VERITY®

support procedures guide

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VERITY®

support procedures guide

version 2.X

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introduction

about this guide

This guide is designed to accompany **Verity Support Procedures** training course, as well as function as a stand-alone guide to support procedures for elections officials, support personnel, and warehouse staff. This guide contains detailed information regarding the following:

- Verity voting equipment specifications
- Storage and transport of the voting devices
- Voting device testing and maintenance procedures
- Voting device troubleshooting procedures

Also included are step-by-step procedures for the following tasks:

- Conducting device functionality and acceptance testing
- Preparing voting equipment for an election
- Predefinition of voting devices
- General procedures for election support of voting equipment

Since the *Verity Support Procedures Guide* document covers all Verity Voting System products, not all of the procedures in this document may apply to your jurisdiction.

objectives of the Verity Support Procedures training course

Through the course associated with this document, trainees learn the procedures necessary to support a successful election with the Verity Voting System, with special attention to skills required to successfully support the use of the polling place equipment including the Verity Controller, Touch, Print, Touch Writer and Scan.

Verity system components

> **TIP:** The particular quantities and types of voting equipment may vary depending on your jurisdiction.

Verity Scan

- **Verity Scan** is a polling-place-based digital scanner for voted ballots. Scan can be used with hand-marked ballots or with those printed using the Touch Writer. Verity Scan allows the voter the opportunity to check and correct the ballot before casting. Verity Scan deposits scanned ballots into its ballot box for secure storage.

Verity Print

- Using **Verity Print**, you can print and issue blank paper ballots to voters using an attached ballot printer. The voter votes their ballot and casts it either using Verity Scan, or into a ballot box to be scanned centrally.

system components, *continued*

Verity Touch Writer with Access

- Using **Verity Touch Writer**, voters mark digital ballots using a touch screen. After the voter has confirmed the selections, the voter prints the marked ballot on the attached printer. The voter then retrieves and casts the ballot.

Verity Touch and Touch Writer devices are compatible with **Verity Access**, which provides the voter with additional input options: buttons with scrolling wheel, headphones, and tactile button or sip-and-puff devices. Verity Access can be docked within the Verity Touch Writer base or held in hand.

system components, *continued*

Verity Controller *and* Verity Touch

- **Verity Controller** and **Verity Touch** make up the Verity Direct Record Electronic (DRE) Voting system. Using Verity Controller and Verity Touch, poll workers issue access codes with Verity Controller, which voters use to access, mark and cast digital ballots via a touch screen on a Verity Touch. Multiple Touch devices can be connected to a single Controller device. Verity Touch, like Touch Writer, is compatible with Verity Access.

Verity vDrives

- In the Verity system, **vDrives** are used to transfer digital ballot styles from the Verity software to voting devices, and to transfer voted ballots to Verity software for tabulation.

  vDrives are inserted into a standard USB port; each Verity Controller, Print, Touch Writer and Scan has its own vDrive.

system components, *continued*

Verity Key

- **Verity Key** is a small security device that is programmed for each election. Verity Key is inserted into a USB port.

Verity Key is part of Verity's two-factor authentication process. Two-factor authentication requires each user to both *have* something (a programmed Verity Key) and to *know* something (the passcode associated with the Verity Key).

Critical operations within the Verity Voting system require the Verity Key to be inserted and a passcode to be entered. Only when the Verity system authenticates the Verity Key and password will it allow the operation to continue.

USB media

- Off-the-shelf **USB media** are used to archive and export data from Verity software workstations (Build, Central and Count), All USB media used for these tasks should be formatted as **NTFS.**

important safeguards

! DANGER: Never place any device on an unstable card, table, etc. The product may fall, causing serious injury and damage to the product. When using carts and caddies, The product and cart/caddy must be moved with care. Quick stops, excessive force, and uneven surfaces may cause the product and caddy combination to overturn, causing serious injury. Use only with a booth, cart or stand approved for use with the device.

! DANGER: Under normal operation, only the battery door, scanner door, and thermal printer door should be opened by jurisdictional personnel. The internal tablet CMOS battery may be changed by authorized jurisdictional personnel given proper training; otherwise, equipment should only be serviced by qualified Hart personnel.

! DANGER: Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short out parts that could result in fire or electric shock.

general safeguards

- Read and keep all instructions.
- Use only Hart approved peripheral attachments and cords.
- Keep all equipment away from water and moisture.

important safeguards, *continued*

power sources

- Use only approved battery packs and 125V AC power with grounded, three-prong outlets. Do not overload AC power wall outlets or extension cords as this may cause a fire.
- Do not discharge, short circuit, or dispose of in water. Do not expose battery modules to temperatures above 60C (140F). Do not mishandle or disassemble battery modules. Failure to follow these instructions may present risk of explosion, fire, or high temperatures.
- Follow the AC power best practices as listed on page 30. Battery charging and storage recommendations are found on page 31.

cleaning

- Unplug the equipment from the wall outlet and any other equipment before cleaning.
  - Use only isopropyl alcohol (50% or higher) and lint-free wipes to clean Verity tablet display and scanner path.
  - Never use detergent-based cleaners.
  - Never use aerosol cleaners.
  - Never spray cleaner directly on the unit.
  - Do not use compressed air to remove dust.
- Never spill or spray anything on or into the product. If liquid is spilled on the product, turn it off immediately, wipe away the liquid, and then return the unit to the local election officials for servicing.

1

specifications & storage

equipment specifications

The specifications for each Verity device and accessory are listed below. These specifications can be used to estimate required warehouse storage capacity and accessibility.

Verity Controller

Item	Measurement
Height (closed) (in.)	7.7
Width (closed) (in.)	18.8
Depth (closed) (in,)	15.6
Weight (lbs.)	28.5
Weight w/ batteries (lbs.)	29.3
Display (in.)	12.1
Screen size (in.)	12.1

equipment specifications, *continued*

Verity Touch with Access

Item	Measurement
Height (closed) (in.)	7.7
Width (closed) (in.)	18.8
Depth (closed) (in,)	15.6
Weight (lbs.)	28.5
Weight w/ batteries (lbs.)	29.3
Display (in.)	12.1
Screen size (in.)	12.1

Verity Touch Writer with Access

Item	Measurement
Height (closed) (in.)	7.7
Width (closed) (in.)	18.8
Depth (closed) (in,)	15.6
Weight (lbs.)	28.5
Weight w/ batteries (lbs.)	29.3
Display (in.)	12.1
Screen size (in.)	12.1

Verity Touch/Touch Writer booth *(standard)*

Item	Collapsed in Bag	Collapsed	Deployed
Height (in.)	22	39.7	33.6
Width (in.)	31.5	29	28.8
Depth (in.)	4	5.5	23.3
Weight (lbs.)	11.7	10.1	10.1

equipment specifications, *continued*

Verity Touch/Touch Writer booth *(accessible)*

Item	Collapsed in Bag	Collapsed	Deployed
Height (in.)	19.5	37.9	30.2
Width (in.)	41.5	39.1	38.8
Depth (in.)	4	5.8	25.5
Weight (lbs.)	11	10.1	10.1

Verity Print

Item	Measurement
Height (closed) (in.)	7.7
Width (closed) (in.)	18.8
Depth (closed) (in,)	15.6
Weight (lbs.)	28.5
Weight with batteries (lbs.)	29.3
Display (in.)	12.1
Screen size (in.)	12.1

Verity ballot printer & paper *(Verity Print and Verity Touch Writer)*

Item	Measurement
Printer Model	OKI B431d
Printer weight (lbs)	26
Printer dimensions (in.)	15.2 x 14.3 x 9.6
Paper sizes accepted	8.5" x 11" 8.5" x 14" 8.5" x 17"
Paper weight	28lb
Paper brightness	92

equipment specifications, *continued*

Verity Scan

Item	Measurement
Height (closed) (in.)	7.7
Width (closed) (in.)	18.8
Depth (closed) (in,)	15.6
Weight (lbs.)	28.3
Weight with batteries (lbs.)	29.1
Display (in.)	12.1
Screen size (in.)	12.1

Verity Scan ballot box

Item	Collapsed in Bag	Collapsed	Deployed
Height (in.)	28.5	28.3.	28.3
Width (in.)	26.5	26	26
Depth (in.)	5.5	5.2	23.3
Weight (lbs.)	26.9	25.6	25.6

thermal paper rolls

Item	Measurement
Width (in.)	2.25
Length (ft,)	80

Verity product serial numbers

Verity products include a serial number to track warranty status. Embedded within the serial number string is the product code at the time of manufacture and the year/month of production.

The serial number convention for Verity voting devices and workstations is noted below:

- Each Verity Device is assigned an 11 digit unique serial number.

Example: A1500000101

- Digit 1 = Product Code
- Digits 2 & 3 = the year the device was manufactured
- Digits 4 through 9 = a unique 6-digit sequential number, unrelated to the product code. This 6 digit number is the serial number reflected on device reports in the Verity system.
- Digits 10 & 11 = the month of manufacture.

The Product Codes for the each Verity device type are listed below:

Device Type	Product Code
Verity Access	A
Verity Computer Workstation	D
Verity Controller	C
Verity Print	P
Verity Scan	S
Verity Touch	T
Verity Touch Writer	W

Verity product serial numbers, *continued*

For all non-electronic Verity products (Ballot Box, Standard Booth, and Accessible Booth), a 9-digit batch serial number is used. For example, a production run of 500 Ballot Boxes will all have the same label with an identifying batch number as part of the serial number.

The serial number convention for ballot boxes and booths is noted below:

- Each ballot box or booth is assigned a 9-digit batch serial number.

Example: A15000101

- Digit 1 = Product Code
- Digits 2 & 3 = the year the product was manufactured
- Digits 4 through 7 = a sequentially issued batch number that begins at 0001. For example, the batch number for a Standard style booth is not related to a batch number for an Accessible style booth.
- Digits 8 & 9 = the month of manufacture

The Product Codes for the each Verity ballot boxes and booths are listed below:

Device Type	Product Code
Verity Ballot Box	X
Verity Accessible Booth	L
Verity Standard Booth	M

Verity voting device case labels

In addition to the first digit of their serial numbers, the product type of each Verity Voting Devices is indicated by a case label or labels that display the product code of that device. These labels allow election staff to easily identify the device type while the device case is closed. The labels for each Verity voting device type are shown below:

Verity Access

Verity Controller

Verity Print

Verity Scan

Verity Touch

Verity Touch Writer

environmental standards & storage

device environmental standards

	Temperature	Humidity
Operation	41° F - 104° F	less than 85% average humidity
Storage	less than 150° F	less than 95% average humidity

best practices for device storage

- Store voting equipment on racks, off the floor.
- Cover racks to protect voting devices from water damage from above (e.g., leaking roofs).
- The use of drop cords that contain multiple outlets is highly recommended, as this allows several polling place sets to be maintained at one time while minimizing the number of cords pulled throughout the facility.
- Conveyor belts or hand trucks can be used to transport equipment from storage to workstations.

environmental standards & storage, *continued*

power accessibility in storage facility

- Power requirements: 125 VAC, 60 Hz, 60 W.
- At least one workstation with AC power should be available for functionality testing of devices.
- Verity voting devices typically require 0.5 Amps from a 125 VAC power outlet to operate. A standard 15 Amp circuit will be adequate to run several Verity systems. Please consult an electrician or other qualified personnel to determine how many Verity systems can be plugged into a standard 15 Amp circuit.

thermal paper storage

Item	Recommendation
Storage life (printed)	7 years
Storage life (blank)	2.5-3 years
Storage temperature	below 77° F

Thermal paper is very sensitive to moisture changes, and this fluctuation can cause print quality issues. Correct storage temperature and humidity are essential to ensuring proper paper handling and performance.

- Optimum paper storage is 68° to 76° F
- Optimum storage humidity is 35% to 55%. External air from open doors and excessive in-and-out traffic may defeat environmental control systems.

environmental standards & storage, *continued*

- Do not store paper directly on the floor. Store paper on pallets, shelves, or in cabinets in an area protected from extremes in temperature and humidity.
- Open sealed paper only when installing in devices.

Typical shelf life of unused thermal paper is a maximum of 2.5 to three years when stored under optimum conditions. Storing thermal paper in the device in an non- air-conditioned warehouse can cause poor printouts. If you plan on storing equipment in an environmentally uncontrolled warehouse, Hart recommends removing the thermal paper prior to long-term storage.

transportation of voting equipment

- Verity Controller, Touch, Print, Scan and Touch Writer need to be protected when transporting as well as storing. Moving parts, optics within the scanner, and tablet computers are sensitive to excessive dust, moisture, and vibration.
- Always use a Hart-approved shipping container, such as the original cardboard Verity device boxes, when transporting the devices between facilities (for example, to or from a polling place).
- Heavy-duty shipping containers are available for purchase from the Hart catalog.

AC power best practices

- Only use grounded AC power outlets (i.e., three prong outlets). Do not use three-prong to two-prong adapters, as these disable the ground path.
- Use power strips with lights that show that power is present. Ensure power switches on AC power strips are turned on.
- Test each socket beforehand; it is not uncommon to have a bad socket in a power strip or a wall outlet.

about rechargeable system batteries

- Hart rechargeable batteries are lithium-ion Smart Batteries.
  - Smart Batteries constantly communicate with the processor to determine voltage and discharge rate when active.
  - Smart Batteries will turn themselves off when depleted.
  - Smart Batteries have built-in over voltage/over current protection.
- The battery is fully rechargeable (up to 500+ cycles) and includes an integrated tester.
- Batteries are not shipped with a full charge. Batteries should be charged fully before their first use in an election.
- A fully charged battery will provide not less than 2 hours of backup power when installed in a device.
- A fully charged battery loses less than 10% of its charge over 90 days while connected to a device that is powered off, and 1% per day while the device is powered on and running on AC power.

battery charging and storage recommendations

- Avoid allowing batteries to completely discharge to less than 10%; A completely depleted battery may become damaged if not recharged within 2-3 months.
- After an election, batteries should be removed from devices, tested, and stored.
- To maintain the working life of the battery and for improved battery safety, batteries should be stored with a charge of between 40%-60% (for instructions on testing the battery charge, see page 54).
- Store batteries in a cool, dry location.
- Batteries should be removed from storage, fully recharged and installed in the Verity voting devices no more than 30 days before an election. This will maximize the battery backup time available in the event of an AC power loss to the device.
- Charging time may vary depending on the current charge level of the battery, and may take up to 4 hours for a fully depleted battery.
- Use only Hart-approved battery charging stations. Two sizes of charger are available: a single bay battery charger and a six-bay battery charger.

2

functionality and acceptance testing

testing definitions

A **Functionality Test** tests the ability of the voting equipment to work as intended; Functionality tests should be completed at least once per year or before every election.

An **Acceptance Test** includes a functionality test as well as more in-depth testing using a test election. An Acceptance Test is done the first time the equipment is delivered from Hart.

testing definitions, *continued*

A **Logic and Accuracy Test** ("LAT" or "L&A") is a test of the ballot, election database, and tabulation software. Logic and Accuracy Tests are run for each election, according to rules set by the state. For discussion of and procedures related to Logic and Accuracy Testing, see Appendices D & E, beginning on page 202. This information is also contained in the appendices in the *Verity Administrator's Guides* for *Build*, *Central* and *Count*.

Depending on your jurisdiction, you may also perform **Hash Testing** (or verification of the *trusted build*) at some point during your implementation process, or later. For information on hash testing of devices, see page 198.

functionality testing overview

Built-in functionality tests are available on each Verity device, under the Device Tests menu. Testing steps vary for each type of Verity device; consult the checklists below for the steps appropriate for your jurisdiction's devices. Instructions for each of the functionality test steps are found beginning on page 36.

In addition to the tests listed below, an optional check of the system battery may be performed. For instructions on checking the system battery, see page 54.

Verity Controller functionality tests

- ☐ **1 Test the touch screen (page 36)**
- ☐ **2 Test the thermal printer (page 39)**
- ☐ **3 Test the barcode scanner** *(if applicable)* **(page 41)**

Verity Touch functionality tests

- ☐ **1 Test the touch screen (page 36)**
- ☐ **2 Test the Verity Access controller** *(if applicable)* **(page 43)**

functionality testing overview, *continued*

Verity Print functionality tests

- ☐ 1 Test the touch screen (page 36)
- ☐ 2 Test the thermal printer (page 39)
- ☐ 3 Test the ballot printer (page 46)
- ☐ 4 Test the barcode scanner *(if applicable)* (page 41)

Verity Touch Writer functionality tests

- ☐ 1 Test the touch screen (page 36)
- ☐ 2 Test the thermal printer (page 39)
- ☐ 3 Test the ballot printer (page 46)
- ☐ 4 Test the Verity Access controller (page 43)

Verity Scan functionality tests

- ☐ 1 Test the touch screen (page 36)
- ☐ 2 Test the thermal printer (page 39)
- ☐ 3 Test the ballot scanner (page 48)

functionality test procedures

testing the touch screen *(all devices)*

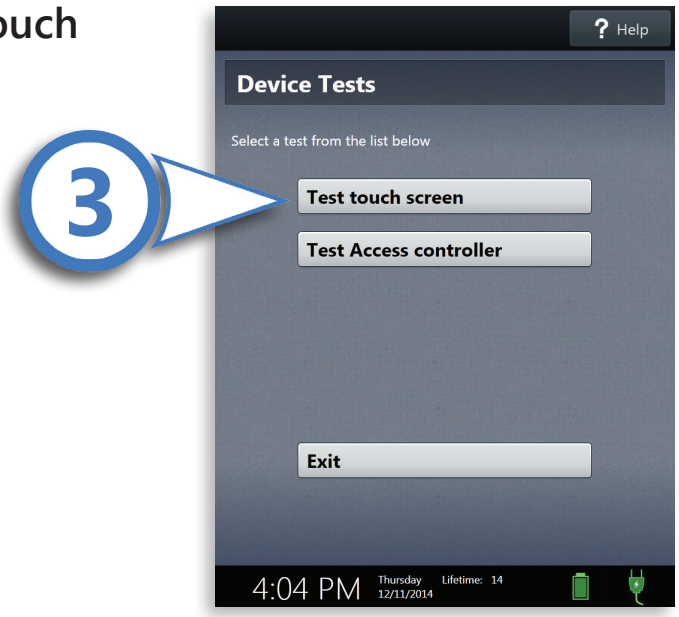
1 On the device startup screen, select **Menu**. ▶

2 Select **Run tests**. ▶

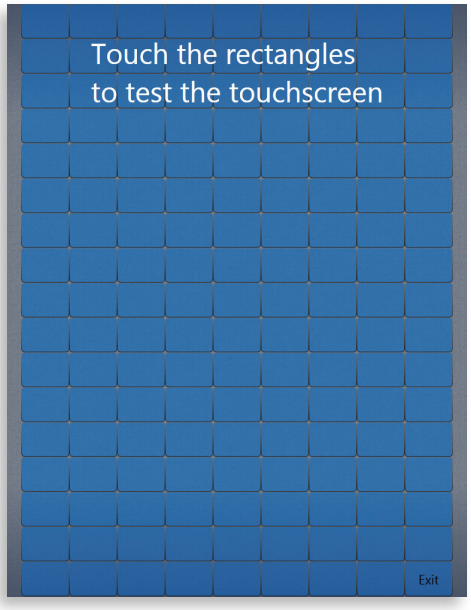
functionality test procedures, *continued*

testing the touch screen, *continued*

3 Select **Test touch screen.** ▶



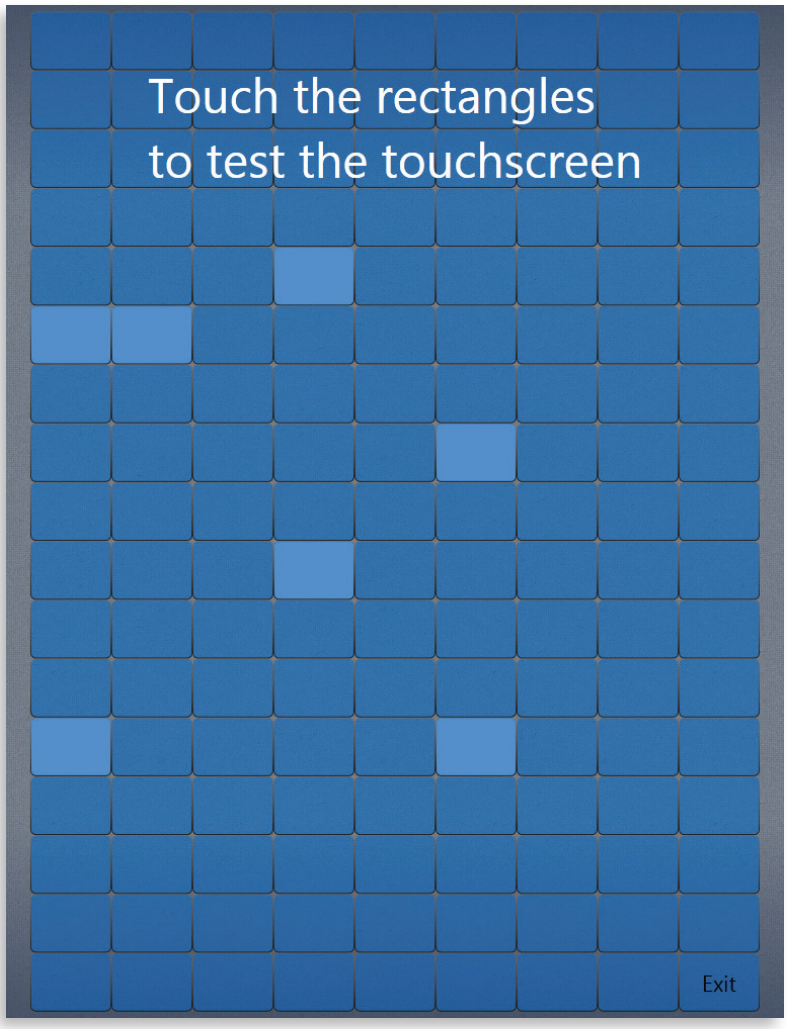
4 Touch the blue rectangles to test the accuracy of the touch screen. ▶



functionality test procedures, *continued*

testing the touch screen, *continued*

5 Each rectangle should illuminate when touched. Select **Exit** in the bottom right corner to exit the test. ▼



functionality test procedures, *continued*

testing the thermal printer

(Verity Controller, Print, Scan & Touch Writer)

