capability of the Election Office to implement it.

The following list of events is a guideline for the creation of a definite outreach strategy. It is extremely important that Sequoia, the Election Office Staff and the selected PR firm (if applicable) work together to formulate a final plan.

The Purchase of the AVC Edge® System

1. **News Release:** to announce the contract signing and provide notice of a major news conference that will give the public a first look at the AVC Edge®.

2. **Media Alert:** and follow-up phone calls regarding the upcoming news conference.

3. **News Conference:** to introduce and demonstrate the machines; visuals of the old and new machines will be included; Voting Instruction sheets for the AVC Edge® (to hand out & for public); questions and answers.

Implementation of the System for the November 2002 General Election

1. **News Conference/Photo-op:** upon first delivery of the machines, invite the press for questions and photo-op.

2. **Speaking Engagements:** for Registrar of Voter Staff to help educate the public by going to as many neighborhood organizations, civic organizations, etc... as possible.

3. **Public Display and Voter Hands-on Demonstrations:** Take a small television/VCR with the voter education tape that plays continuously along with an AVC Edge® to local groceries, malls and any other public, high exposure places of potential voters.

4. **Exhaustive staff and Poll Worker Training:** the main focus of the staff at this time is to master the operation of the machines in order to demonstrate to voters, poll workers and answer basic system question. Likewise, poll worker training must be intensive (hands-on, small groups), enabling them to run a smooth election. From the media and public's standpoint, running this initial election "perfectly" is the most important aspect of implementation.

5. **Public Awareness Video:** This video will be segmented so that only the needed information can be located, extracted by the media for their specific time availability. This video will include the county's Voting History, the History of Voting Equipment in general, Sequoia introduction, AVC Edge® facts and advantages, AVC Edge® voting instructions, description of how the votes are tabulated after the polls are closed.

6. **Media Guide:** There will be a thorough Media Guide distributed to anyone associated with the media, parties, press, etc... This guide will contain useful and pertinent information concerning the Election Office, Voting locations, Early Voting Procedures, Demonstration locations and dates, the AVC Edge® and its use, Sequoia, etc...

7. **Distribution of literature:** it will be important to distribute as much literature about the new machines as possible (especially when the election is near), including and most importantly sample ballots. Also, a "Ready-Set-Vote" folder will be available for placing at all public locations possible such as City Clerk offices, government agencies where the public goes, banks, malls, groceries, convenience stores, etc...

8. **Registrar Office Demonstrations:** maintain two or three AVC Edge® machines at the Election Office for people to practice and begin using the machines for private elections or small elections so that more people come into contact with them.

9. **Sample Ballots:** All voters receive a Sample Ballot of AVC Edge® ballot pages, instruction on voting. This information is also available on the Registrar's Website along with a Voting Video.

10. **News Release:** One week prior to the election, encourage all media to remind voters about the use of the new machines and show sample ballots or use voter instruction video.

11. **New Release:** Two days prior to the Election on available methods of viewing the vote results on election night and each one's benefits.

12. **Election Day activities not directly connected with the new machines:** it is important to remember that the press will also be very interested in election results and turnout. Therefore, on Election Day the focus should not be entirely on the new machines, but also on how to best serve the media regarding other matters. The following are some examples:

- Set up an election night Media Room, the same as you do now.
- Give an estimate of the expected turnout based on previous elections
- Coordinate plans with agencies administering exit polling
- Give an estimated time for completing tabulation
- Emphasize strongly what <u>can</u> go wrong with an election. If nothing goes wrong, the election procedures will appear efficient. If something does go wrong, it will appear that the problem was anticipated and that the Election Office was equipped to handle it.
- Possible survey of voters on the use of the new machines.
- Always be receptive to the media's questions and needs in order to maintain a positive relationship, especially on Election Day.

13. **News Release:** after the election reporting on the very successful first use of the AVC Edge® voting system.