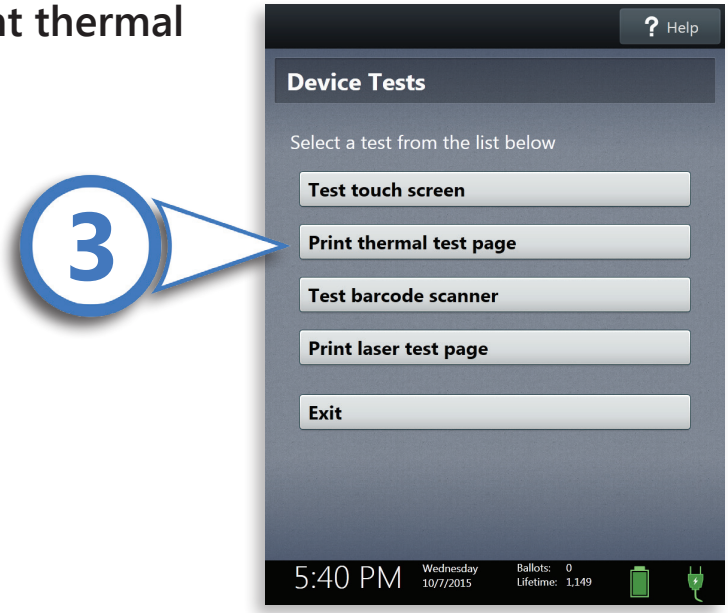
1 Confirm that the thermal printer is loaded with paper. On the device startup screen, select **Menu**. ▶

2 Select **Run tests**. ▶

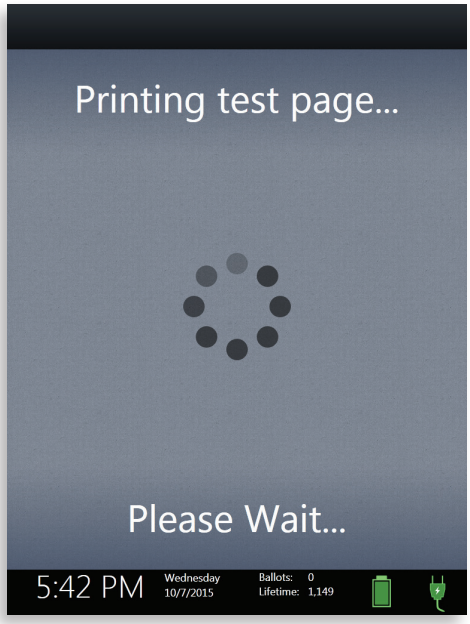
functionality test procedures, *continued*

testing the thermal printer, *continued*

3 Select **Print thermal test page**.



4 Wait while the test page prints on the built-in thermal printer. If the test page does not print, check that the thermal paper roll is properly installed. Restart the device and repeat the test. ▶



testing the barcode scanner

(Verity Controller & Print)

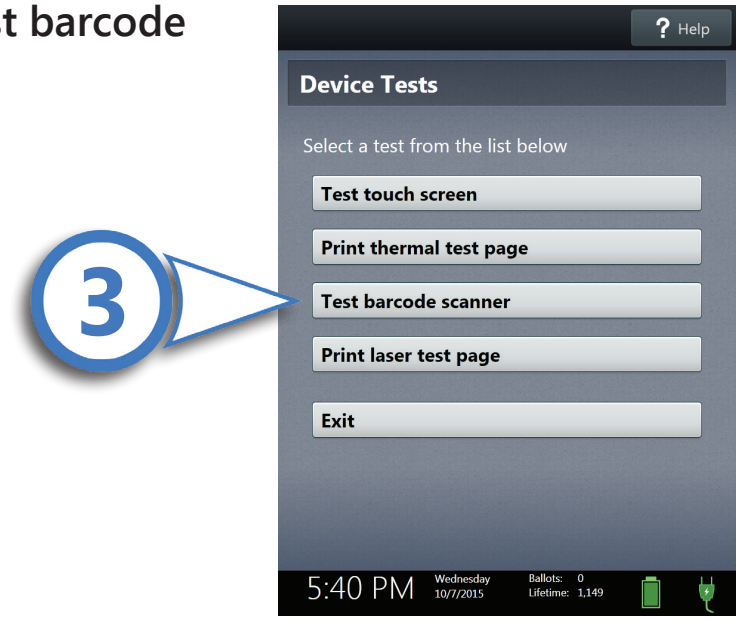
1 Confirm that the barcode scanner is connected. On the device startup screen, select **Menu**. ▶

2 Select **Run tests**. ▶

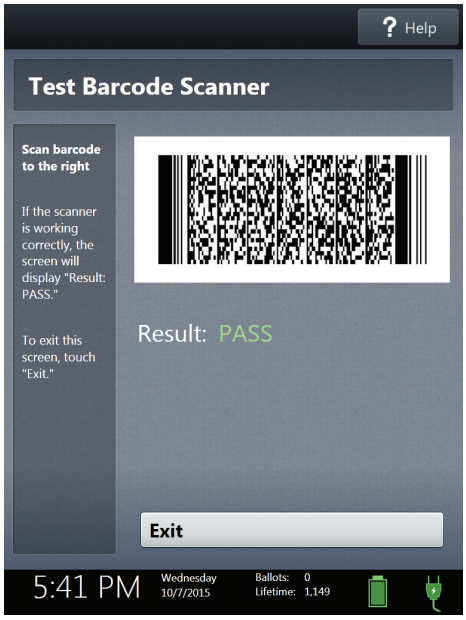
functionality test procedures, *continued*

testing the barcode scanner, *continued*

3 Select **Test barcode scanner**.



4 Scan the barcode on the screen using the barcode scanner. If the barcode scanner is functioning correctly, the screen will display "Result: **PASS**". If not, check connections and restart the device if necessary.



functionality test procedures, *continued*

testing the Verity Access controller

(Verity Touch and Touch Writer, if applicable)

1 On the device startup screen, select **Menu**. ▶

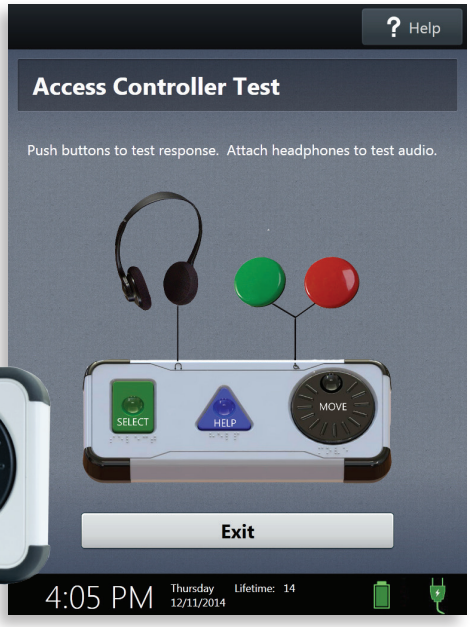
2 Select **Run tests**. ▶

functionality test procedures, *continued*

testing the Access controller, *continued*

3 Select **Test Access controller.** ▶

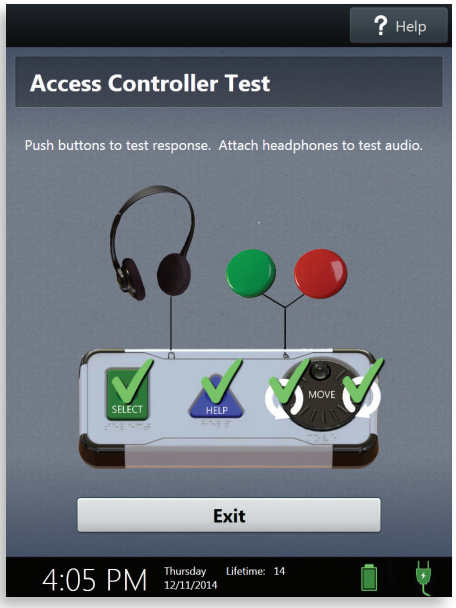
4 On the Access controller, press each button once to test the response. To test the Move wheel, turn the wheel to the left and then to the right. ▶



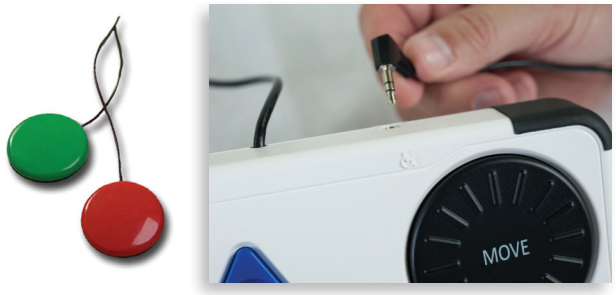
functionality test procedures, *continued*

testing the Access controller, *continued*

5 On the screen, testing success is indicated by a green check mark appearing over each button. ▶



6 Connect headphones and tactile switches to the Access controller and repeat step 4 to test their function. Select **Exit** when done.



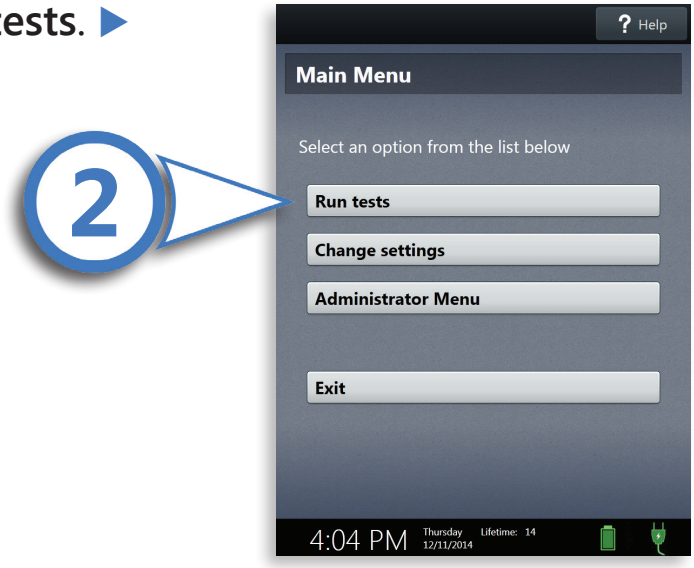
functionality test procedures, *continued*

testing the ballot printer

(Verity Print & Touch Writer)

1 Confirm that the ballot printer is connected to the Print/Touch Writer and loaded with ballot paper. On the device startup screen, select **Menu**. ▶

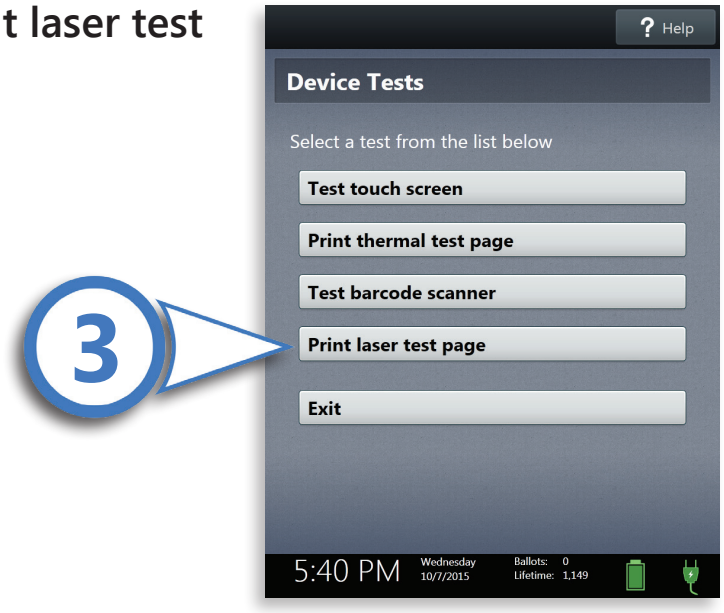
2 Select **Run tests**. ▶



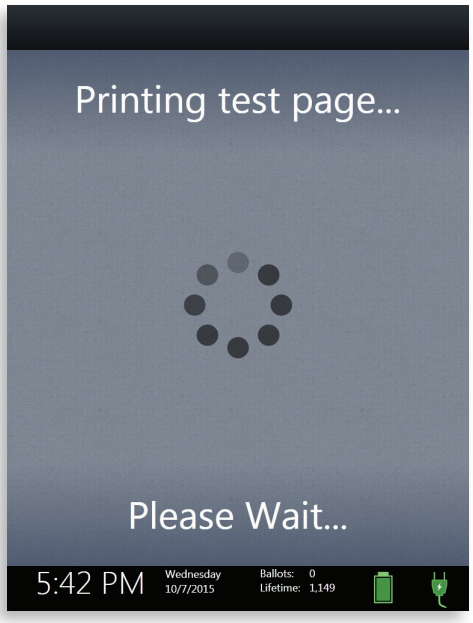
functionality test procedures, *continued*

testing the ballot printer, *continued*

3 Select **Print laser test page**. ▶



4 Wait while the test page prints. If the test page does not print, check that printer paper is properly installed, the printer cable and power cables are connected, and the printer is turned on. Restart the device and repeat the test. ▶



functionality test procedures, *continued*

testing the ballot scanner

(Verity Scan only)

NOTE: *To test the scanner, you will need a bitonal test sheet.*

1 On the device startup screen, select **Menu.** ▶

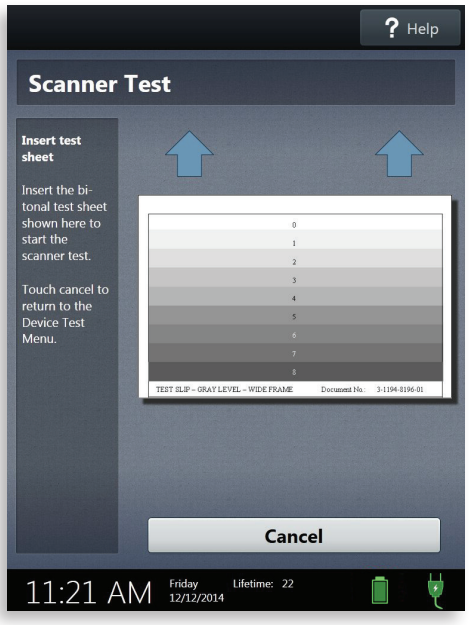
2 Select **Run tests.** ▶

functionality test procedures, *continued*

testing the ballot scanner, *continued*

3 Select **Test scanner.** ▶

4 When the **Scanner Test** screen displays, insert the bitonal sheet into the scanner as shown. The device will perform a speed test. ▶

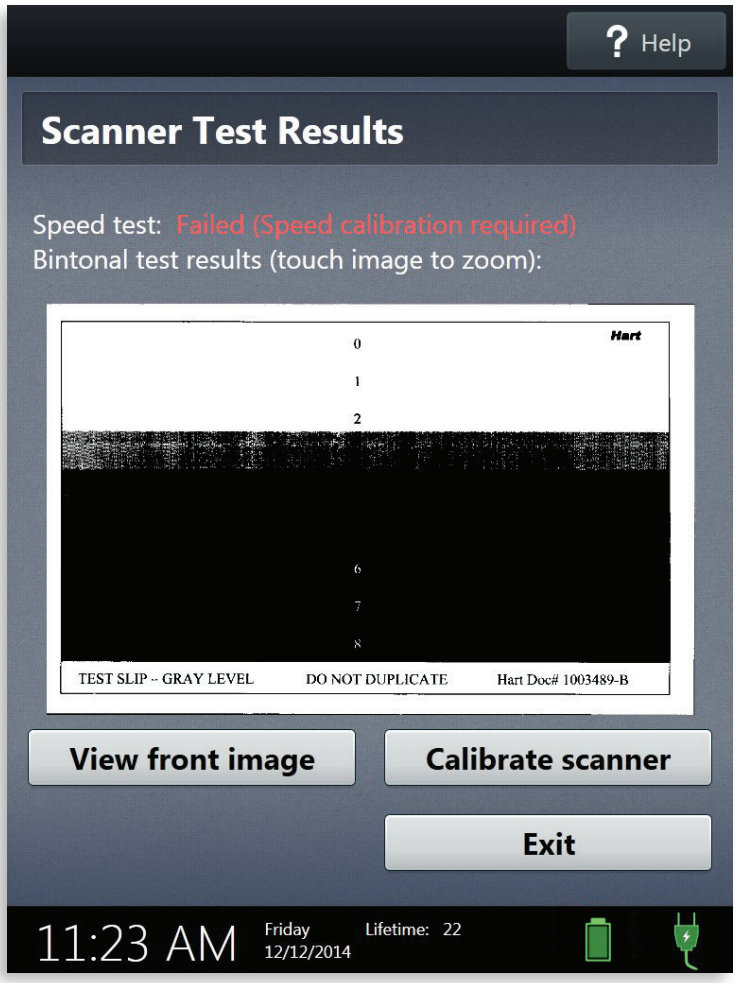


! IMPORTANT: Use only Hart-provided bitonal test sheets. Do not use photo-copies.

functionality test procedures, *continued*

testing the ballot scanner, *continued*

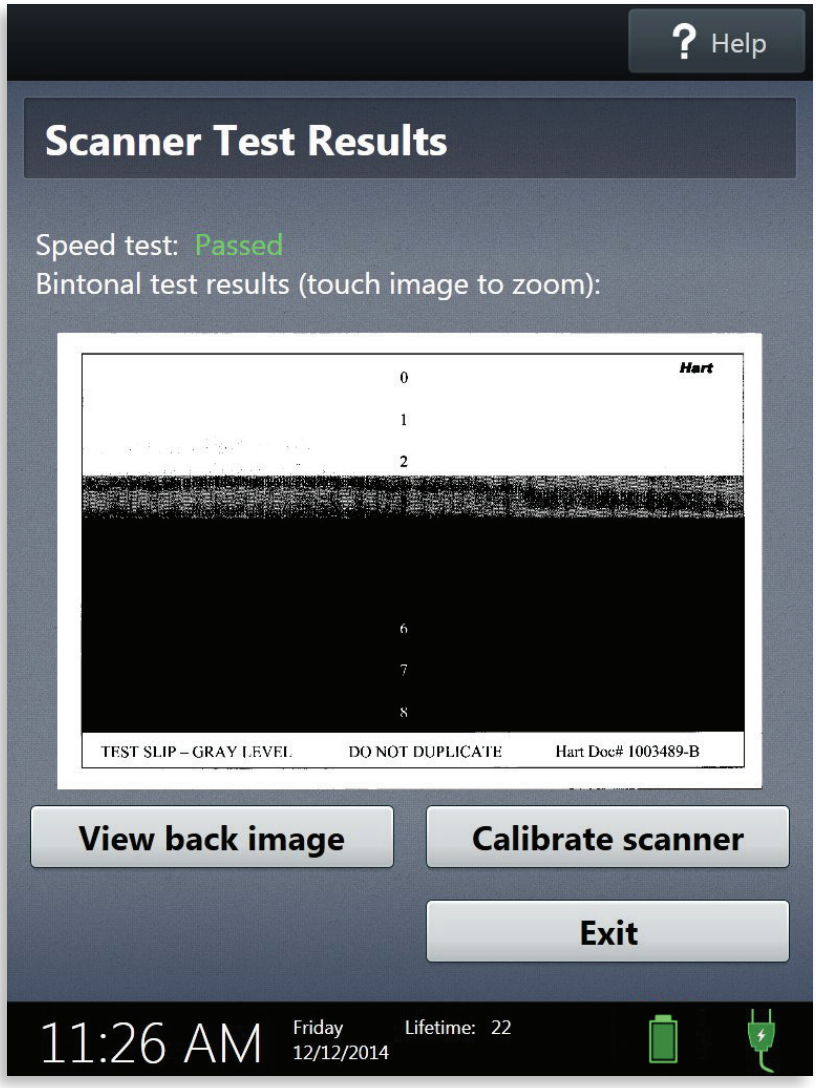
5 If you receive confirmation that the speed test has **Passed**, continue to step 6. If the device displays **Speed test: Failed**, perform calibration on the scanner (page 84), and then repeat the scanner functionality test. ▼



functionality test procedures, *continued*

testing the ballot scanner, *continued*

6 If the speed test passes, check the image on the screen. Select **View back image** to see the other side of the test sheet (check both sides).▼

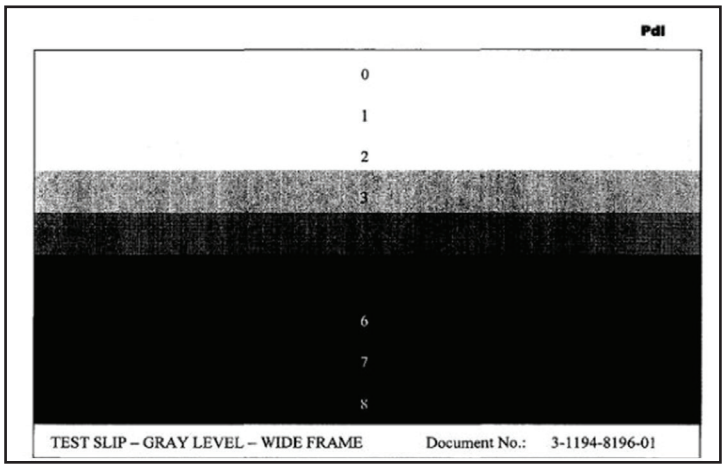


functionality test procedures, *continued*

testing the ballot scanner, *continued*

- Zone 0 (uppermost zone) should be completely white.
- Zones 5-8 (lowest four zones) should be completely black.
- Bands across should be relatively even in darkness.
- Image should be free of dark vertical lines or white/ blank vertical spaces that pass through all zones.

an example of a good scan image

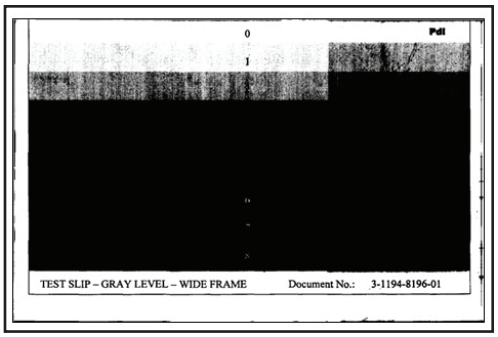


If the speed test fails, or if any of the four items above are not the case, perform calibration on the scanner (page 84), and then repeat the scanner functionality test. If the scanner repeatedly fails the speed and/or contrast test even after calibration, send the device to Hart for repair (see instructions for creating an Return Materials Authorization on page 97).

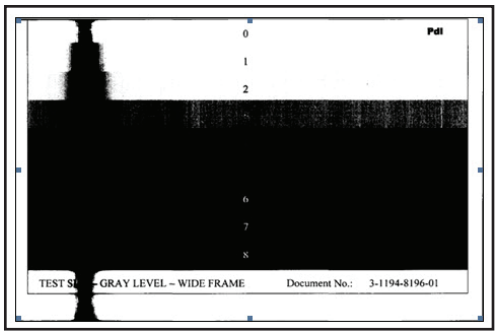
functionality test procedures, *continued*

testing the ballot scanner, *continued*

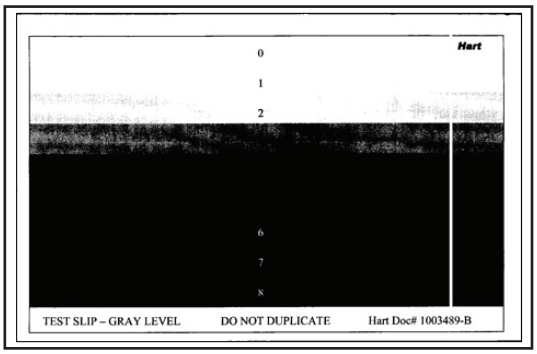
some examples of bad scan images



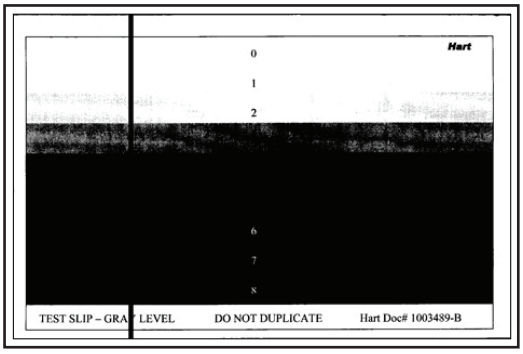
bad scanner read head



bad red LED sector



bad pixel (always off)



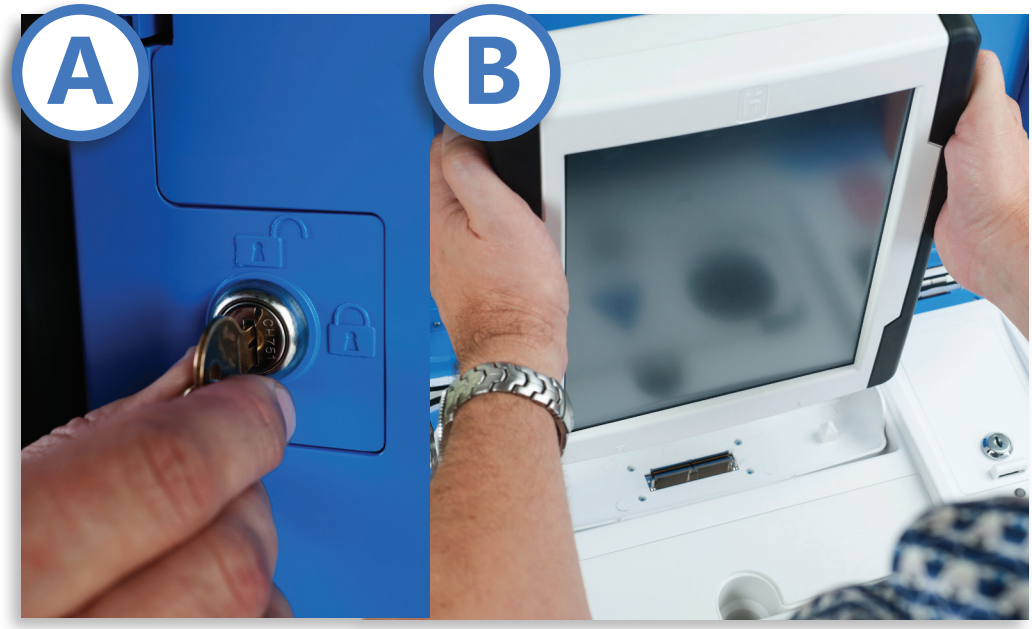
bad pixel (always on)

testing the system battery

Performing a battery test may be included in basic functionality tests. For charging recommendations, see page 31. The steps for testing the device system batteries are below:

1 Press the power button on the back of the device to turn it off. ▶

2 Unlock (**A**) and remove the device tablet from its cradle (**B**). ▼



testing the system battery, *continued*

3 On the back of the tablet, open the battery door. ▶

4 Press the button on the front left of the battery to test the battery charge. For battery installation & replacement procedures, see page 89. Best practices for battery storage and battery charging are found on page 31. ▼

functionality & acceptance testing

! IMPORTANT: Ensure battery is connected correctly. The tab on the connector coming from the battery must snap over the tab on the wire coming from the tablet. Failure to properly connect the battery can result in fire and damage to the device

acceptance testing overview

An acceptance test should be performed whenever new or refurbished equipment is received for the first time. An acceptance test includes tests of basic physical condition of the equipment, as well as functionality tests and procedures designed to verify that all equipment meets the requirements necessary to function within an election environment.

To perform a system-wide Acceptance test, you will need:

- ☐ **Thermal printer paper**
- ☐ **Scanner bitonal test sheet(s)**
- ☐ **Scanner speed calibration sheets and blank white paper (if performing calibration)**
- ☐ **Device/equipment keys**
- ☐ **Verity Key, vDrive(s), and ballots created using a test election**
- ☐ **Logs, forms, and asset labels (if performing inventory)**
- ☐ **Acceptance test checklists (at least 1 for each type of device or equipment)**
- ☐ **Power supply (power strips, extension cords, etc.)**

acceptance test: suggested workflow

Below is the Hart recommended procedure for conducting an acceptance test for an implementation including voting devices, booths, ballot boxes, and storage caddies. The acceptance testing workflow for your jurisdiction may differ depending on your implementation, the quantity of equipment, available storage and warehouse space, and the number of staff members available.

Hart also suggests that election officials prepare an acceptance test layout plan in advance; a sample acceptance test layout is on page 61.

1 Set up marked areas in warehouse for:

- Box unloading
- Box unpacking/staging
- Device assembly and testing (with access to AC power) (separate areas for each device type being tested)
- Storage caddy assembly/testing (if applicable)

acceptance test: suggested workflow, *continued*

2 Set up teams to handle each part of the process *(a minimum of two people per team is recommended)*.

- Unloading Trucks
- Unpacking equipment
- Setting up/moving equipment
- Testing/inspection of equipment
- Performing inventory/affixing asset labels
- Disassembly and preparing for storage

3 Unload trucks, place boxes in appropriate area of warehouse floor.

4 Unpack equipment and move to staging area, separating by equipment type. If desired, save packing boxes for future use, or recycle.

- Voting booths
- Ballot printers
- Ballot boxes
- Verity Controller and Controller tablets
- Verity Touch and Touch tablets
- Verity Touch Writer and Touch Writer tablets
- Verity Print and Print tablets
- Verity Scan and Scan tablets
- Storage caddies

acceptance test: suggested workflow, *continued*

5 Cycle equipment to the corresponding test area and complete testing following the appropriate checklist. Each testing area should have the appropriate supplies present to complete testing:

booth testing:
- 1 Verity Touch or Touch Writer device needed

ballot printer testing*:
- 1 Verity Print or Touch Writer device needed
- 1 Verity Scan device *(or, if central scanning is being employed, 1 Verity Central workstation with attached scanner)* recommended

ballot box testing
- 1 Verity Scan device needed

Verity Controller testing:
- 1 (or more) Verity Touch device(s) needed
- 1 voting booth needed

Verity Touch testing:
- 1 voting booth needed
- 1 Verity Controller device needed

Verity Touch Writer testing:
- 1 voting booth needed
- 1 ballot printer needed

Verity Print testing
- 1 ballot printer needed

Verity Scan testing
- 1 ballot box needed

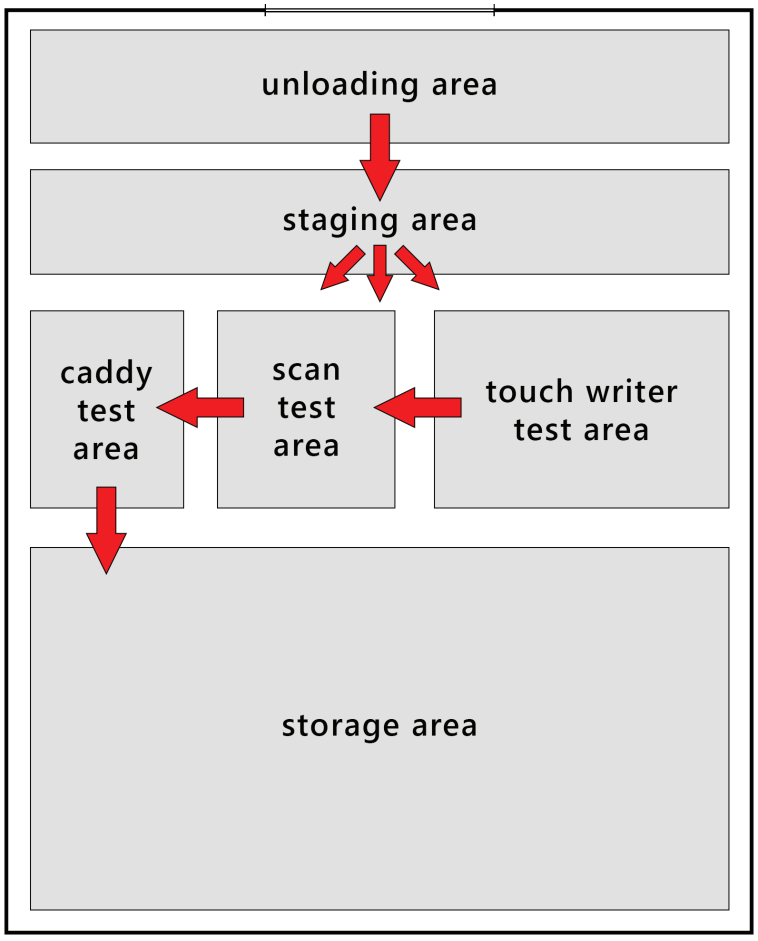
NOTE: *Ballot printers are shipped with a starter cartridge with sufficient toner for most testing.*

acceptance test: suggested workflow, *continued*

6 If desired, affix asset labels to equipment as needed; record asset numbers.

7 After testing, move equipment to storage area.

Sample Acceptance Testing area layout



acceptance test checklists

When performing an acceptance test, you may be performing several tasks, including:

- Performing acceptance tests based on the acceptance test checklist for that equipment type.
- Predefining and voting the equipment using a test election (for predefinition instructions, see page 113).
- Setting device clocks, if necessary (page 94).
- Verifying device software versions (page 71)
- Performing inventory of devices and accessories and recording device serial numbers, and affixing and recording asset labels.

Each type of Verity equipment has a dedicated acceptance test checklist (these forms are available from Hart). Sample lists of requirements for each type of equipment are given on the following pages.

NOTE: *your jurisdiction may have other requirements in addition to or in place of the items listed in the following checklists.*

acceptance test checklists

voting booth

- ☐ Booth free of shipping damage
- ☐ Transport Bag present
- ☐ 2 Privacy Shields present
- ☐ Removable Leg sections present and connect easily
- ☐ Assembled Booth is level (sits evenly)
- ☐ Touch/Touch Writer fits atop booth in locked position
- ☐ Privacy screens easily attached and removed
- ☐ Touch/Touch Writer unlocks and can be removed from booth
- ☐ Printer table present/undamaged

ballot printer *(Print/Touch Writer)*

- ☐ Ballot printer free of shipping damage
- ☐ Printer configuration sheet present and correct
- ☐ AC power cord present
- ☐ Ballot printer prints blank ballot from Verity Print/Touch Writer
- ☐ Printed ballot scans successfully on Verity Scan

acceptance test checklists, *continued*

Verity Controller

- ☐ Controller and tablet free of shipping damage
- ☐ Serial number on tablet matches unit
- ☐ AC power brick and cord are present
- ☐ 3 keys present
- ☐ 3 locks function
- ☐ System battery present and connects to tablet
- ☐ Tablet docks into cradle; green docking LED turns on
- ☐ Controller unit boots properly
- ☐ Thermal printer functions; printed SN matches case/tablet SN
- ☐ Correct software version displayed on tape
- ☐ Screen display is clear, touch screen functions properly
- ☐ Able to open election
- ☐ Able to connect with and record votes from a Verity Touch device
- ☐ Repeat above step using second connection port
- ☐ Ballot and Lifetime counters increment correctly
- ☐ Operates on battery power: recovers when AC power reapplied
- ☐ Poll worker button functions
- ☐ Close polls process successful

acceptance test checklists, *continued*

Verity Touch

- ☐ Touch and tablet free of shipping damage
- ☐ Serial number on tablet matches unit
- ☐ AC power brick and cord are present
- ☐ 3 keys present
- ☐ 3 locks function
- ☐ System battery present and connects to tablet
- ☐ Tablet docks into cradle; green docking LED turns on
- ☐ Touch unit boots properly
- ☐ Correct software version displayed on screen
- ☐ Screen display is clear, touch screen functions properly
- ☐ Able to load and cast ballot using access code from Controller
- ☐ Repeat above step using second connection port
- ☐ (if applicable) Access module functional (incl. tactile switches/headphones)
- ☐ Ballot and Lifetime counters increment correctly
- ☐ Curbside voting test passed (reconnects to Controller and vote is recorded)
- ☐ Operates on battery power: recovers when AC power reapplied
- ☐ Poll worker button functions

acceptance test checklists, *continued*

Verity Touch Writer

- ☐ Touch Writer and tablet free of shipping damage
- ☐ Serial number on tablet matches unit
- ☐ AC power brick and cord are present
- ☐ Headphones and custom printer cable present
- ☐ 3 keys present
- ☐ 3 locks function
- ☐ System battery present and connects to tablet
- ☐ Tablet docks in cradle; green docking LED turns on
- ☐ Touch Writer unit boots properly
- ☐ Thermal printer functions; printed SN matches case/tablet SN
- ☐ Correct software version displayed on tape
- ☐ Screen display is clear, touch screen functions properly
- ☐ Able to open election
- ☐ Access module functional (incl. tactile switches/ headphones)
- ☐ Ballot printer functions (1 blank ballot printed)
- ☐ Ballot and Lifetime counters increment correctly
- ☐ Operates on battery power: recovers when AC power reapplied
- ☐ Poll worker button functions
- ☐ Close polls process successful

acceptance test checklists, *continued*

Verity Print

- ☐ Print and tablet free of shipping damage
- ☐ Serial number on tablet matches unit
- ☐ AC power brick and cord are present
- ☐ Custom printer cable present
- ☐ 3 keys present
- ☐ 3 locks function
- ☐ System battery present and connects to tablet
- ☐ Tablet docks into cradle; green docking LED turns on
- ☐ Print unit boots properly
- ☐ Thermal printer functions; printed SN matches case/tablet SN
- ☐ Correct software version displayed on tape
- ☐ Screen display is clear, touch screen functions properly
- ☐ Able to open election
- ☐ Ballot printer functions (1 blank ballot printed)
- ☐ Ballot and Lifetime counters increment correctly
- ☐ Operates on battery power: recovers when AC power reapplied
- ☐ Poll worker button functions
- ☐ Close polls process successful

acceptance test checklists, *continued*

Verity Scan

- ☐ Scan and tablet free of shipping damage
- ☐ Serial number on tablet matches unit
- ☐ AC power brick and cord are present
- ☐ 3 keys present
- ☐ 3 locks function
- ☐ System battery present and connects to tablet
- ☐ Tablet docks in cradle; green docking LED turns on
- ☐ Scan unit boots properly
- ☐ Thermal printer functions; printed SN matches case/tablet SN
- ☐ Correct software version displayed on tape
- ☐ Screen display is clear, touch screen functions properly
- ☐ Able to open election
- ☐ Scanner feed indicator lights work properly
- ☐ Able to scan and cast ballot(s) properly
- ☐ Ballot, Sheet, Lifetime counters increment correctly
- ☐ Operates on battery power: recovers when AC power reapplied
- ☐ Poll worker button functions
- ☐ Close polls process successful; Tally tape prints & results verifiable

acceptance test checklists, *continued*

ballot box

- ☐ Ballot Box free of shipping damage
- ☐ Transport Bag present
- ☐ Two sets of keys present
- ☐ 2 Privacy Shields present
- ☐ Ballot Box assembles properly (unfolds)
- ☐ Emergency ballot bag present/attached
- ☐ Front access door unlocks/opens
- ☐ Primary ballot drop slot is unobstructed
- ☐ Emergency ballot slot opens, closes
- ☐ Front access door closes/locks
- ☐ Scan fits atop ballot box in locked position
- ☐ Scan unlocks/can be removed from ballot box

storage caddy

- ☐ Caddy is free of shipping damage
- ☐ Caddy is square
- ☐ Caddy door rotates freely around its hinge*
  - Door latch handle not loose
  - Door latch holds door firmly in place
- ☐ Separators are straight and not loose
- ☐ All caster wheels spin freely and brakes lock*

acceptance test checklists, *continued*

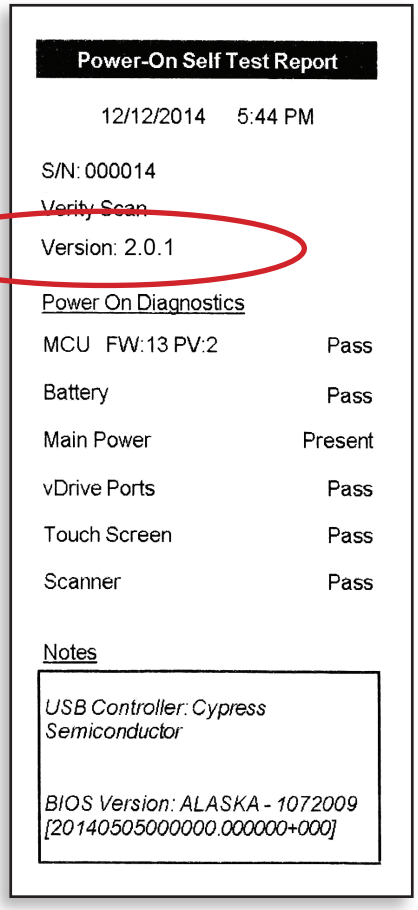
Verity computer workstations

In most cases a Hart representative will work closely with election officials and staff to set up the necessary Verity software workstations for your implementation. Ideally, acceptance tests of the workstations should be performed in the location where the workstations will be installed. At minimum, an acceptance test for a computer workstation should include the following checks:

- ☐ **All hardware components present and damage-free Verify printer configuration sheet, if applicable**
- ☐ **All components connect properly, including printer, if applicable**
- ☐ **All components power on; PC powers on**
- ☐ **Mouse and keyboard function**
- ☐ **Verity home screen loads, able to log in**
- ☐ **Verify system clock (Desktop app)**
- ☐ **Able to restore archived test election (Manage app)**
- ☐ **Relevant application opens**
- ☐ **Verify RAID and DISK status indicators**
- ☐ **Verify System Version**
- ☐ **Test election opens in application**
- ☐ **Other functions, as per the specific checklist for that workstation.**

verifying software version

A **Power-On Self Test report** will print from the device thermal printer each time a device is powered on. Look at this report to verify the software version currently installed on the device matches the correct version for your jurisdiction. A sample report is shown below, for reference only; the version number will vary and should match the expected version number for your jurisdiction.



Power-On Self Test Report

12/12/2014 5:44 PM

S/N: 000014

Verity Scan

Version: 2.0.1

Power On Diagnostics

MCU FW:13 PV:2	Pass
Battery	Pass
Main Power	Present
vDrive Ports	Pass
Touch Screen	Pass
Scanner	Pass

Notes

USB Controller: Cypress Semiconductor

BIOS Version: ALASKA - 1072009 [20140505000000.000000+000]

preparing tested equipment for storage

!IMPORTANT: When performing an acceptance test on voting devices, confirm that the serial number of the tablet matches the serial number of the base for each device.

- Affix asset labels to the equipment as needed.
- Record serial numbers/asset numbers for all pieces of equipment.
- Confirm that each voting device has a power cord/power brick.
- If installing thermal paper, confirm that the thermal printer for each voting device has paper.
- Remove system batteries, if these were installed for testing. Batteries should not be stored within the device.
- Remove any vDrives that were installed for testing.
- Verify that each tablet is properly stowed and locked in its matching case.

3

preventative maintenance

Preventative maintenance ensures that the voting devices will continue to function properly for many years. For Verity devices, preventative maintenance consists of:

- Cleaning tablet touch screen displays.
- Cleaning Verity Scan scanners.
- Calibrating touch screens.
- Setting Verity Scan alert volume
- Calibrating Verity Scan scanners.
- Testing/Replacing system batteries.
- Replacing internal tablet CMOS batteries.
- Setting device clocks, if needed.

preventative maintenance cycles

Recommended preventative maintenance cycles for Verity voting devices are listed in the tables below:

Verity Controller, Touch, Touch Writer with Access, and Print

Maintenance Action	Frequency	Performed by
Clean display	As needed	Elections staff
Calibrate touch screen	Annually	Elections staff
Replace tablet CMOS battery	Every three years	Hart or Elections staff

Verity Scan

Maintenance Action	Frequency	Performed by
Clean display	As needed	Elections staff
Clean scanner path	Inspect/clean after every 500 sheets	Elections staff
Calibrate touch screen	Annually	Elections staff
Calibrate scanner	Annually	Elections staff
Replace tablet CMOS battery	Every three years	Hart or Elections staff

maintenance procedures

cleaning tablet touch screen displays

materials needed:

- Verity device(s)
- lint-free isopropyl alcohol wipes

1 Press the *red* power button on the back of the device to turn it off. ▶

2 Unplug the AC power cord from the back of the device. ▶

3 Clean the tablet display only with lint-free isopropyl alcohol wipes. ▶

- ▶ Do not reuse the wipes after use.
- ▶ Do not pour or spray liquids on the display, as this can cause liquids to come into contact with internal circuitry.

cleaning the Verity Scan scanner

materials needed:

- Verity Scan device(s)
- lint-free isopropyl alcohol wipes

1 Press the *red* power button on the back of the Verity Scan to turn it off. ▶

2 Unplug the AC power cord from the back of the Verity Scan. ▶

3 Gently lift the scanner door and clean the upper and lower glass plates with a lint-free isopropyl alcohol wipe. ▶

- ▶ Do not reuse the wipes after use.
- ▶ Do not pour or spray liquids on the scanner.
- ▶ Do not use compressed air to remove dust.