PR Assets needed to execute PR Plan

1. Voter Instruction Sheet
   i. Normal Voting
   ii. Write-in Voting
2. Voter Instruction Poster
3. 2 Minute Voter Instruction Video

4. 3 Television/VCR 13"
5. Media Guide
6. Poll Worker Training Video
7. Poll Worker Simple Step by Step Instruction Guide
8. Poll Worker Detailed Instruction Guide with Pictures
9. Letter to Organizations to setup Speaking Engagements and Demonstrations
10. Voter Instruction Cards for Privacy Panels
11. AVC Edge® Questions & Answers for the Internet

Section 15

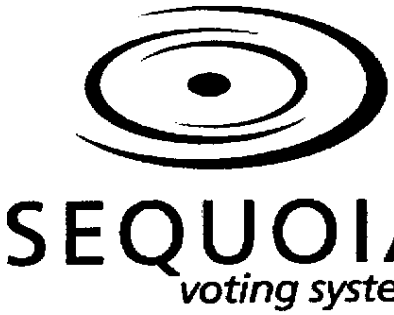
Warranty, Support and System Documentation

The AVC Edge® has a standard one-year warranty as apart of the base price. In the Quantity/Pricing/Delivery Section, Sequoia Voting Systems has included pricing for additional years of warranty. If the County chooses to extend this warranty, they may do so at a price of $50 per year, per AVC Edge®.

The standard AVC Edge® Limited License and Warranty Agreement can be found in Appendix C.

WinEDS has a License Agreement that is a part of the Purchase Agreement. The price of this License Agreement is found in the Quantity/Pricing/Delivery Section.

The WinEDS License Agreement can be found in Appendix D.



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1.5 GENERAL

The laws of the State of Florida govern this Agreement. In the event a provision of the Agreement shall be held unenforceable, it shall be deemed severable from the remaining provisions and shall in no way affect the validity of enforceability of this Agreement.

1.6 WARNING

This equipment has been certified to comply with the limits of Class B computing devices, pursuant to Subpart J of Part 15 of FCC Rules. No peripherals (computer input/output devices, terminals, printers, etc.) not certified to comply with the Class B limits nor approved by Sequoia Voting Equipment may be attached to this computer. Operation with non-certified peripherals is likely to result in interference to radio and television reception.

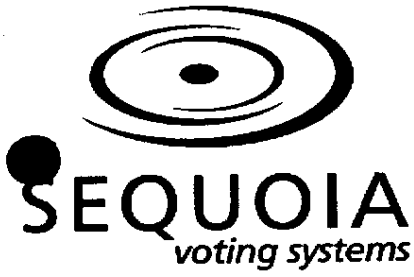
This equipment generates, uses, and can radiate radio frequency energy. If not installed and used in accordance with the manufacturer's instructions, it may cause interference with radio and television reception. Operating this equipment in a residential area can cause interference. Should this occur, the user will be required to take whatever measure may be necessary to eliminate the interference. In attempting to do so, the user should do the following:

a) Reorient the receiving antenna.

b) Relocate the computer with respect to the receiver with which it interferes.

c) Plug the computer into a different AC receptacle so the computer and the receiver with which it interferes with are on different branch circuits.

d) If necessary, the user should consult their Sequoia representative or an experienced radio/television technician for additional suggestions.



Sequoia Voting Systems Inc.
7677 Oakport Street, Suite 800
Oakland, California 94621
(510) 875-1200

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6. No upgrades, updates, or enhancements to WinEDS are included in the WinEDS license agreement. Support will be billed at the current rates for all WinEDS support.

7. **UPGRADES**. Enhancements to this product will be released in the form of upgrades. These upgrades are provided with the maintenance package. Upgrades will be released at SVS's discretion.

8. **PHONE SUPPORT**. As part of the maintenance agreement, SVS will provide phone support from 8:00 a.m. to 6:00 p.m. Eastern Standard Time Monday through Friday.

9. **ELECTION PHONE SUPPORT**. On the day of the election, Sequoia Pacific will provide extended phone support from 6:00 p.m. to 3:00 a.m. Eastern Standard Time.