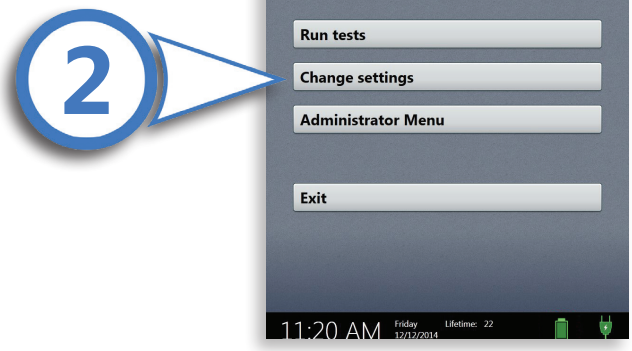
maintenance procedures, *continued*

calibrating touch screens *(all devices)*

Access to touch screen calibration is located on the device itself, in the Device Settings menu. No additional supplies are needed.

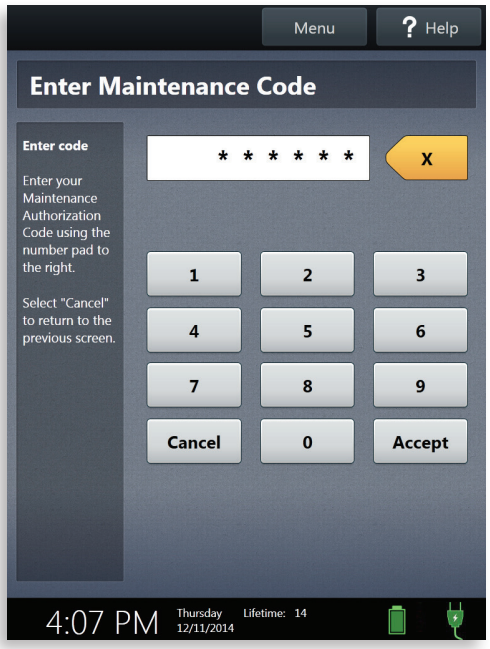
1 On the device startup screen, select **Menu**. ▶

2 Select **Change settings**. ▶



maintenance procedures, *continued*

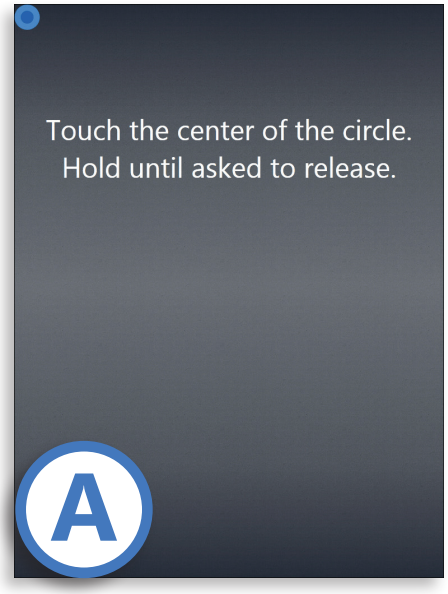
3 Enter the Maintenance Code, and then select **Accept**. ▶

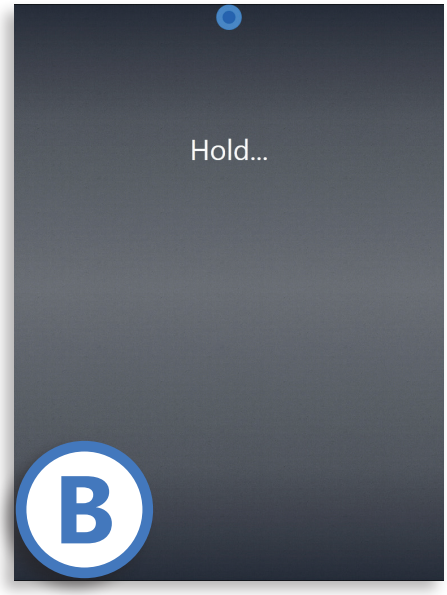


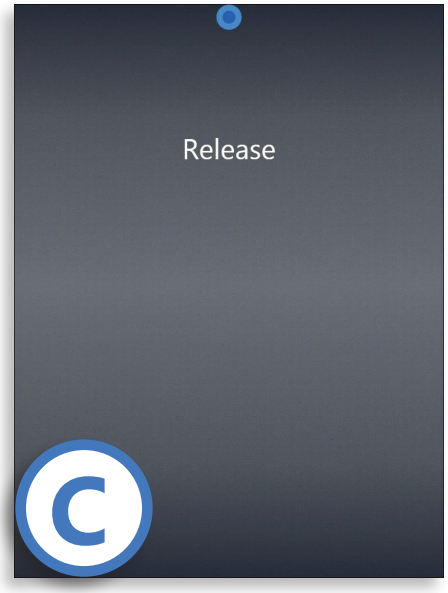
4 Select **Touchscreen calibration**. ▶

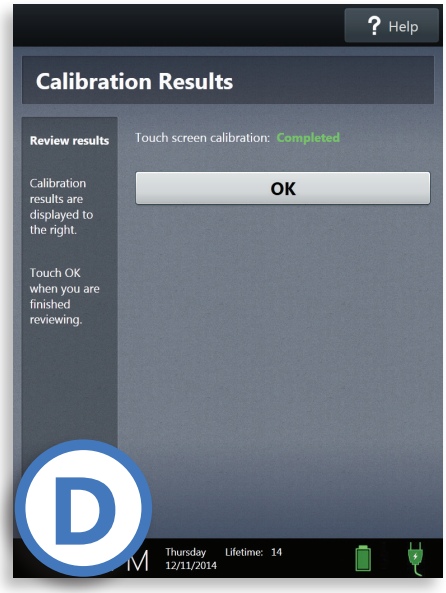
maintenance procedures, *continued*

5 Follow the instructions on the screen to calibrate the touch screen. Select **OK** when complete. ▼









setting alert volume *(Verity Scan only)*

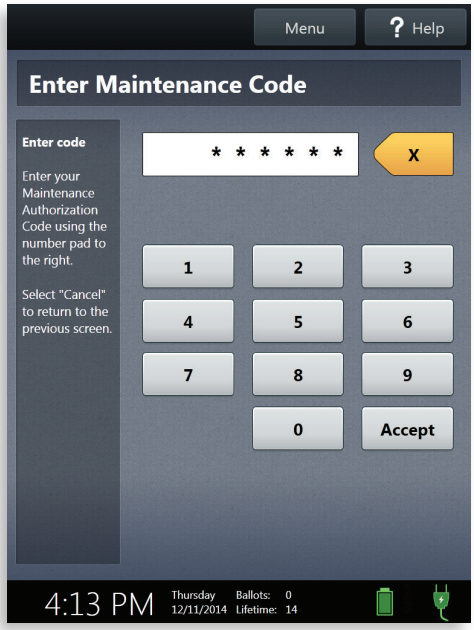
Access to setting the alert volume for Scan is located on the Verity Scan itself, in the Device Settings menu.

1 On the device startup screen, select **Menu**. ▶

2 Select **Change settings**. ▶

maintenance procedures, *continued*

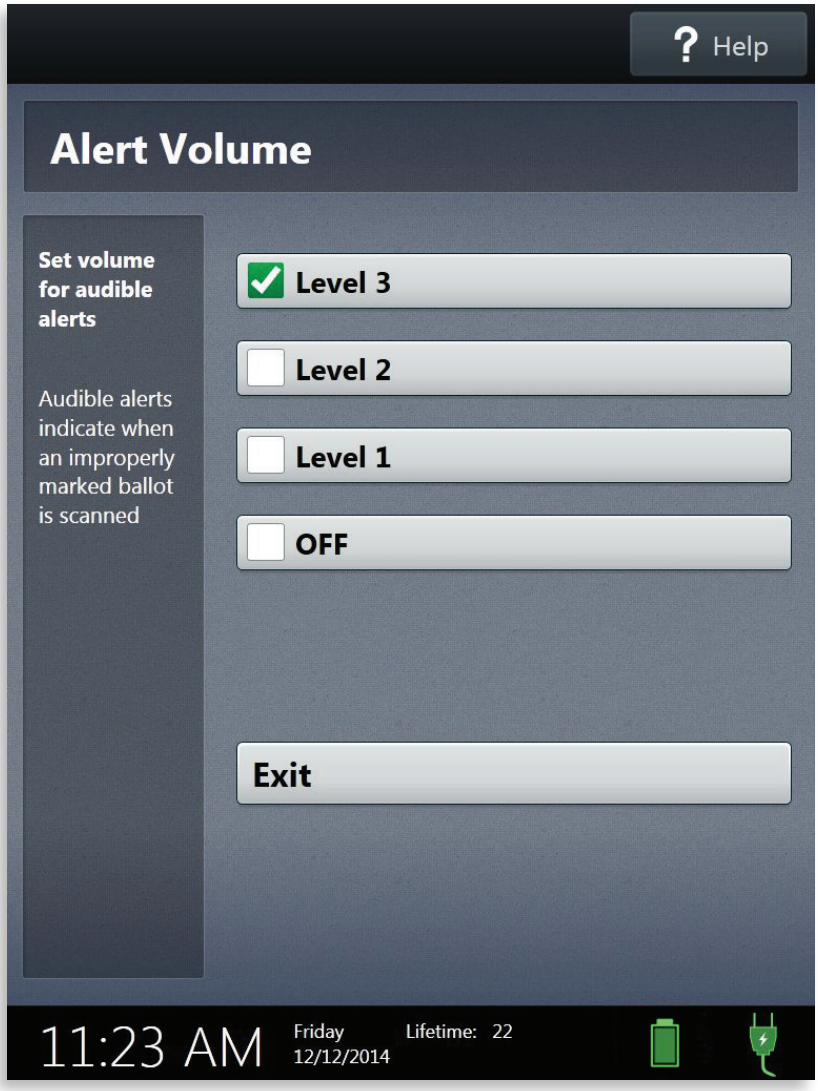
3 Enter the Maintenance Code, and then select **Accept**. ▶



4 Select **Set alert volume**. ▶

maintenance procedures, *continued*

5 Set the alert volume. Select **Exit** when done.



maintenance procedures, *continued*

calibrating scanners *(Verity Scan only)*

Access to scanner speed and contrast calibration is located on the Verity Scan itself, in the Device Settings menu.

materials needed:

- Verity Scan device(s)
- speed calibration sheet(s)
- blank 8.5x11, non-recycled paper, 92 brightness (for contrast calibration)
- scanner bitonal test sheet(s)

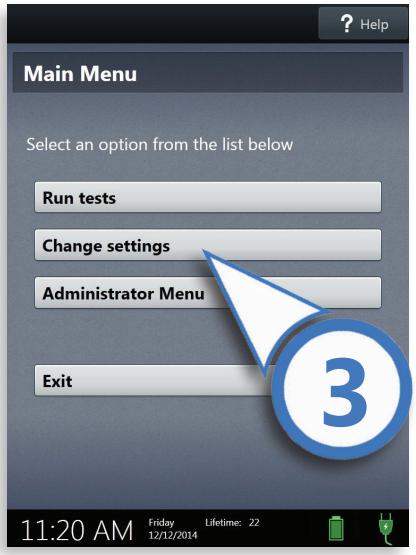
! IMPORTANT If the scanner repeatedly fails the speed and/or contrast test even after calibration, send the device to Hart for repair (see instructions for creating an Return Materials Authorization on page 97).

1 Follow the procedures for testing the scanner found on page 48.

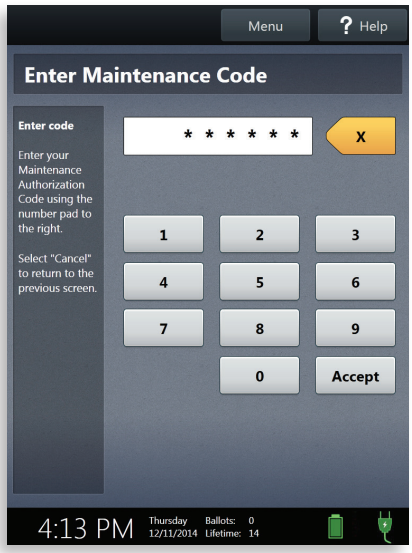
2 If calibration is required: On the device startup screen, select **Menu**. ▶

maintenance procedures, *continued*

3 Select **Change settings.** ▼



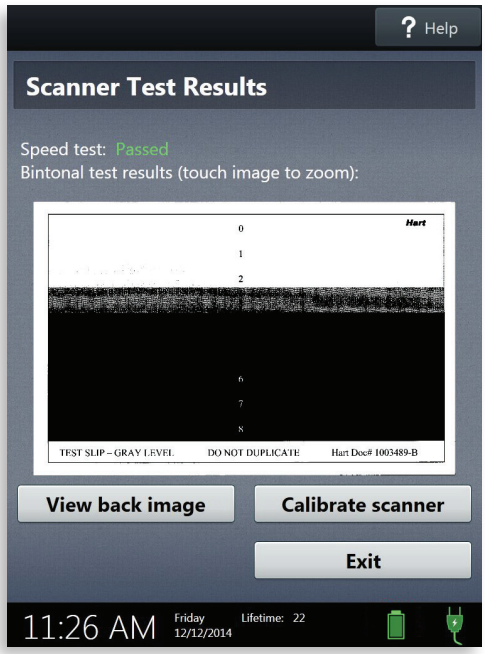
4 Enter the Maintenance Code, and then select **Accept.** ▼



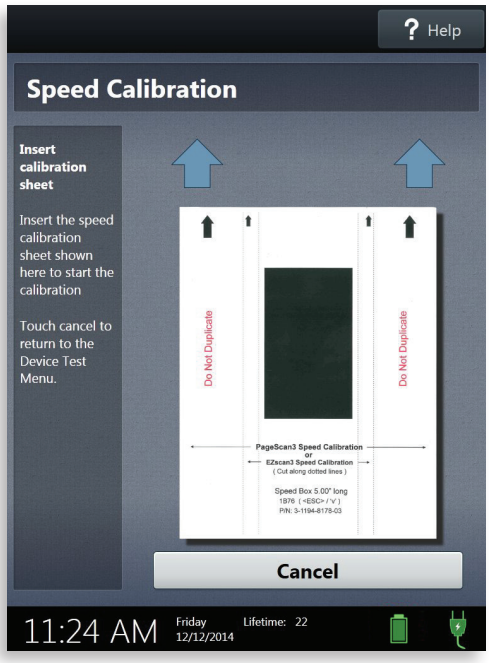
5 In the Device Settings menu, select **Scanner speed calibration.** ▶

maintenance procedures, *continued*

NOTE: *you can also access scanner calibration by selecting* **Calibrate scanner** *on the Scanner Test Results screen.* ▶



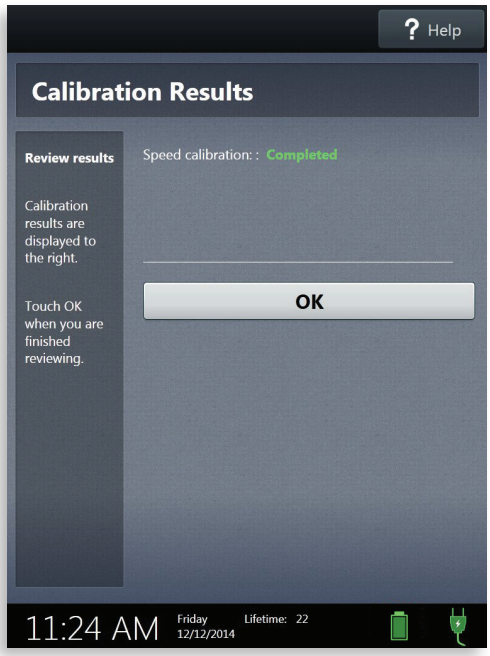
6 Insert the speed calibration test sheet into the scanner as shown and follow the on-screen instructions. ▶



! IMPORTANT: Use only Hart-provided speed calibration sheets. Do not use photocopies, as calibration can be negatively affected.

maintenance procedures, *continued*

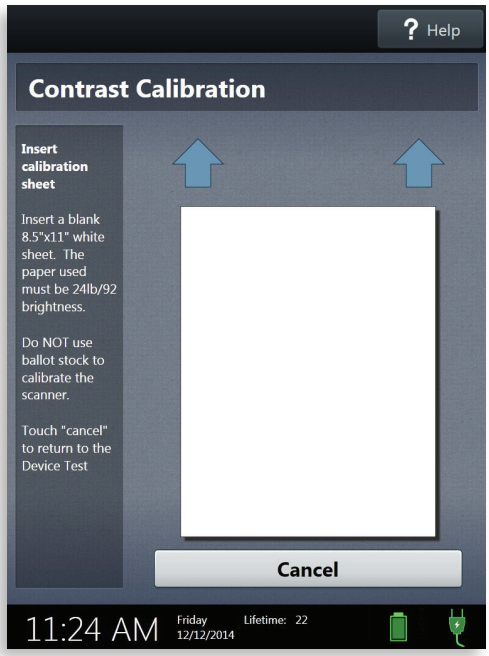
7 Select **OK.** ▶



8 In the Device Settings menu, select **Scanner contrast calibration.** ▶

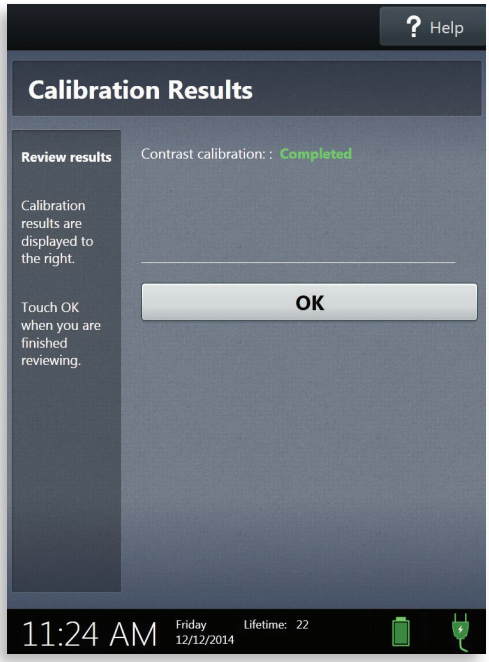
maintenance procedures, *continued*

9 Insert a blank sheet of white paper into the scanner as shown and follow the on-screen instructions. ▶



- ▶ Use a clean 8.5x11 sheet of non-recycled paper.
- ▶ Use paper with a brightness of 92.
- ▶ Do no use ballot paper.

10 Select **OK**. ▶



11 Retest the scanner, following the instructions on page 48.

installing/replacing the system battery

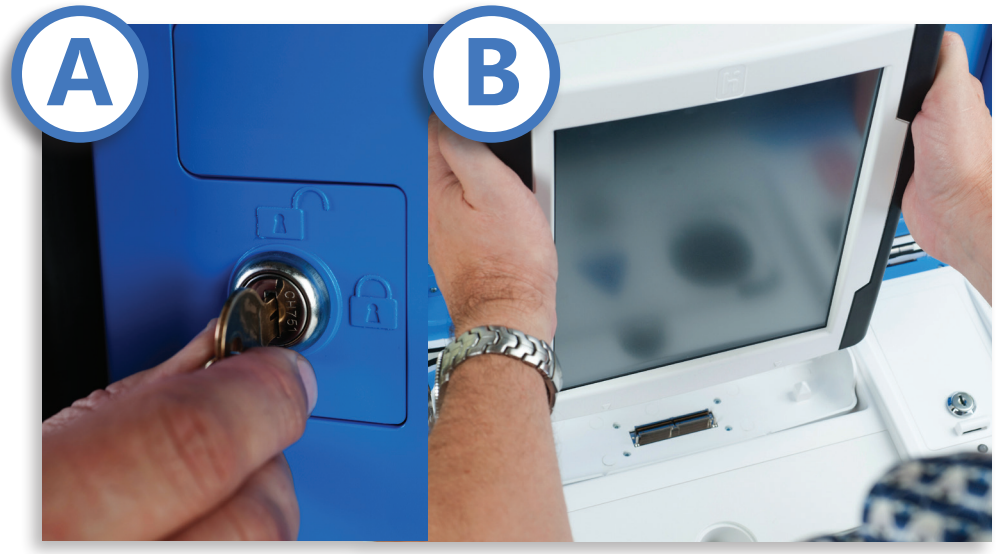
(all devices)

materials needed:

- Verity device(s)
- freshly charged system battery(s)
- battery charger(s) for old, discharged system batteries

1 Press the *red* power button on the back of the device to turn it off. ▶

2 Unlock (**A**) and remove the device tablet from its cradle (**B**). ▼

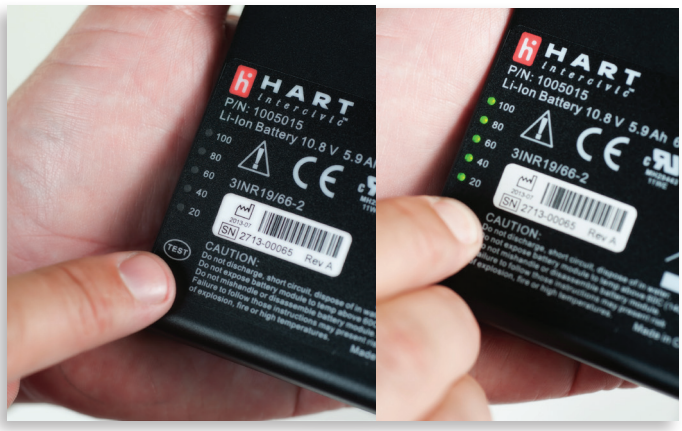


maintenance procedures, *continued*

3 On the back of the tablet, open the battery door. ▼

4 Disconnect and remove the old battery. ▼

5 Press the button on the front left of the *new* battery to test the battery charge. ▶



maintenance procedures, *continued*

6 Connect the new battery to the device, situate the battery in the device and close the battery door. ▶

! IMPORTANT: Be sure to connect the battery correctly. The tab on the connector coming from the battery must snap over the tab on the wire coming from the tablet. Failure to properly connect the battery can result in fire and damage to the device.

maintenance procedures, *continued*

replacing tablet CMOS batteries

The tablet CMOS battery, located within the device tablet, maintains system clock function while the Verity voting device is powered off. Hart recommends replacement of the tablet CMOS battery every 3 years.

materials needed:

- Verity device(s)
- replacement tablet CMOS battery(ies)
- small Phillips screwdriver

1 Press the *red* power button on back of the device to turn it off; unlock and remove the device tablet.

2 Turn the tablet over; remove the 4 screws that fasten the CMOS battery compartment door. ▼

maintenance procedures, *continued*

3 Using your fingernail, release the small clip holding the CMOS battery in place. ▶

4 Lift and remove the old CMOS battery. Discard the CMOS battery safely. ▶

IMPORTANT: To prevent the risk of fire, properly dispose of the batteries by collecting them back in the plastic trays they came in. Once all trays are filled, tape them together to secure the batteries. Dispose of the trays in an outdoor garbage receptacle.

5 Insert new CMOS battery and press down so that the retaining clip engages.

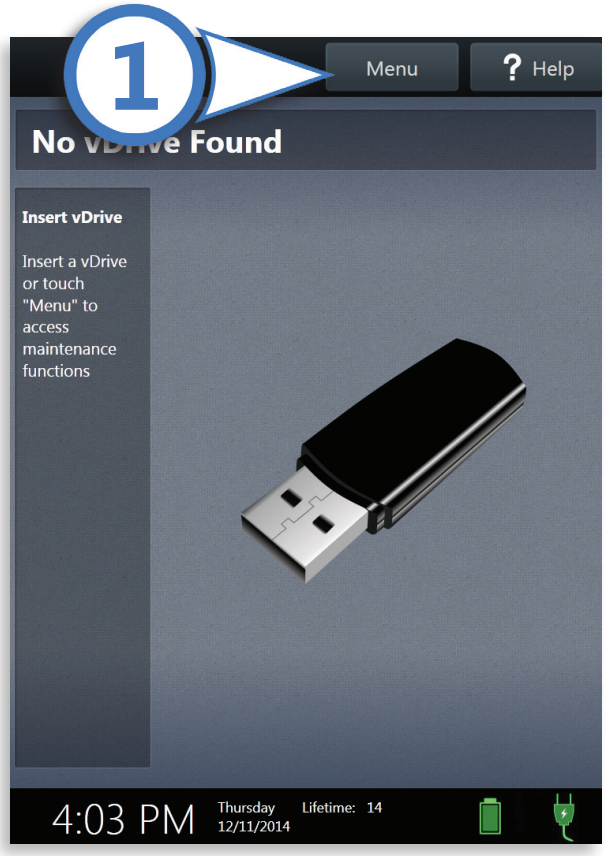
6 Replace the battery door and tighten all four screws and return the tablet to the device.

setting device clocks

Device clocks may need to be reset, given the following circumstances:

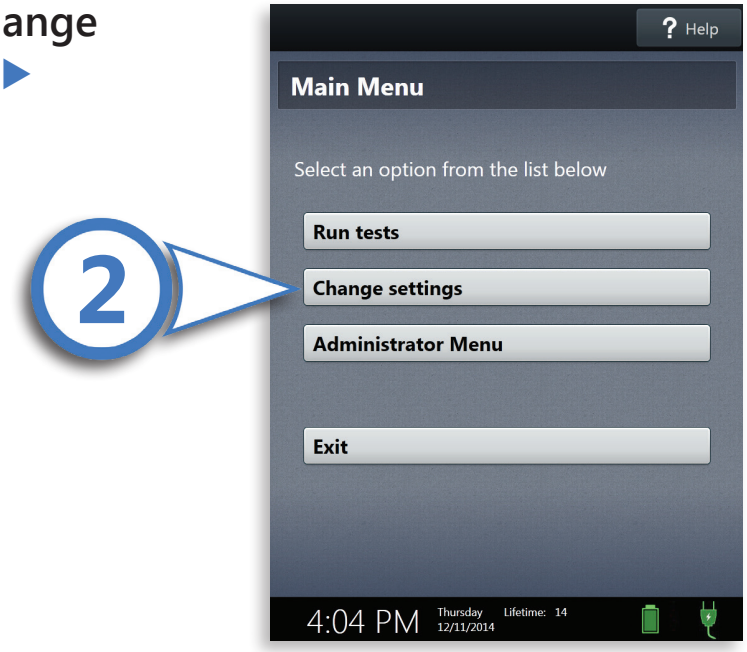
- The first time a device is received from Hart.
- To account for a change in Time Zone.
- When a device is received back from Hart following repair.

1 On the device startup screen, select **Menu**. ▼

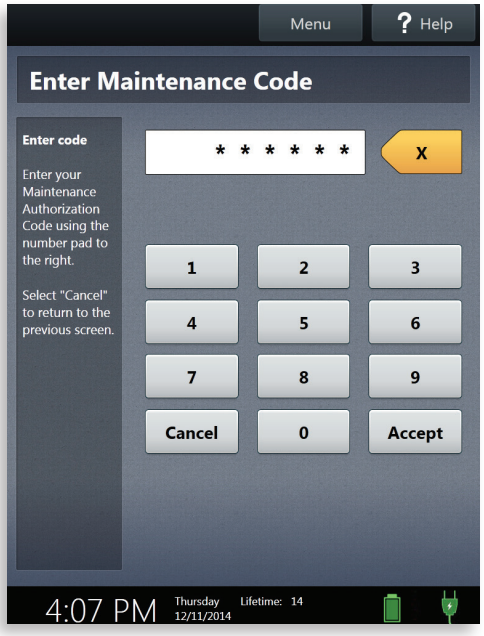


setting device clocks, *continued*

2 Select **Change settings**. ▶



3 Enter the Maintenance code, and then select **Accept**. ▶



setting device clocks, *continued*

4 Select **Set clock**. ▶

5 Adjust the time as needed. Select **Exit** when done. ▶

Return Materials Authorization (RMA) steps

1 Contact Hart Support (**1.866.ASK.HART**)

2 If a problem cannot be resolved over the phone, and the equipment is determined to require repair by Hart, Hart Support will issue an Equipment Chain of Custody (ECC) form to the customer.

3 Upon receipt of the customer-completed ECC form, Hart Support will create a Return Materials Authorization (RMA) ticket, issue the ticket number to the customer, and email the shipping instructions and final ECC to the customer.

4 The customer ships the equipment to the repair depot.

5 When repairs are finished, the equipment is shipped back to the customer. Hart Support will notify the customer of the shipment.

6 Upon receipt of the returned equipment, the customer will have 7 days to perform a acceptance/functionality test on the equipment.

4

election preparation

For election support personnel, preparing for the election may include the following general tasks:

- Identifying equipment and supplies needs.
- Performing inventory.
- Charging and installing batteries.
- Performing functionality tests.
- Organizing/staging equipment.
- Installing and logging vDrives and seals on the voting devices
- Predefining voting devices.
- Arranging transport of the equipment and supplies to the polling places.

election preparation checklist

Below is a detailed checklist of the steps necessary to prepare and distribute voting equipment and supplies to the polling places. Where applicable, the pages within this guide that describe these steps are given in parentheses.

- ☐ **1 Perform preventative maintenance on voting devices as needed. (page 74)**
- ☐ **2 Test and charge all battery packs and label with test date and battery level. Install and connect the battery packs. (page 89)**
- ☐ **3 Perform functionality testing. (page 32)**
- ☐ **4 Check each voting device for the following, and replace if necessary:**
  - ☐ Full thermal paper roll (except Touch)
  - ☐ Power cord and brick
  - ☐ Headphones *(Touch/Touch Writer with Access only)*
  - ☐ Tactile switches *(Touch/Touch Writer with Access only)*
- ☐ **5 Verify software versions. (page 71)**

election preparation checklist, *continued*

- ☐ 6 Prepare ballot printers, including power cords and Verity USB cables, for each Verity Print/Touch Writer. (page 102)
- ☐ 7 Prepare uninterruptible power supply (UPS) devices, if applicable. (page 103)
- ☐ 8 Identify Polling Place equipment needs and plan polling place layouts. (page 104)
- ☐ 9 Prepare polling place paperwork and organize into packets for each polling place. (page 105)
- ☐ 10 Prepare Device/vDrive Tracking Log. Install vDrives in Controller, Touch, Print and Scan devices. Write serial, vDrive, and seal numbers and polling place data in the log. (page 107)
- ☐ 11 Predefine Verity devices with polling place information. Install vDrive seals on the Verity voting devices. (page 113)

election preparation checklist, *continued*

☐ **12 Distribute the following to the deployment area, organized and labeled by polling place:**

- ☐ Verity devices
- ☐ Ballot printers and printer cables
- ☐ Ballot paper stock
- ☐ Extra thermal printer paper rolls
- ☐ Polling place paperwork
- ☐ Additional polling place supplies (tables, chairs, extension cords, power strips, etc.) as necessary

☐ **13 Distribute the following spare equipment to the emergency use deployment area and keep under lock and key:**

- ☐ Spare Verity devices (without predefined polling places)
- ☐ Spare ballot printers and printer cables
- ☐ Spare battery packs
- ☐ Spare headphones
- ☐ Spare tactile input switches
- ☐ Spare thermal printer paper rolls
- ☐ Spare ballot stock

about ballot printers

Ballot printers used with the Verity Print and Verity Touch Writer do not typically require configuration, since the page size data is contained within the vDrive associated with each Verity device. The Verity system and its ballot printers are compatible with the following ballot page sizes:

- 8.5" x 11" (Letter)
- 8.5" x 14" (Legal)
- 8.5" x 17"*

Each ballot printer setup must have the following:

- Ballot printer
- Verity USB cable
- Power cord

Be sure that all three items are included with each printer setup when staging materials for transport to the polling places.

**If using 8.5" x 17" ballot paper, your printer may require configuration. On the OKI printer, ballot paper using this format needs to be fed from the manual feed tray.*

toner cartridges

The Print/Touch Writer ballot printer ships with a starter toner cartridge. The starter cartridge is a low-capacity cartridge designed to print a relatively limited number of pages before it runs out of toner. Replacing this cartridge with a standard (i.e. full-capacity) cartridge is recommended before a significant election event.

Once you have installed a standard toner cartridge in a printer, you cannot re-install a starter cartridge. However, it is possible to transfer a standard toner cartridge from one printer to another.

For more information, see the Verity Knowledge Base article *Ballot Printer Best Practices*.

uninterruptible power supply devices

Uninterruptible power supply (also known as UPS) devices may be used to provide uninterrupted power to ballot printers in the event of a temporary loss of power at the polling place. Follow the manufacturers guidelines included with the device for periodic testing of UPS devices.

identifying equipment needs

To determine equipment needs for each polling place, you should create a spreadsheet that shows registered voters by precinct, as well as which precincts are assigned to each polling place. Rules regarding the allocation of equipment in relation to voter registration data may vary by jurisdiction.

Use this spreadsheet to assist you when organizing and staging equipment and supplies prior to the election. For example, if you determine that you will need one Verity Scan and two Verity Touch Writers in Polling Place #1, load these devices and other supplies for that polling place together on a pallet or other type of transfer container designated for Polling Place #1. Continue this process until all polling places are completed. You might identify polling place locations within the storage facility by marking the numbers on the floor or otherwise labeling the area to insure an organized deployment area.

It may also be useful to work with other staff members to create a survey for each polling location far in advance of the election. Ascertain basic information such as availability of AC power, tables, and chairs, phone access during voting hours, etc. Use this information to create checklists for each polling place.

polling place paperwork

types of paperwork

Polling place paperwork will vary by jurisdiction and implementation, but may include some or all of the following:

- Voter instructional flyers and posters
- Copies of the *Verity Polling Place Operations Guide* and/or *Verity Poll Worker's Field Guide*
- Logs, forms, and envelopes

NOTE: *logs, forms, and labels are included in the Verity Logs and Labels Pack, available from Hart.*

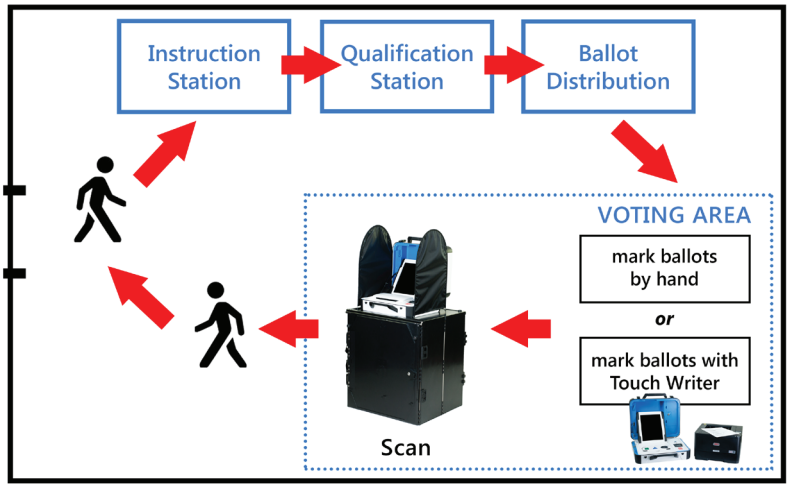
  - Reconciliation logs
  - Daily reports envelope
  - Emergency ballot envelope
  - Transfer logs and envelopes
  - Spoiled ballot logs and envelope
  - Provisional ballot paperwork and envelopes

- Polling place layout plans
- Voter qualification materials

polling place paperwork, *continued*

polling place layout plans

Hart suggests election officials or staff create a polling place layout plan for each polling place, once they have a clear idea of the quantity and type of equipment needed. Important things to consider when planning polling place layout include an efficient flow of voter traffic, the ability of poll workers to monitor the equipment, and maintaining voter privacy.



a note on previous election data

On Verity devices, there is no need to remove old election data prior to inserting a new vDrive and predefining the device. The voting device will automatically delete the oldest set of election data if and when additional hard drive space is needed. If you need to recover old election data from a voting device, see the instructions for creating a Recovery vDrive, page 173.

installing vDrives

the vDrive tracking log

The vDrive tracking log is a master list kept in the central election office. You will use the tracking log to record data relating to the installation of vDrives in each voting device, including:

- Election name
- Polling Place ID and Name
- vDrive ID
- Device serial number
- vDrive seal number

the Ballot and Seal Certificate *(or equivalent)*

A Ballot and Seal Certificate (or equivalent) is done separately for each voting device, and contains the following information:

- (1) Polling Place ID and Name
- (2) Device serial number
- (3) Seal number and installer's initials
- (4) Number of ballots voted (Scan), ballots issued (Print), or the number of access codes issued (Controller, Touch Writer), and signature of the presiding election official

A seal certificate should travel with each voting device to ensure proper chain of custody during the election. The first three items above are filled out prior to deployment to the polling place. Item 4 is filled out by the presiding official(s) at the polling place.

TIP: The ballot and seal certificate may have a different name in your jurisdiction, or include additional information.

installing vDrives, *continued*

installing vDrives

materials needed:

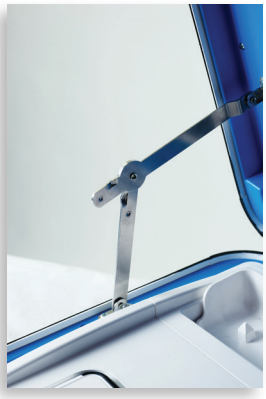
- Verity devices*
- vDrives from Build with the current election
- vDrive Tracking Log
- Ballot and Seal Certificates (or equivalent)

NOTE: *Verity Touch devices do not require a vDrive when used with Verity Controller; each Touch device will inherit the election information from the vDrive installed in the Verity Controller.*

1 The election name, polling place name and vDrive ID should be recorded on the vDrive tracking log when the vDrives are created in Build. Reference this information when installing vDrives.

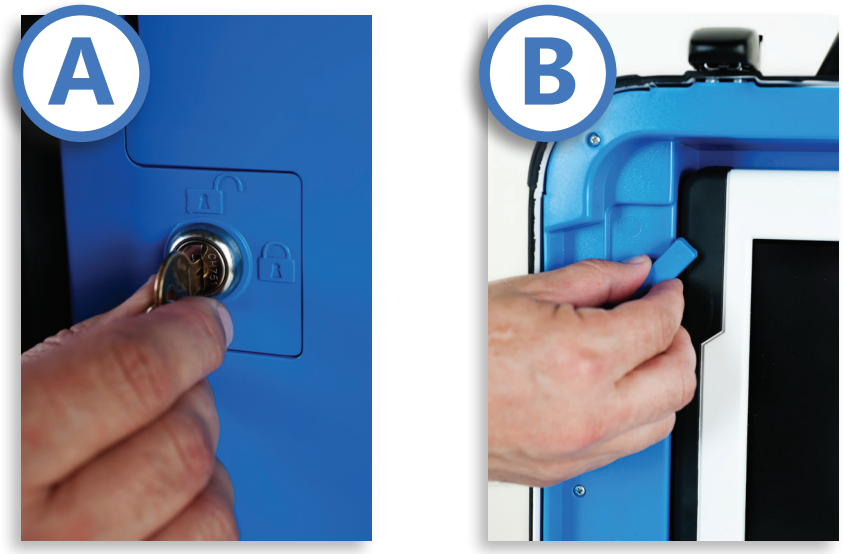
2 Record the polling place ID and name on the Ballot and Seal Certificate.

3 Open the device case and lock the lid brace in place. ▶



installing vDrives, *continued*

4 Unlock (**A**) and unlatch (**B**) the tablet from its storage location. ▼



5 Seat the tablet in its cradle and tilt back. ▼

installing vDrives, *continued*

6 Lock the tablet in place. ▶

7 Connect the device to AC power and press the *red* power button on the back of the device. ▶

installing vDrives, *continued*

8 Please wait while Verity starts.

9 After startup, the device should display the startup screen with the message **No vDrive Found**. ▶

10 Unlock and open the vDrive compartment. Note that the key used to open the vDrive compartment is not the same as the key used to lock the tablet in place. ▶

installing vDrives, *continued*

11 Insert the vDrive into one of the two USB inputs shown. Ensure the vDrive is fully inserted. If you are going to predefine the device, do not close or lock the vDrive compartment yet. ▼

12 Predefine the device (see the following section).

predefining Verity voting devices

The following section describes the recommended procedure for defining the polling place on each Verity voting device. This procedure is commonly referred to as "predefinition".

Each polling place is associated with one or more precincts (or precinct splits). Each precinct or precinct split is in turn associated with a particular ballot style. Predefining the Polling Place before deployment to the polling places has several important advantages:

- It ensures that each polling place has the correct ballot styles.
- It reduces the number of steps that poll workers must complete in order to open polls.
- It creates a paper trail (reports printed at the warehouse) to verify that the Verity voting device remained in a standby condition between the time it left the warehouse and the time that polls opened.
- It eliminates the need for poll workers to have a programmed Verity Key; as a result, fewer Verity Keys need to be created and tracked.

NOTE: *Verity Touch devices do not require a vDrive; they receive their election definition from the Verity Controller device.*

predefining Verity Voting devices, *continued*

predefining Verity voting devices

TIP: When predefining equipment for the election, you should also take the opportunity to set device clocks, if necessary. Remember to set the device clocks taking into account the time it will be when the equipment is used during the election (accounting for Daylight Savings Time, for instance).

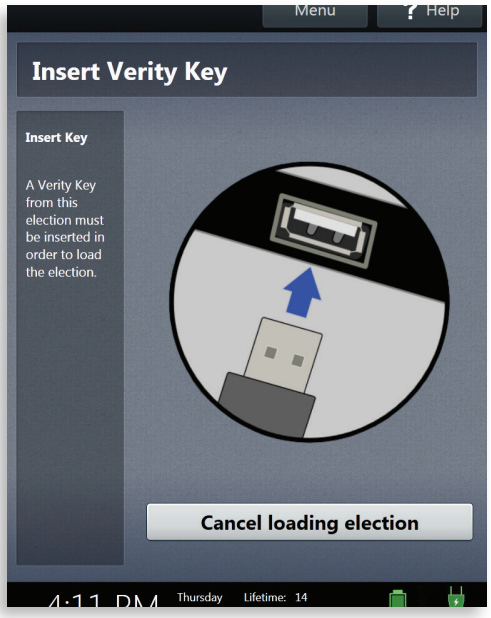
materials needed:

- Verity devices with vDrives installed, but not sealed
- Verity Key from Build for the current election
- vDrive Tracking Log
- Ballot and Seal Certificates

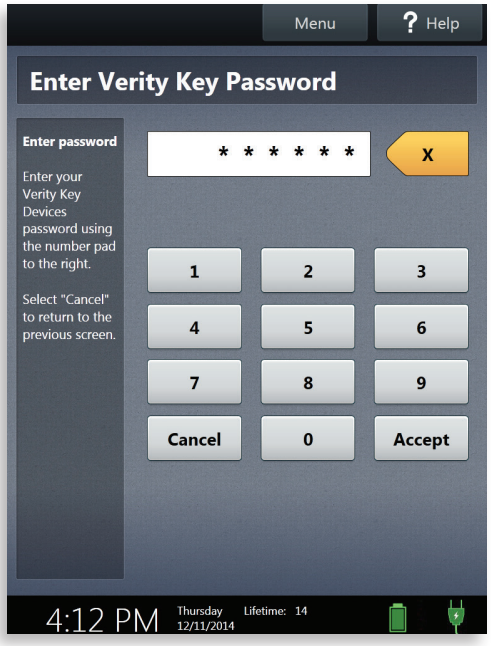
1 Once vDrive is installed (see preceding section: **installing vDrives**), the Load New Election screen displays. Confirm the election name, date, and vDrive ID, referencing the vDrive Tracking Log. Select **Yes, load new election**. ▶

predefining Verity Voting devices, *continued*

2 The insert Verity Key displays. Insert the Verity Key for this election into the available USB port in the vDrive compartment. ▶

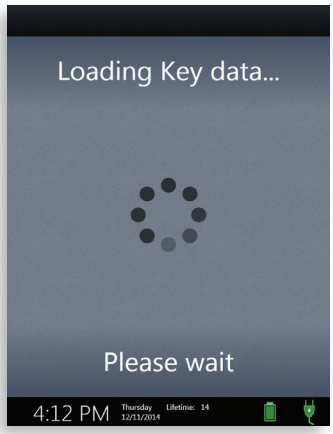


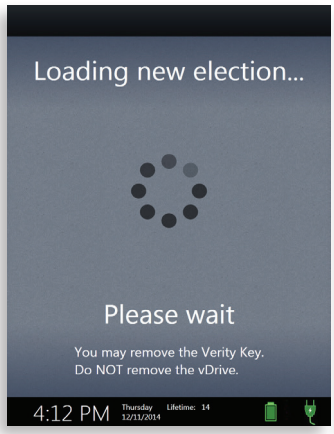
3 Enter the Verity Key password, and then select **Accept**. ▶