10. **CUSTOMER IMPROVEMENTS**. As part of the maintenance agreement SVS will place a higher priority on requests for improvements from customers with maintenance agreements.

11. **REDUCED WINEDS SUPPORT LABOR RATES**. Customers with maintenance agreements will receive a 25% discount off published WinEDS labor support rates.

Sequoia DRE Customer List

State	Jurisdiction	Purchased	Units	Type	Prior System	City	RVs	Contact Name	Phone Number
California									
	Riverside County	Feb-00	4250	Edge	Marksense	Riverside	660,000	Mischelle Townsend	(909) 486-7300
	Monterey County	Sep-99	30	Edge	Datavote	Salinas	150,000	Tony Anchundo	(831) 755-5085
Colorado									
	Arapahoe County	Oct-88	1125	Advantage	AVM Lever	Littleton	253,000	Tracey Baker	(303) 795-4200
	Denver County	May-97	1150	Advantage	AVM Lever	Denver	317,000	Lynn Wolfe	(303) 640-2351
Connecticut									
	Mashantucket Pequot	Jun-99	3	Advantage	AVM Lever	Mashantucket	350	Patty Veronick	(860) 396-3109
Iowa									
	Wright County	Oct-89	38	Advantage	AVM Lever	Clarion	24,000	Molly Ketchum	(515) 532-2771
Kansas									
	Johnson County	Aug-88	860	Advantage	AVM Lever	Olathe	258,000	Connie Schmidt	(913) 782-3441
							2,500,000	Wade Martin	(504) 925-7885
Louisiana									
	Acadia Parish	Jun-91	125	Advantage	Shoup Lever	Layfayette			
	E. Baton Rouge Parish	Nov-96	680	Advantage	Shoup Lever	Baton Rouge			
	W. Baton Rouge Parish	Jul-94	60	Advantage	Shoup Lever	Baton Rouge			
	Caddo Parish	May-96	428	Advantage	Shoup Lever	Shreveport			
	Calcasieu Parish	Jul-94	326	Advantage	Shoup Lever	Lake Charles			
	Jefferson Parish	Jan-95	728	Advantage	Shoup Lever	Kenner			
	Orleans Parish	Jun-93	895	Advantage	Shoup Lever	New Orleans			
	Plaquemines Parish	Jun-99	50	Advantage	Shoup Lever	Port Sulphur			
	St. Bernard Parish	Jun-98	128	Advantage	Shoup Lever	Chalmette			
	St. Landry Parish	Jun-98	180	Advantage	Shoup Lever	Opelousas			
	St. Tammany Parish	Jun-98	347	Advantage	Shoup Lever	Covington			
Maryland									
	Baltimore, City of	Dec-97	1060	Advantage	AVM Lever	Baltimore	350,000	Barbara Jackson	(410)-396-5570
Nevada									
	Clark County	Aug-94	1950	Advantage	Votomatic	Las Vegas	600,000	Larry Lomax	(702) 455-2944
New Jersey									
	Bergen County	Oct-94	1200	Advantage	Shoup Lever	Hackensack	459,000	Patricia DeCostanzo	(201) 646-3176
	Burlington County	Apr-99	500	Advantage	Shoup Lever	Mt. Holly	250,000	Nancy Jeffers	(609) 265-5177
	Gloucester County	Jan-00	500	Advantage	Punchcard	Woodbury	160,000	Mark Harris	(856) 853-3338
	Hunterdon County	May-95	115	Advantage	AVM Lever	Flemington	67,000	Dick Lynch	(908) 788-1190
	Middlesex County	Sep-98	700	Advantage	AVM Lever	New Brunswick	320,000	Matt Vaughn	(732) 745-3471
	Morris County	Apr-99	770	Advantage	Shoup Lever	Morristown	300,000	Roseanne Travaglia	(973) 285-6715