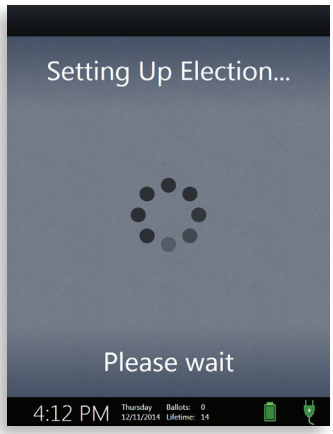


predefining Verity Voting devices, *continued*

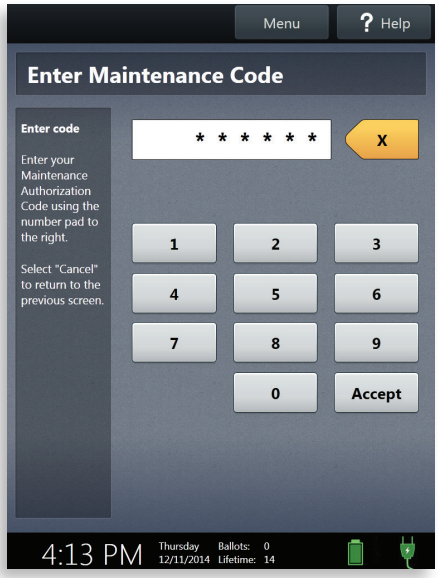
4 Wait while the screen displays **Loading Key data...**, then **Loading new election...**, then **Setting Up Election....** Do not remove the Verity Key until after you see the message "You may remove the Verity Key" at the bottom of the screen. ▼





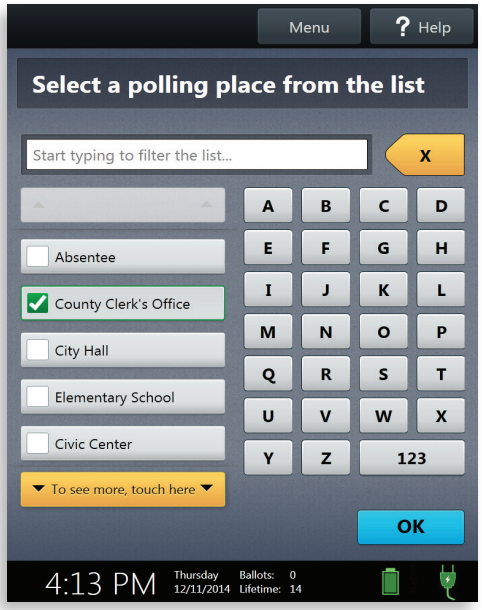


5 Enter the Maintenance Code, and then select **Accept**. ▶



predefining Verity Voting devices, *continued*

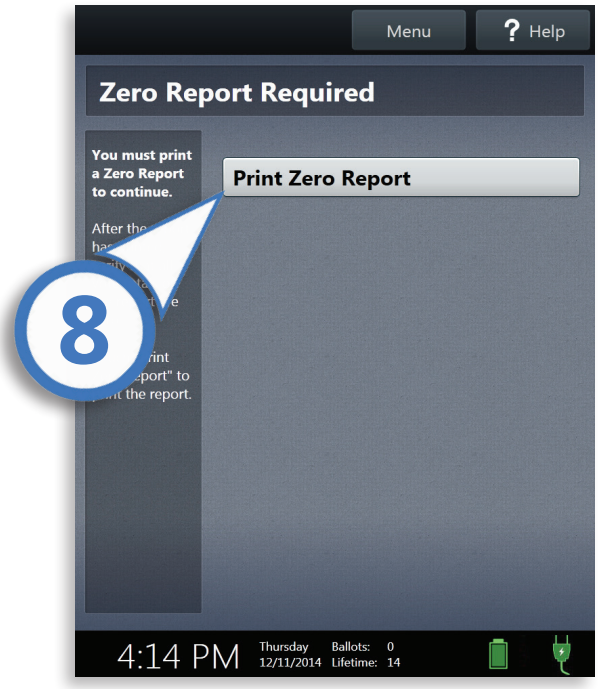
6 The Select Polling Place screen displays. Choose the correct polling place from the list, and then select **OK.** You can use the touch screen keypad to search for a polling place. ▶



7 Confirm the polling place name displayed, and then select **Yes, assign it**. If the polling place shown is not correct, select **No, I'll select another** to return to the previous screen. ▶

predefining Verity Voting devices, *continued*

8 **Remove the Verity Key** (if you have not done so already). The device is now ready to be powered down and deployed to the polling place. (*Optional*) If your jurisdiction requires it, you can now print a Zero report.



NOTE: *If a Zero report is printed, you can either leave it attached to the device, or detach it and keep it at the warehouse, according to local preference. Keeping the report at the warehouse gives you a paper record that the machine had no cast votes when programmed. Leaving the report attached to the device shows that it remained zeroed from the time it left the warehouse until the poll worker took possession of the device.*

predefining Verity Voting devices, *continued*

9 Close and lock the vDrive compartment.

10 Affix the vDrive seal. Record the device serial number, vDrive seal number and installer's initials on the vDrive Tracking Log and the Ballot and Seal Certificate. ▶

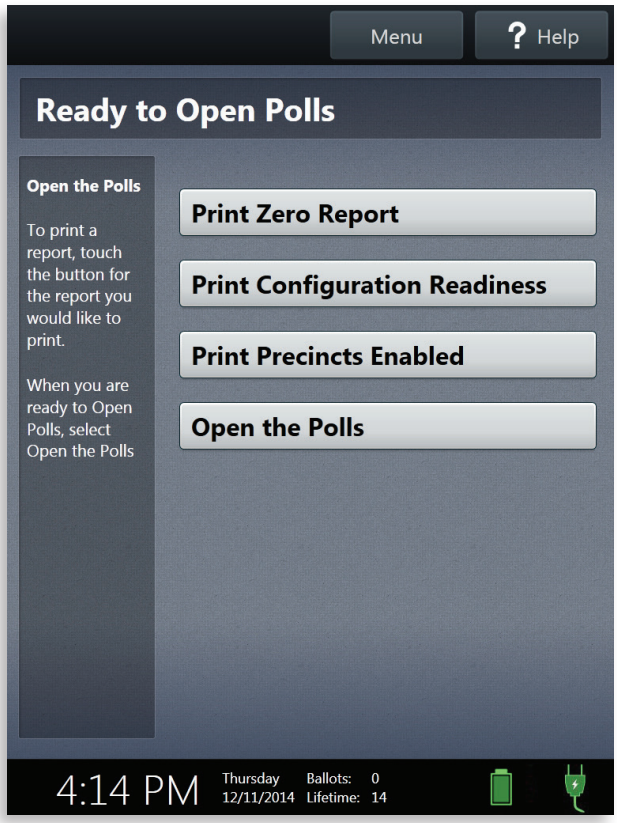
11 Press the *red* power button to power off the device and unplug it. Return the power cord and brick to the storage compartment.

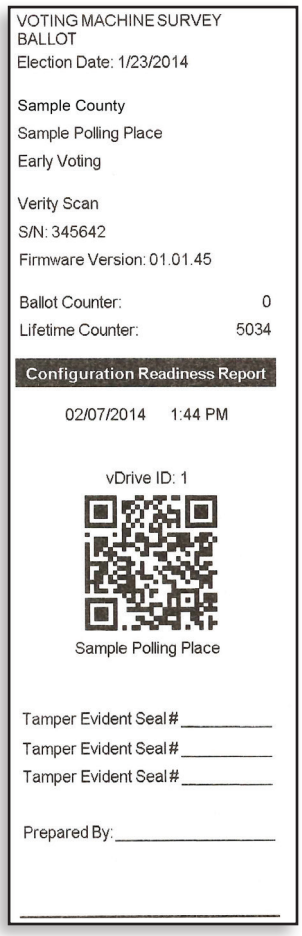
12 Unlock and restore the table to its storage location, and then lock and latch the tablet in place.

13 Place the Ballot and Seal Certificate in the case and close the device case. Lock the case and affix the device seal to the handle, if your jurisdiction requires it. Keep the vDrive Tracking Log on file in the elections office.

printing configuration readiness reports

After printing a device Zero report, but before powering down the device, you have the option to print a Configuration Readiness report. The Configuration Readiness report includes a QR code that can be scanned directly into an spreadsheet to easily record Polling Place assignment, device serial number, and vDrive ID for each device.





checklist: recommended practices for predefining Verity voting devices

- ☐ Set up and power on Verity voting devices.
- ☐ Record the polling place ID and name on the Ballot and Seal Certificate for each device.
- ☐ Install vDrives, using the vDrive Tracking Log from Verity Build as a reference.
- ☐ Confirm the election name and vDrive ID on the screen. Select Yes, load new election and insert the Verity Key.
- ☐ Follow procedures to predefine the polling place on the device using the Verity Key.
- ☐ Remove the Verity Key.
- ☐ Print a Zero Report, if required.
- ☐ Close the vDrive compartment and affix the vDrive seal.
- ☐ Record the device serial number, vDrive seal number and installer's initials on both the vDrive Tracking Log and the Ballot and Seal Certificate.
- ☐ Prepare the device for transport, placing the Ballot and Seal Certificate inside the device case before closing.

5

election support procedures

field technician procedures

responsibilities and guidelines

- Technicians are responsible for troubleshooting assistance on equipment at the polling places, as well as subsequent documentation and record-keeping.
- Troubleshooting should occur in a timely manner.
- As little time as possible should be spent at each polling place in order to reduce possible distractions to voters.
- Technicians should only communicate with election workers or their designates, NOT with voters.

field technician procedures, *continued*

- Technicians should not leave a personal cell phone number or the Hart Support number with poll workers.
- Technicians should speak to poll workers calmly and respectfully.
- Technicians should refer media to the elections office.

recommended training & equipment

The following includes items the technician should have with them when they are traveling to polling places. Technicians should carry ID/credentials when on a call.

- **Training**
  - Verity Polling Place Operations training course
  - Verity Support Procedures training course
- **Documentation**
  - *Verity Polling Place Operations Guide* and/or *Verity Poll Worker's Field Guide*
  - *Verity Support Procedures Guide* and/or *Verity Troubleshooting Field Guide*
  - Logs, out of service tags, and chain of custody forms
- **Supplies**
  - Flashlight
  - Set of device/equipment keys
  - Lint-free isopropyl alcohol wipes
  - Scanner test and calibration sheets
  - Spare headphones, tactile switches, and power cords/bricks
  - Ballot printer supplies, such as ballot paper and toner

help desk procedures

responsibilities and guidelines

- When taking calls, be sure to get a name and call back number *first*, in case you are disconnected.
- Log all calls on a separate Help Desk Call Log. Fill in the log completely as you provide assistance. Be sure to get a call back number in case you are disconnected.
- Use the *Verity Polling Place Operations Guide* or *Verity Poll Worker's Field Guide* as your first resources. These are the documents the poll worker is most likely to have on hand.
- Use the *Verity Support Procedures Guide* or *Verity Troubleshooting Field Guide* as a second reference.
- If dispatching a technician, record the name of the technician in the Log.
- If necessary, make a follow up call to ensure problem has been resolved.

recommended training & equipment

- **Training**
  - Verity Polling Place Operations training course
  - Verity Support Procedures training course
- **Documentation**
  - *Verity Polling Place Operations Guide*
  - *Verity Support Procedures Guide*
  - Help Desk Call logs
- **Supplies**
  - One Polling Place voting setup in Test Mode

Field Technician and Help Desk logs

- Log all calls on a separate Help Desk Call Log. Fill in the log completely as you provide assistance. Be sure to get a name, location, and call back number in case you are disconnected.
- Log the problem and any resolution steps taken over the phone.
- If dispatching a technician, record the name of the technician in the Log.
- If necessary, log any follow up calls made to ensure problem was resolved.
- Log what was done on any technician visits, including any equipment exchanged.

recommended election night and count procedures

The following are the recommended best practices for processing vDrives on election night; the recommendations presented here are superseded by State election law, rule, and code.

materials needed

- Reconciliation logs from the polling places.
- Ballot and Seal Certificate for each device.
- Extra thermal paper rolls.
- vDrive transfer envelopes.

vDrive processing

1 Receive sealed devices, reconciliation logs, spoiled ballot logs, and the appropriate envelopes from Early Voting sites no earlier than the close of Early Voting and from Election Day sites no earlier than the close of polls.

2 Check the reconciliation log and verify that the Ballots Cast on the Verity Controller and/or Scan matches the expected count and total number of voters checked in (signatures).

recommended election night & count procedures, *continued*

NOTE: *If the Ballots Cast on the device and the total number of voters checked in do not match, reconcile using the daily device reports and polling place paperwork.*

3 Record the total number of Ballots Cast on the Verity voting device on the Ballot & Seal Certificate.

4 Record the total number of Access Codes Issued, Canceled, Voted, and Expired on the Ballot & Seal Certificate (if applicable).

5 Verify seal numbers and device serial numbers from the Ballot & Seal Certificate. Collect signatures. File the Ballot & Seal Certificate according to local procedures.

6 Fill out the vDrive transfer envelope, recording the ballots cast (Controller, Scan) or ballots printed (Print, Touch Writer).

7 Break the device seal and remove the vDrive from device. Place the vDrive and broken device seal in the transfer envelope.

8 Deliver vDrives to the counting station.

9 Store the Verity voting devices securely.

recommended election night & count procedures, *continued*

election night count procedures

The recommended procedures presented here are superseded by State election law, rule, and code. Complete instructions for reading vDrives, tabulation, and reporting in Verity Count are found in the *Verity Administrator's Guide*.

1 Print the Verity Count zero report.

2 Open the vDrive transfer envelope. Verify the device seal number.

3 Read Early Voting in-person (and Absentee/ by-mail, if applicable) vDrives into Count. Return vDrives to envelopes after they are read, and mark vDrives and envelopes as counted.

4 Read and process Election Day vDrives in Count. Return vDrives to envelopes after they are read, and mark vDrives and envelopes as counted.

5 Process Write-In votes in Count, if applicable.

6 Print cumulative results reports to be certified and signed by Count Station Official.

recommended election night & count procedures, *continued*

7 Print and prepare Count application reports. Verify reports.

8 Read and process late by-mail vDrives in Count, if applicable, process provisional ballots, and print final official Canvass reports at the appropriate date and time.

election recount with Verity

Recount procedures will vary by jurisdiction and by the type and extent of the recount ordered. Verity's design gives election officials the flexibility to perform recounts in several ways.

retabulation in Verity Count

vDrives may be retabulated in Verity Count; Verity Controller and/or Scan vDrives may be read into a new Count task and retabulated (for instructions on creating tasks in Count, see the *Verity Count Administrator's Guide*). Alternately, for Verity Touch devices, a Recovery vDrive may be used to save individual Touch vote data so that it may be read into Verity Count. For instructions on creating Recovery vDrives, see page 173.

hand counting paper ballots

Paper ballots (including those produced on Touch Writer) may be recounted and tabulated by hand.

recommended election night & count procedures, *continued*

tabulation of Cast Vote Records from the Auditing Dashboard

Election officials can export Cast Vote Records for any Count task where vDrives have been read and tabulated, using the Auditing Dashboard in Verity Count. These Cast Vote Records may be printed and manually counted, or otherwise tabulated outside of the Verity system. For instructions on using the Auditing Dashboard, see the *Verity Count Administrator's Guide*.

Verity Scan recount mode

Jurisdictions with Verity Scan with recount mode (version 1.1.x and later) can use this functionality to rescan ballots on the Verity Scan (for instructions on enabling Verity Scan recount mode, see page 178). Election officials may also use the Change Report Settings feature to limit a recount to a specific contest or contests (see page 189).

rescanning ballots in Verity Central

Ballots may be rescanned in a new Verity Central task. Retabulation may then be performed using a new Count task. For instructions on creating tasks in Central and Count, see the appropriate *Administrator's Guide* for that software.

! IMPORTANT: All recount recommendations and procedures presented here are superseded by your State election law, rule, and code, as well as by the particular requirements of the recount itself.

post-election checklist

- ☐ Tag, inventory, and log problems for devices from election that are in need of maintenance or replacement.
- ☐ Remove vDrives from spare Verity voting devices (if installed). (These vDrives may have been removed and processed as a security measure.)
- ☐ Perform inventory and store vDrives from spare voting devices (if installed and available).
- ☐ Disconnect, and remove device battery packs for storage. For charging recommendations, see page 31.
- ☐ Remove, inventory, and warehouse headphones and tactile input switches from Touch/Touch Writer, if desired.
- ☐ Clean voting device screens. Clean Verity Scan scanner path, if applicable. (Follow procedures on page 165)
- ☐ Perform inventory for voting devices, ballot printers (including cords), booths, and ballot boxes, and prepare for storage.
- ☐ Ship damaged voting devices for maintenance (following RMA procedures on page 97).
- ☐ Test device functionality before next election cycle.

6

troubleshooting guide

how this guide works

This troubleshooting guide is organized into two sections:

- **Issue directory**: a list of potential issues, with a summary of the procedures to resolve each issue, in the order they should be attempted.
- **Procedure reference**: provides detailed instructions for resolution procedures.

how this guide works, *continued*

The procedure for using this guide is outlined below:

1 Look up the problem you are having in the **issue directory**.

2 Follow the resolution steps in order; **check for success after each step**.

3 Some resolution steps will indicate a page number; If you need further details on these procedures, look up the indicated page number in the **procedure reference** or elsewhere in this guide.

a systematic approach to troubleshooting

- ☐ Remain calm
- ☐ Identify the issue or symptoms as reported
- ☐ Gather further information
- ☐ Think broadly
- ☐ Do not jump to conclusions
- ☐ Ask questions
- ☐ Establish a theory to explain the source of the problem
- ☐ Research resolution steps based on your theory
- ☐ Use available documentation to identify the resolution steps
- ☐ Attempt resolution
- ☐ Check for success
- ☐ Repeat

troubleshooting issue directory

try each step in order, until the problem is resolved

Issue	Resolution Steps (check for success after each step)
Access code does not work *(Verity Touch/Touch Writer)*	**1** Confirm access code was entered correctly **2** Disable the access code (and confirm access code was not used) (**p 163**) **3** Issue a new access code, if applicable
Access code printed but not used *(Verity Touch/ Touch Writer)*	**1** Disable the access code (if desired) (**p 163**)
Access controller does not work	**1** Verify device settings (**p 160**) **2** Restart device (**p 158**) **3** Contact election office and replace device (**p 150**)
Alert (Booth Status) *(Verity Controller/Touch)*	**1** Look at the Verity Touch screen and follow the instructions given.
Active Ballot alert	*see* **'There is a ballot loaded..."**
Ballot incorrect (wrong ballot issued)	*see* **Spoiling ballots (ballot not yet cast/ printed)**
Ballot printer out of toner *(Verity Touch Writer/ Verity Print)*	Replace **starter toner cartridges** with another starter toner cartridge, or a standard (full-capacity cartridge). Replace s**tandard (full-capacity) cartridges** with another full-capacity cartridge *only*. See also the Verity Knowledge Base article *Ballot Printer Best Practices*.

troubleshooting issue directory, *continued*

try each step in order, until the problem is resolved

Issue	Resolution Steps (check for success after each step)
Ballot printer does not work *(Verity Touch Writer/ Verity Print)* **IMPORTANT:** When setting up Verity Print or Touch Writer, the ballot printer must be powered on and connected BEFORE powering on Verity Print or Touch Writer (otherwise, connectivity problems may result). However, when troubleshooting a printer problem, you should not restart Verity Print or Touch Writer until you have exhausted all other options.	**1** *If you are using the Manual Paper Tray*, make sure the blue tray release button is engaged, and there are a few sheets of standard sized paper loaded in the main cassette tray. (**p 170**) **2** If the Verity Print or Touch Writer reports a problem with the printer while printing a ballot, **do not restart the Print or Touch Writer**. Follow any instructions *on the printer* to resolve the issue. **INPUT JAM:** Pull out the paper tray and check for/ remove jammed paper. Replace the tray. **FEED JAM/EXIT JAM:** On the top of the printer, push the round black button on the lower left to open the top cover. Check for and remove any jammed paper. Close the top cover. **FEED JAM/EXIT JAM:** Open rear cover on the back of the printer and check for/remove jammed paper. Close rear cover. **3** If resolving the issue on the printer does not clear the error message on the Verity Print or Touch Writer, restart the *printer* using the power switch on the bottom right side of the printer. **4** If the error is cleared but still no ballot is printed, select **Reprint Ballot** on the Verity Print or Touch Writer screen (if available). *continued on next page*

troubleshooting issue directory, *continued*

try each step in order, until the problem is resolved

Issue	Resolution Steps (check for success after each step)
Ballot printer does not work, *continued*	**5** Verify printer cable is plugged in to printer and Print/Touch Writer; verify printer has AC power. **6** If you are still unable to produce a printed ballot, spoil the ballot, if applicable (Verity Touch/Touch Writer) (**p 161**), restart the *Print/Touch Writer* (**p 158**), and issue a new ballot to the voter. Document the process using the spoiled ballot log. If you are still unable to print ballots, contact your Elections Office.
Ballot stuck in scanner (ballot has been cast)	**1** Check/note device message(s), if any; confirm ballot has been cast **2** Restart device (**p 158**). This should clear the scan path. Or, open ballot box door and physically clear the jam. **3** If scanner jams repeatedly, contact election office; use emergency ballot slot and/or replace device (**p 150**)
Ballot stuck in scanner (ballot has not been cast)	**1** Check/note device message(s), if any; confirm ballot has *not* been cast. **2** If ballot is visible: open scanner cover; remove and flatten ballot; close scanner cover and re-feed ballot. If ballot is not visible: open ballot box door and physically clear the jam. Flatten and re-feed ballot. **3** If scanner jams repeatedly, contact election office; use emergency ballot slot and/or replace device (**p 150**)

troubleshooting issue directory, *continued*

try each step in order, until the problem is resolved

Issue	Resolution Steps (check for success after each step)
Ballot will not scan	**1** Check/note device message(s), if any. **2** Confirm ballot has not been cast. **3** Remove, flatten, and re-feed ballot. **4** Clean scanner (**p 165**) **5** Contact election office; use emergency ballot slot and/or replace device (**p 150**)
Battery not present/no battery power	**1** Check battery (**p 155**) **2** Restart device (**p 158**) **3** Replace battery **4** If no AC power, contact election office and replace device (**p 150**)
"Battery Low" error appearing on device screen	**1** Check system battery (**p 155**). Replace battery with fully charged battery, if available, and restart device (**p 158**) **2** Check AC power supply (**p 151**) and restart device (**p 158**)
Closed polls too soon (Election Day)	**1** Verify polls are closed **2** Contact election office and replace device (**p 150**)
Device has incorrect polling place/precinct	**1** Verify polling place from any device report **2** Contact election office and replace device (**p 150**)
Device is hot or smells hot	*see* **Battery not present/no battery power**

troubleshooting issue directory, *continued*

try each step in order, until the problem is resolved

Issue	Resolution Steps (check for success after each step)
Device screen is dark	*see* **Device will not turn on**
Device turns off/ loses power (was on previously)	**1** Check power supply (**p 151**) **2** Check battery (**p 155**) **3** Restart device (**p 158**) **4** Contact Election Office and replace device (**p 150**)
Device will not turn on	**1** Check tablet connection/docking (**p 153**) **2** Check power supply (**p 151**) **3** Check battery (**p 155**) **4** If power on report is available, verify firmware version (**p 157**) **5** Restart device (**p 158**) **6** Contact election office and replace device (**p 150**)
Forgot to print reports before closing/ suspending polls and powering off	*see* **Printing reports after powering down**
Headphones do not work/no sound	**1** Check headphones (**p 159**) **2** Verify device settings (**p 160**) **3** Restart device (**p 158**) **4** Contact election office and replace device (**p 150**)

troubleshooting issue directory, *continued*

try each step in order, until the problem is resolved

Issue	Resolution Steps (check for success after each step)
Help Needed (Booth Status) *(Verity Controller/ Touch)*	**1** The voter at the Verity Touch booth has requested poll worker assistance.
Language chosen incorrectly	*see* **Wrong language selected (ballot not yet cast/printed)**
No AC power (AC power indicator on screen crossed out)	**1** Check power supply (**p 151**) **2** Restart device (**p 158**) **3** Contact election office and replace device (**p 150**)
No battery power (Battery power indicator on device screen is red/ crossed out)	*see* **Battery not present/no battery power; Battery Low error**
No Controller found *(Verity Touch)*	**1** Check booth connections between the Touch and Controller (**p 154**) **2** Restart the Verity Touch device (**p 158**) **3** Restart the Verity Controller device (**p 158**) **4** Contact election office and replace device (**p 150**)
No thermal printer paper/replacing thermal printer paper	**1** Load thermal printer paper (**p 167**)
No vDrive Found	**1** Contact election office and replace device (**p 150**)

troubleshooting issue directory, *continued*

try each step in order, until the problem is resolved

Issue	Resolution Steps (check for success after each step)
Not Connected (Booth Status) *(Verity Controller/ Touch)*	**1** The Touch device is not connected to Verity Controller; look at the Verity Touch screen and follow the instructions given. **2** Check tablet connection/docking on Verity Touch (**p 153**) **3** Check booth connections between the Touch and Controller (**p 154**) **4** Restart Verity Touch (**p 158**) **5** Restart Verity Controller (**p 158**) **6** Contact election office and replace device (**p 150**)
Overheating device	*see* **Battery not present/no battery power**
Password does not work	**1** Confirm correct password and re-enter **2** Call Election Office **3** Retry with correct password
Polling place (incorrect on device)	*see* **Device has incorrect polling place/pre-cinct**
Power loss	*see:* • **Device turns off/loses power (was on previously)** • **Device will not turn on** • **No AC power**
Precinct (incorrect on ballot)	*see* **Spoiling ballots (ballot not yet cast/ printed)**

troubleshooting issue directory, *continued*

try each step in order, until the problem is resolved

Issue	Resolution Steps (check for success after each step)
Precincts (incorrect on device)	*see* **Device has incorrect polling place/precinct**
Printer not working (ballot printer) *(Verity Touch Writer/Verity Print)*	*see:* **Ballot printer does not work**
Printer not working (device thermal printer)	*see:* **Thermal printer does not work**
Printing reports after powering down	**1** Press red power button on back of device to turn it back on and print reports needed
'Robustness session maybe is in progress'	**1** When attempting to suspend or close polls, this message indicates that one or more connected Touch tablets are un-docked; verify that all Touch tablets are re-docked to their base stations, and that all open ballots are cast (if voter is present) or spoiled. **2** Select **Yes, suspend/close polls**.
Scanner problems	*see:* • **Ballot stuck in scanner (ballot has been cast)** • **Ballot stuck in scanner (ballot has not been cast)** • **Ballot will not scan**
Spoiling ballots (ballot not yet cast/printed)	**1** Spoil ballot (**p 161, p 162**) **2** Issue new access code, if applicable

troubleshooting issue directory, *continued*

try each step in order, until the problem is resolved

Issue	Resolution Steps (check for success after each step)
Stranded Ballot *(Verity Touch)*	A Stranded Ballot occurs when a ballot is cast on Verity Touch, and that Touch device is not able to connect to the Verity Controller (either due to a connection issue, or if the Verity Controller was replaced while the Touch device was disconnected). **NOTE:** *A stranded ballot can only be transferred from Verity Touch to the same Verity Controller where it was issued. If you are unable to transfer a stranded ballot to the original Controller, you must create a recovery vDrive for each Touch device that contains a stranded ballot (see page 173).* **Checking for a connection issue (Verity Controller was not replaced)** **1** Check tablet connection/docking (**p 153**). Wait while the Touch reestablishes connection to the Verity Controller (this may take a moment). The Touch device should return to the Enter Access Code (or Select Language) screen. **2** Check booth connections between the Touch and Controller (**p 154**). **3** Restart the Touch device (**p 158**). **4** Contact election office and replace Touch device (**p 150**). Create a recovery vDrive for the Touch device being replaced. *continued on next page*

troubleshooting issue directory, *continued*

try each step in order, until the problem is resolved

Issue	Resolution Steps (check for success after each step)
Stranded Ballot, *continued*	**Overriding the Stranded Ballot message (Verity Controller was replaced)** **NOTE:** *A stranded ballot can only be transferred from Verity Touch to the same Verity Controller where it was issued. If you are unable to transfer a stranded ballot to the original Controller, you must create a recovery vDrive for each Touch device that contains a stranded ballot (see page 173).* **1** Select **Override this message** if you would like to continue to use the Touch device with the new Controller. Enter the Administrator passcode and select **Accept**. **2** If the Verity Touch displays the No Controller Found message, check tablet connection/docking (**p 153**). **3** If the Verity Touch still displays the No Controller Found message, check booth connections between the Touch and Controller (**p 154**). **4** If the Verity Touch still displays the No Controller Found message, restart the Touch device (**p 158**). **5** If the Touch device still displays the No Controller Found message, contact election office and replace Touch device (**p 150**). Create a recovery vDrive for the Touch device being replaced.

troubleshooting issue directory, *continued*

try each step in order, until the problem is resolved

Issue	Resolution Steps (check for success after each step)
Suspended polls too soon (Early Voting)	**1** If dictated by local procedures, restart device (**p 158**) and reopen polls.
System Alert	**1** Follow the instructions on the device screen. **2** Contact the election office.
System Test Fail	1 Restart device (in rare instances this may need to be done more than once) **(p 158)** 2 Contact Election Office and replace device (**p 150**)
'There is a ballot loaded on one of the Touch devices...'	1 When attempting to suspend/close polls, this message occurs when one or more connected Touch devices have an open ballot. Verify that all ballots are cast (if voter is present) or spoiled before attempting to suspend/close polls.
Thermal printer does not work	**1** Check/make note of any device message(s) **2** Load/reload thermal paper (**p 167**) **3** Restart device (**p 158**) **4** Contact election office and replace device (**p 150**) **NOTE:** *if printer is printing a long string of numbers, see* **Thermal printer has entered diagnostic mode**.

troubleshooting issue directory, *continued*

try each step in order, until the problem is resolved

Issue	Resolution Steps (check for success after each step)
Thermal printer has entered diagnostics mode	If the user inadvertently holds down the printer feed button while powering up, the printer will enter diagnostics mode and the printer diagnostic report will print (see **p 169** for an example of this report). Once the printer is in diagnostics mode, it cannot be used normally. If printing is attempted while in diagnostics mode, a long string of numbers will print. **1** To reset the printer to normal operations mode, restart the device (**p 158**).
Unassigned booths *(Verity Controller)*	**1** Look at each Verity Touch screen. If a booth is not assigned, select an available number on the screen to assign that number to the booth.

troubleshooting issue directory, *continued*

try each step in order, until the problem is resolved

Issue	Resolution Steps (check for success after each step)
Unreported Session *(Verity Touch)*	An unreported session occurs when a ballot is spoiled on Verity Touch, and that Touch device is not able to connect to the Verity Controller (either due to a connection issue, or if the Verity Controller was replaced while the Touch device was disconnected). **NOTE:** *If you are unable to resolve an unreported session,the Access Code reports on your Verity Controller(s) will not reflect this spoiled ballot.* **Checking for a connection issue (Verity Controller was not replaced)** **1** Check tablet connection/docking (**p 153**). Wait while the Touch reestablishes connection to the Verity Controller (this may take a moment). The Touch device should return to the Enter Access Code (or Select Language) screen. **2** Check booth connections between the Touch and Controller (**p 154**). **3** Restart the Touch device (**p 158**). **4** Contact election office and replace Touch device (**p 150**). *continued on next page*

troubleshooting issue directory, *continued*

try each step in order, until the problem is resolved

Issue	Resolution Steps (check for success after each step)
Unreported Session, *continued*	**Overriding the Unreported Session message (Verity Controller was replaced)** **NOTE:** *If you are unable to resolve an unreported session,the Access Code reports on your Verity Controller(s) will not reflect this spoiled ballot.* **1** Select **Override this message** if you would like to continue to use the Touch device with the new Controller. Enter the Administrator passcode and select **Accept**. **2** If the Verity Touch displays the No Controller Found message, check tablet connection/docking (**p 153**). **3** If the Verity Touch still displays the No Controller Found message, check booth connections between the Touch and Controller (**p 154**). **4** If the Verity Touch still displays the No Controller Found message, restart the Touch device (**p 158**). **5** If the Touch device still displays the No Controller Found message, contact election office and replace Touch device (**p 150**).
vDrive error message (Invalid vDrive, corrupt vDrive)	**1** Contact election office and replace device (**p 150**)

troubleshooting issue directory, *continued*

try each step in order, until the problem is resolved

Issue	Resolution Steps (check for success after each step)
vDrive lost/missing	**1** Contact election office and replace device (**p 150**) *see also* **creating a recovery vDrive (p 173).**
Wrong ballot/ballot style/precinct chosen (ballot not yet cast/ printed)	*see* **Spoiling Ballots (Verity Touch/Touch Writer)**
Wrong base station *(Verity Touch)*	**1** This message will display if a Verity Touch tablet is reconnected to the wrong base station (booth). Remove the Verity Touch tablet and reconnect/redock the tablet with the correct base station/booth.
Wrong language selected *(ballot not yet cast/printed)*	**1** Select the language button in the top left of the Touch or Touch Writer screen. **2** Choose the correct language.

replacing devices at the polling place

- Spare devices should be predefined for the correct polling place before they are deployed.
- Record replaced device serial number on an Out of Service Equipment tag and affix tag. Log a full description of the problem on the Equipment Chain of Custody form, if sending for repair.
- Follow local procedures governing the transfer of any Cast Vote Records held on replaced devices to the central counting station.
- If an piece of equipment is deemed to require service, and you believe it must be sent to Hart for repair, see instructions for creating an Return Materials Authorization on page 97.

troubleshooting procedure reference

checking power supply

1 Confirm the AC power cord is plugged in to the back of the device. ▶

2 Confirm the power cord and power brick are plugged in securely. ▶

3 If you are using a power strip (or UPC), confirm the plug coming from the power brick is plugged into the strip, and make sure the power strip is turned on.

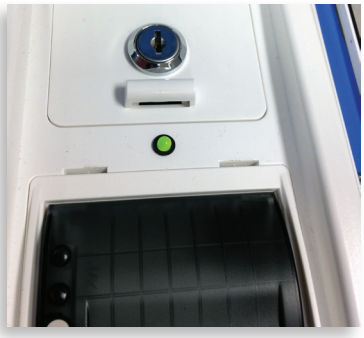
procedure reference, *continued*

4 Confirm the power cord/power strip/ extension cord is plugged into a working, 3-prong wall outlet.

5 After checking connections, press the *red* power button on the back of the device to turn on the device. ▼

checking tablet connections/docking

1 Check to see if the tablet docking light is green, indicating the tablet is seated. ▶



2 Check that the tablet is firmly seated in its cradle, and the metal lid brace is fully extended and locked. ▶

3 Check that the tablet lock is engaged (locked). ▶

procedure reference, *continued*

checking booth connections *(Verity Controller/ Touch)*

1 Check booth connections at the back of each Verity Controller and Verity Touch.

- Each Verity Touch must be connected to at least one other Verity Touch or Verity Controller.
- At least one Verity Touch in each chain must be connected to Verity Controller.

2 Check the booth cables themselves for damage/ fraying. Replace if necessary.

3 Once physical connection is reestablished, it may take a few moments before the connected devices are ready to use; be patient.

checking the system battery

1 Make certain all voters using the device have finished voting. If restarting a Verity Scan, make sure voters have access to the emergency ballot slot.

2 Press the *red* power button on the back of the device to turn off the device. ▶

3 Unlock the device tablet (**A**) and remove it from its cradle (**B**). ▼

procedure reference, *continued*

4 Open the battery door on the back of the tablet and check that the battery is present. ▶

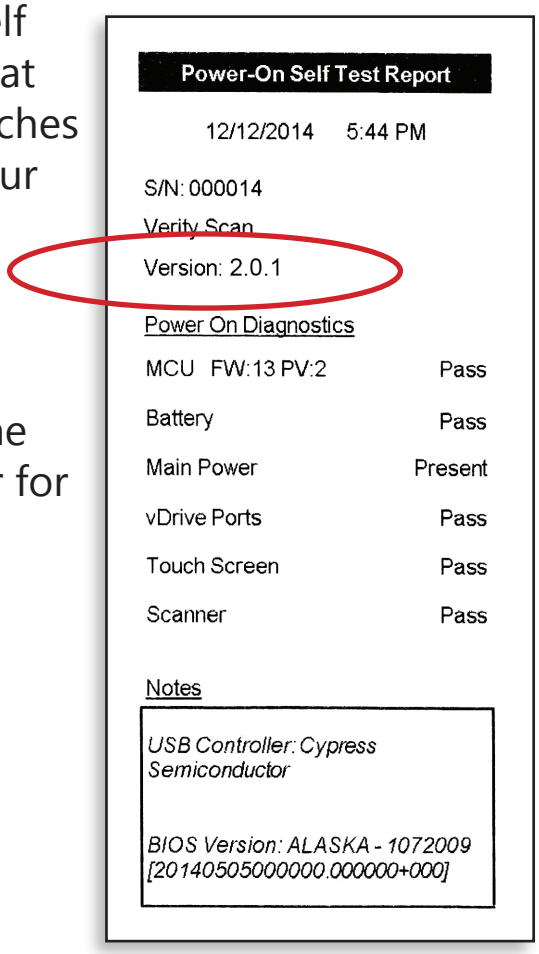
5 Check that the battery is connected properly. The tab on the connector coming from the battery must snap over the tab on the wire coming from the tablet. ▶

6 Check the battery charge by pressing on the test button on the bottom left of the front of the battery. ▶

checking software version

1 Check with the central election office for the correct software version.

2 On the Power-On Self Test report, check that the firmware version matches the correct version for your jurisdiction. A sample report is shown to the right, for reference only; the version number will vary and should match the expected version number for your jurisdiction.



Power-On Self Test Report

12/12/2014 5:44 PM

S/N: 000014

Verity Scan

Version: 2.0.1

Power On Diagnostics

MCU FW:13 PV:2	Pass
Battery	Pass
Main Power	Present
vDrive Ports	Pass
Touch Screen	Pass
Scanner	Pass

Notes

USB Controller: Cypress Semiconductor

BIOS Version: ALASKA - 1072009 [20140505000000.000000+000]

procedure reference, *continued*

restarting a device

1 Make certain all voters using the device have finished voting. If restarting a Verity Scan, make sure voters have access to the emergency ballot slot.

2 Press the *red* power button on the back of the device until the device shuts down. ▶

3 Wait 15-30 seconds.

4 Press the *red* power button on the back of the device to turn the device on. ▶

5 Follow the prompts on the device screen.

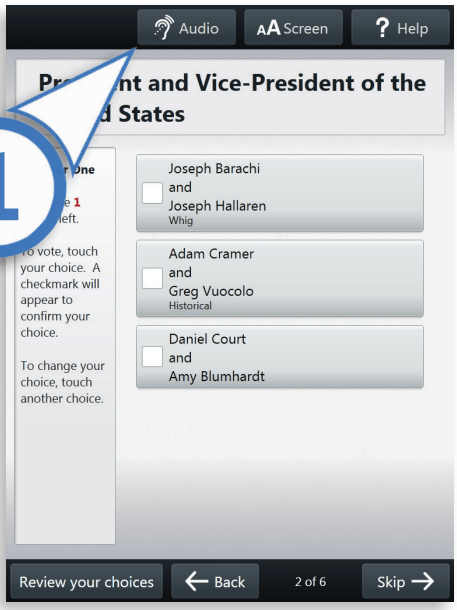
checking headphones

1 Check that the headphones are connected to the proper (left) port on the Verity Access, and that the connection is secure. ▼

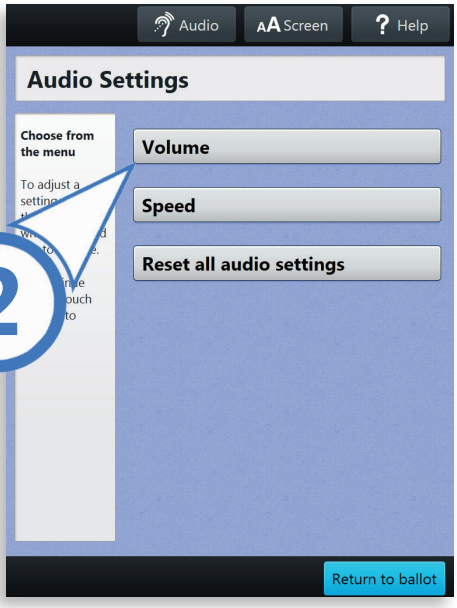
procedure reference, *continued*

verifying device audio settings

1 On the Verity Touch or Touch Writer, select **Audio**. ▶



2 Verify the device audio settings. Select **Volume** to check the volume settings. ▶



procedure reference, *continued*

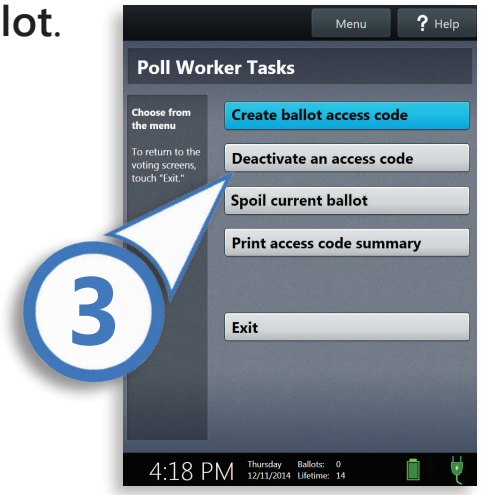
spoiling a ballot *(Verity Touch Writer)*

(if ballot has not yet been printed)

1 Press the *blue* poll worker button on the back of the Verity Touch Writer. ▶

2 Enter the Poll Worker Code and select **Accept**.

3 Select **Spoil current ballot**. ▶



4 Select **Yes, spoil the ballot**.

5 Select **OK**. Follow local procedure for filling out and filing spoiled ballot paperwork.

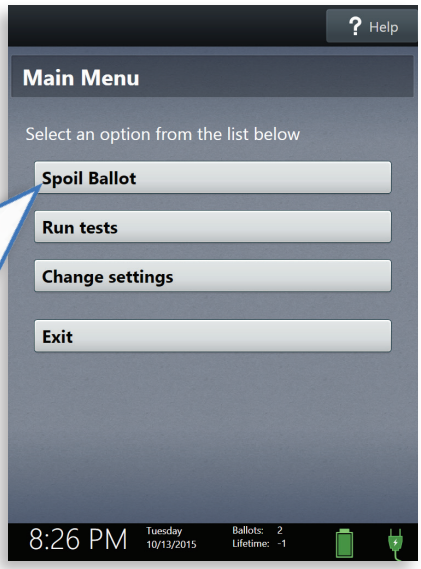
procedure reference, *continued*

spoiling a ballot *(Verity Touch)*

(if ballot has not yet been cast)

1 Press the *blue* poll worker button on the back of the Verity Touch. ▶

2 Select **Spoil ballot**. ▶



3 Enter the Poll Worker Code and select **Accept**.

4 Select **Yes, spoil the ballot**.

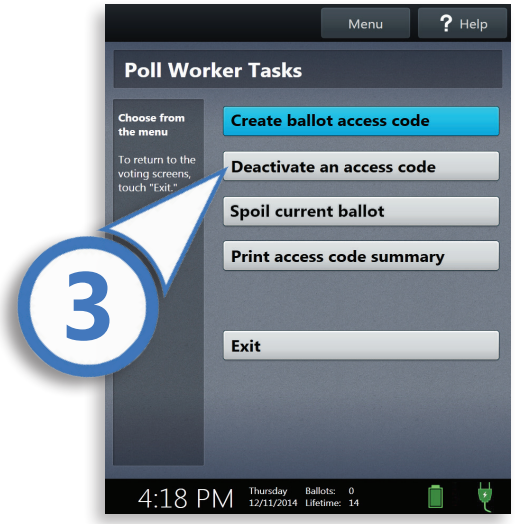
5 Select **OK**. Follow local procedure for filling out and filing spoiled ballot paperwork.

deactivating an access code *(Touch Writer)*

1 Push the *blue* poll worker button at the back of the Verity Touch Writer.

2 Enter the Poll Worker Code.

3 Select **Deactivate an access code.** ▶



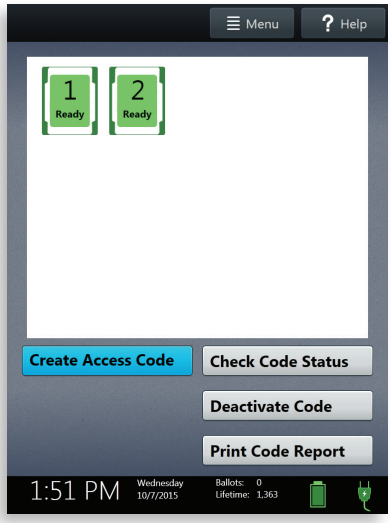
4 Check Access Code status and follow local procedure to determine if a new code should be issued:

- **Assigned and Open**: access code can be deactivated and a new access code may be issued following local procedures.
- **Expired**: access code can no longer be used, but a new access code may be issued following local procedures.
- **Assigned and Cast**: access code was used to cast a ballot; a new access code should not be issued.