	Ocean County	Mar-97	600	Advantage	Optech Eagle	Toms River	278,000	Alfonso Santora	(908) 929-2061
	Somerset County	Apr-96	280	Advantage	AVM Lever	Somerville	153,000	Janice Hoffner	(908) 231-7084
	Union County	Jul-98	500	Advantage	Shoup Lever	Elizabeth	250,000	Patricia Formatto	(908) 527-4123
New Mexico									
	Chaves County	Sep-91	140	Advantage	AVM Lever	Roswell	50,000	David Kunko	(505) 624-6614
	Dona Ana County	Sep-91	220	Advantage	AVM Lever	Las Cruces	85,000	Rita Torres	(505) 647-7428
	Guadalupe County	Sep-91	20	Advantage	AVM Lever	Santa Rosa	4,000	Mary Silva	(505) 472-3791
	Lincoln County	May-93	25	Advantage	AVM Lever	Carrizozo	11,000	Martha Proctor	(505) 648-2394
	McKinley County	Jul-91	95	Advantage	AVM Lever	Gallup	28,000	Cecilia Madrid	(505) 722-4469
	Otero County	Apr-90	100	Advantage	AVM Lever	Alamogordo	25,000	Mary Quintana	(505) 437-4942
	Rio Arriba County	Jan-94	64	Advantage	AVM Lever	Tierra Amarilla	20,000	Fred Vigil	(505) 588-7724
	Santa Fe County	Sep-90	225	Advantage	AVM Lever	Santa Fe	67,000	Rebecca Bustamante	(505) 986-6286
	Sierra County	Sep-90	20	Advantage	AVM Lever	Truth or Consequences	7,000	Lupe Carrejo	(505) 894-2840
	Torrance County	Nov-91	23	Advantage	AVM Lever	Estancia	7,100	Linda Lujan	(505) 384-2221
New York									
	Burke, Town of	Jun-90	1	Advantage	AVM Lever	Burke	750	Yvonne Spinner	(518) 483-4015
	Clifton Park, Town of	Oct-94	11	Advantage	AVM Lever	Clifton Park	15,000	Pat O'Donnell	(518) 371-6681
	Malone, Town of	Apr-91	11	Advantage	AVM Lever	Malone	4,000	Susan Hafter	(518) 483-1860
North Carolina									
	Buncombe County	Sep-97	497	Advantage	AVM Lever	Asheville	101,000	Trena Parker	(704) 255-5123
	Pitt County	Sep-90	173	Advantage	ATS Op Scan	Greenville	71,000	Margaret Hardee	(252) 830-4121
	Union County	Sep-92	125	Advantage	ATS Op Scan	Monroe	55,000	Shirley Tinsley	(704) 283-3708
Ohio									
	Lake County	Jul-99	550	Advantage	AVM Lever	Painesville	150,000	Jan Clair	(800) 899-5253
Pennsylvania									
	Montgomery County	Jul-96	1050	Advantage	Microvote	Norristown	455,000	Joe Passarella	(610) 278-3277
	Potter County	Apr-98	8	Advantage	Paper Ballots	Coudersport	10,000	Beverly Wiltrout	(814) 274-8467
Virginia									
	Albemarle County	Oct-94	70	Advantage	Shoup Lever	Charlottesville	42,000	Jim Hellman	(804) 296-5863
	Greensville County	Sep-96	13	Advantage	Shoup Lever	Emporia	5,200	Jean Bryant	(804) 348-4205
	Staunton, City of	May-98	18	Advantage	AVM Lever	Staunton	8,200	Pam Kivlighan	(540) 332-3840
	Suffolk, City of	Oct-95	54	Advantage	Shoup Lever	Suffolk	30,400	Patsy Bremer	(757) 934-3114
	Waynesboro, City of	Sep-97	16	Advantage	AVM Lever	Waynesboro	7,500	Mary Alice Downs	(540) 942-6620
Wisconsin									
	Peshtigo, City of	Jul-89	6	Advantage	AVM Lever	Peshtigo	3,000	Mary Ann Rogers	(715) 582-3041
Totals			23113				8,611,500		