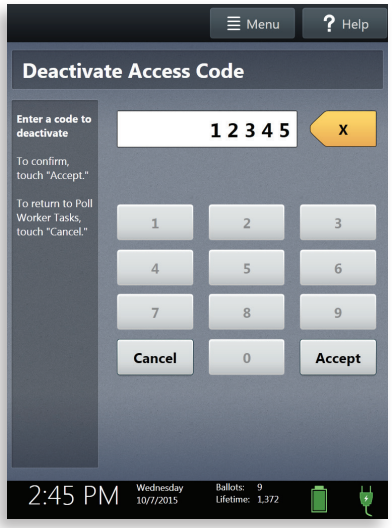
procedure reference, *continued*

deactivating an access code *(Verity Controller)*

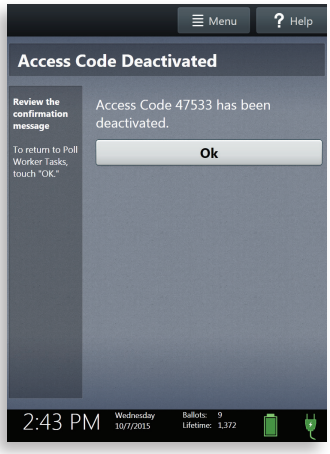
1 On the main screen, select **Deactivate Code**. ▼



2 Type the Access code you need to deactivate, and then select **Accept**. ▼



3 Select **OK**. ▶



cleaning the Verity Scan scanner

1 Make certain all voters using the device have finished voting. Make sure voters have access to the emergency ballot slot.

2 Press the *red* power button on the back of the Verity Scan to turn it off. ▶

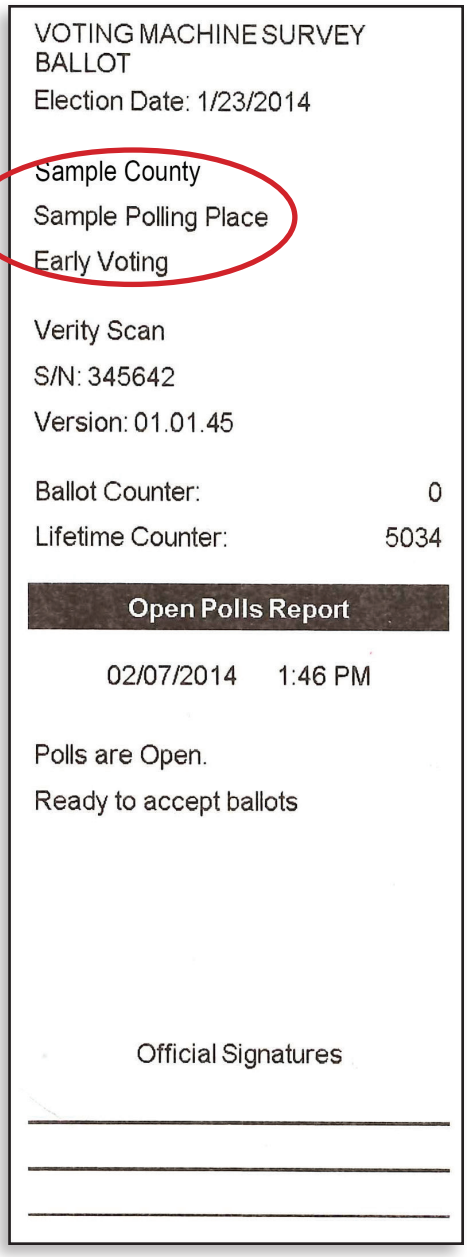
3 Unplug the AC power cord from the back of the Verity Scan. ▶

4 Gently lift the scanner door and clean the upper and lower glass plates with a lint-free isopropyl alcohol wipe. Do not reuse the wipes after use; do not pour or spray liquids directly on the scanner and do not use compressed air to remove dust. ▶

procedure reference, *continued*

verifying the polling place

1 Refer to the **Open Polls report** to confirm polling place name and voting type, or refer to any report header to confirm the Polling Place name.



VOTING MACHINE SURVEY BALLOT
Election Date: 1/23/2014

Sample County
Sample Polling Place
Early Voting

Verity Scan
S/N: 345642
Version: 01.01.45

Ballot Counter: 0
Lifetime Counter: 5034

Open Polls Report

02/07/2014 1:46 PM

Polls are Open.
Ready to accept ballots

Official Signatures

loading thermal printer paper

1 The thermal printer is located on the right-hand side of the voting device. ▶

2 To open the paper compartment: While standing in front of the device, pull the lever on the top of the printer cover towards you. ▶

procedure reference, *continued*

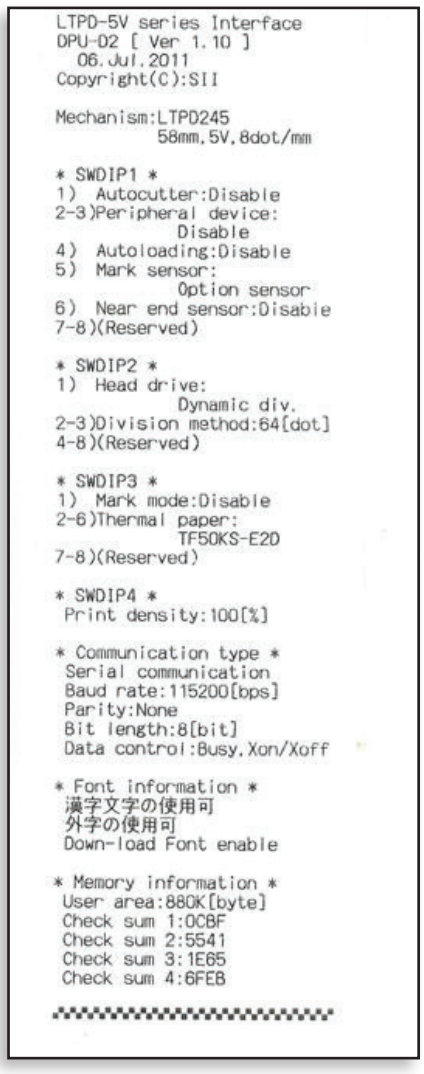
loading thermal paper, *continued*

3 To replace paper: Place the new paper roll into the printer as shown. Paper must roll out from the bottom. ▼

4 Close the printer cover. The paper must extend out from underneath the front edge of the cover. The white button can be used to advance the paper. ▶

thermal printer diagnostics report

If the user inadvertently holds down the printer feed button while powering up, the printer will enter diagnostics mode and the printer diagnostic report will print (sample report shown). Once the printer is in diagnostics mode, it cannot be used normally. If printing is attempted while in diagnostics mode, a long string of numbers will print. To reset the printer to normal operations mode, restart the device (**p 158**).



```
LTPD-5V series Interface
DPU-D2 [ Ver 1.10 ]
  06.Jul.2011
Copyright(C):SII

Mechanism:LTPD245
          58mm,5V,8dot/mm

* SWDIP1 *
1)  Autocutter:Disable
2-3)Peripheral device:
            Disable
4)  Autoloading:Disable
5)  Mark sensor:
            Option sensor
6)  Near end sensor:Disable
7-8)(Reserved)

* SWDIP2 *
1)  Head drive:
            Dynamic div.
2-3)Division method:64[dot]
4-8)(Reserved)

* SWDIP3 *
1)  Mark mode:Disable
2-6)Thermal paper:
            TF50KS-E2D
7-8)(Reserved)

* SWDIP4 *
 Print density:100[%]

* Communication type *
 Serial communication
 Baud rate:115200[bps]
 Parity:None
 Bit length:8[bit]
 Data control:Busy,Xon/Xoff

* Font information *
 漢字文字の使用可
 外字の使用可
 Down-load Font enable

* Memory information *
 User area:880K[byte]
 Check sum 1:0C8F
 Check sum 2:5541
 Check sum 3:1E65
 Check sum 4:6FEB
```

procedure reference, *continued*

using the Manual Paper Tray on the ballot printer (Print/Touch Writer)

! IMPORTANT: In order for paper to feed properly from the Manual Paper Tray, you must also load a few sheets of standard sized paper in the main cassette tray.

1 Open the front manual feed door; flip up and extend the tray as shown. ▼

2 Load 8.5"x17" ballot paper as shown. ▼

3 Press the blue release button (located to the right of the paper) to raise the paper to meet the rollers. ▶

7

device administrator functions

An Administrator menu is available on each device; this menu allows an authorized election officials to perform certain actions, once an Administrator passcode (set in Verity Build) has been entered. Functions available in the device Administrator menu vary by the type of device, as well as by the version of Verity software currently running on the device. Such functions may include:

- create recovery vDrive
- enable/disable recount mode (*Verity Scan v.1.1.X and later only*)
- change ballot rules (*Verity Scan only)*
- change report settings (*Verity Scan v.1.1.X and later; Verity Controller*)

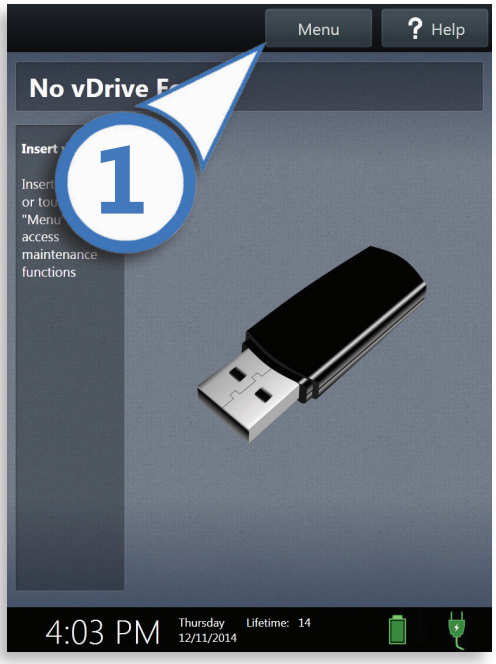
creating a recovery vDrive

In the event that a device vDrive is lost, damaged, or missing vote data (stranded ballots), a recovery vDrive can be created by accessing the Administrator menu on the device itself. To access the Administrator menu, you will need to know the Administrator password for devices set up in Build (see the *Verity Administrator's Guide: Build*).

materials needed

- Voting device containing the data that needs to be recovered
- vDrive that has *not* been used in any device or software application for the current election. (If necessary, vDrive can be from a previous election).

1 ▶ On the device startup screen, select **Menu**.

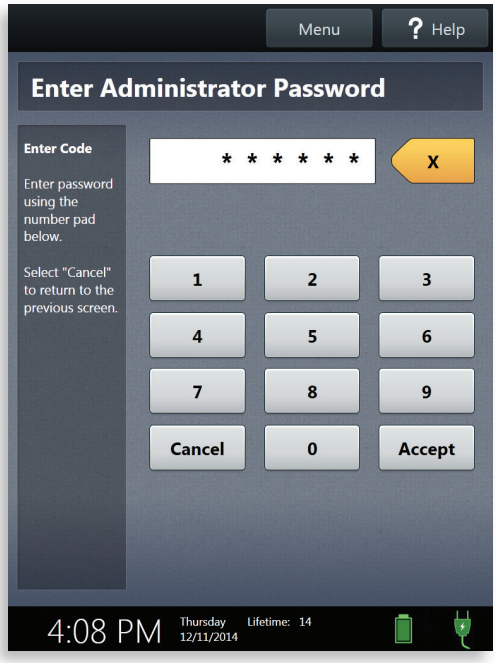


NOTE: *For instructions on creating a recovery vDrive for the Central application, see the* **Verity Administrator's Guide: Central**.

creating a recovery vDrive, *continued*

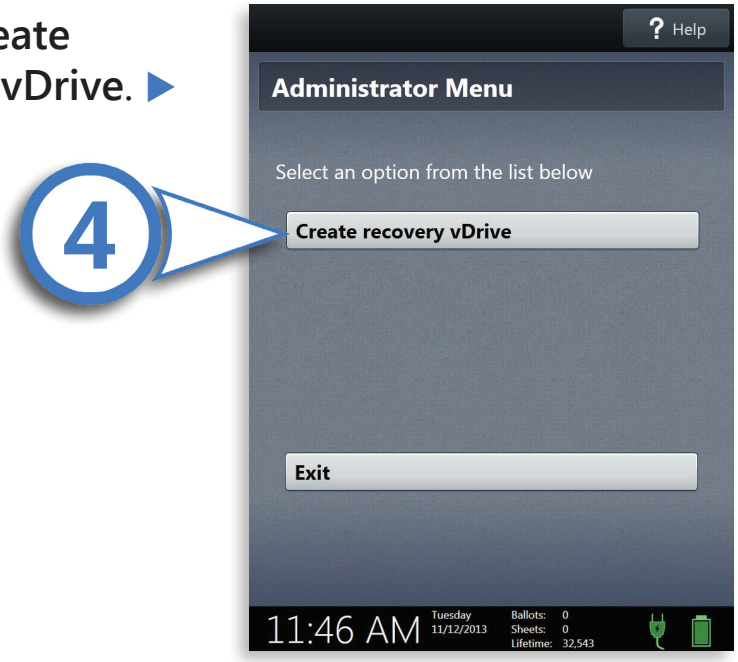
2 Select **Administrator Menu**. ▶

3 Enter the Administrator devices passcode and select **Accept**. ▶

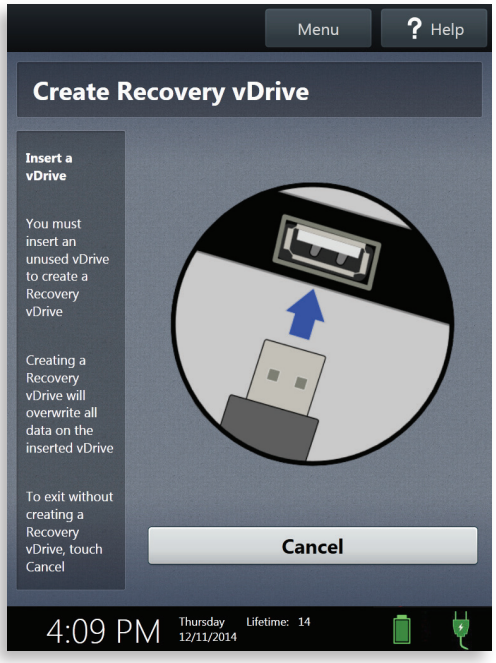


creating a recovery vDrive, *continued*

4 Select **Create recovery vDrive.** ▶



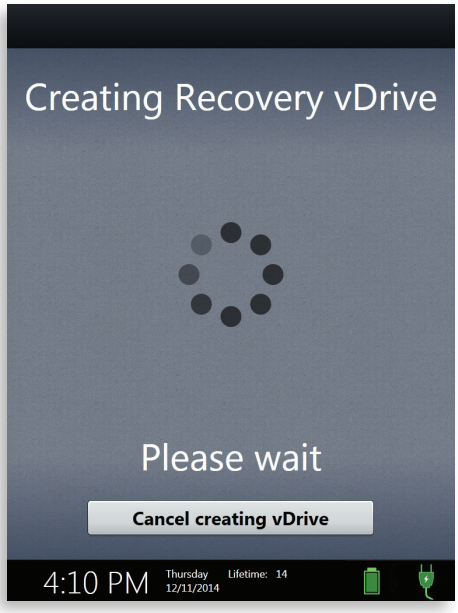
5 Insert a vDrive that has not been previously written for the election. ▶



creating a recovery vDrive, *continued*

6 Select the election data you wish to recover (**A**), and then select **OK** (**B**). ▶

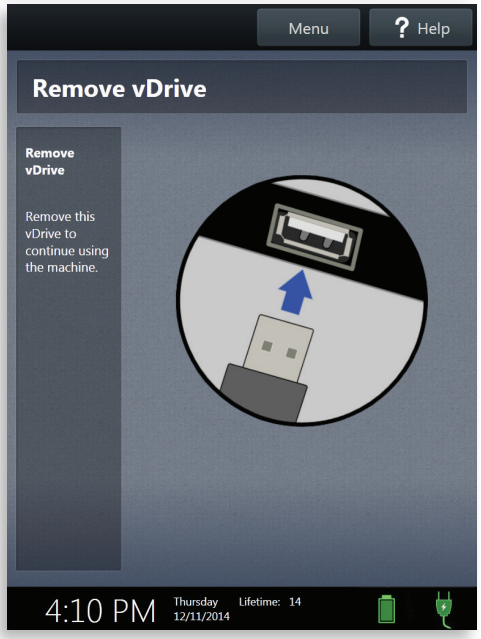
7 Wait while the data is written to the vDrive. ▶



creating a recovery vDrive, *continued*

8 Select **OK**. ▶

9 Remove the vDrive. If needed, the vDrive can now be read into Count and tabulated (for information on reading Recovery vDrives into Verity Count, see the *Verity Administrator's Guide: Count*). ▶

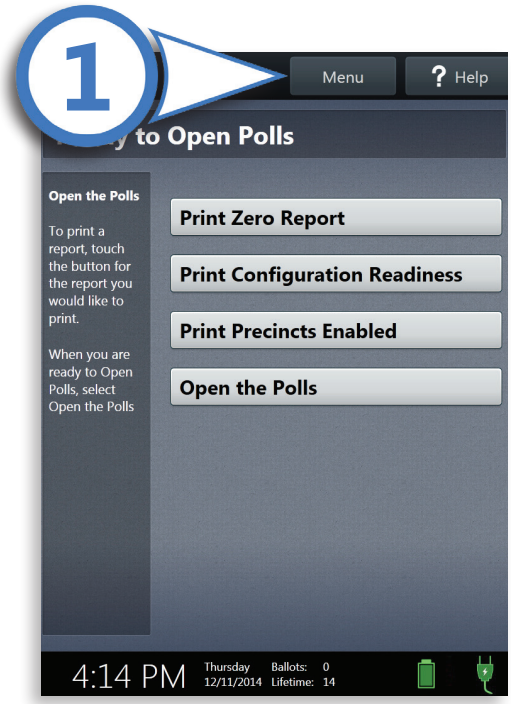


enabling recount mode *(Verity Scan; only available in Verity versions 1.1.X and later)*

The following provides procedures for conducting a recount using the Verity Scan polling place scanner. Recount mode is accessed on the Verity Scan through the Administrator menu.

The Verity Scan recount mode, ballot processing rules, and device report settings are only available when the Scan has been predefined using a vDrive for the current election (for recount mode, the Scan must *also* be in a Ready to Open Polls state). In Recount Mode, you can configure a Scan device to report only results for a particular contest (or contests).

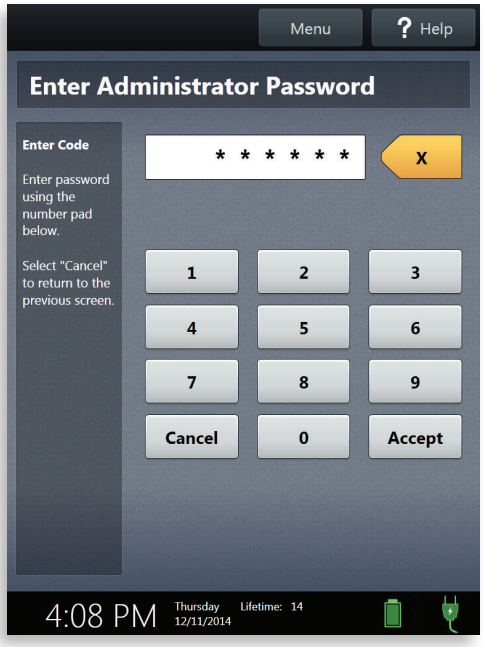
1 On the **Ready to Open Polls screen**, select **Menu**. ▶



accessing recount functionality, *continued*

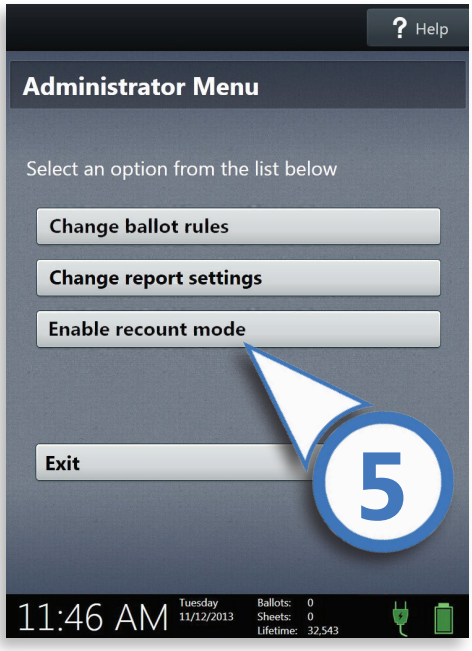
2 Select **Administrator Menu**. ▶

3 Enter the device Administrator passcode and select **Accept**. ▶



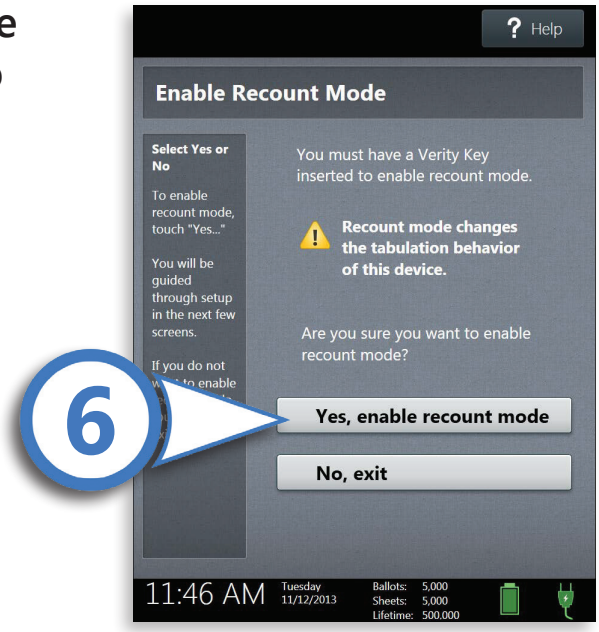
enabling recount mode on Scan, *continued*

4 The Administrator Menu displays. Insert a Verity Key for the election into the device. ▼



5 Select **Enable recount mode**. ▶

6 Select **Yes, enable recount mode** to confirm. ▶



enabling recount mode on Scan, *continued*

7 Choose the contest(s) that you would like to recount from the list, and then select **OK**.

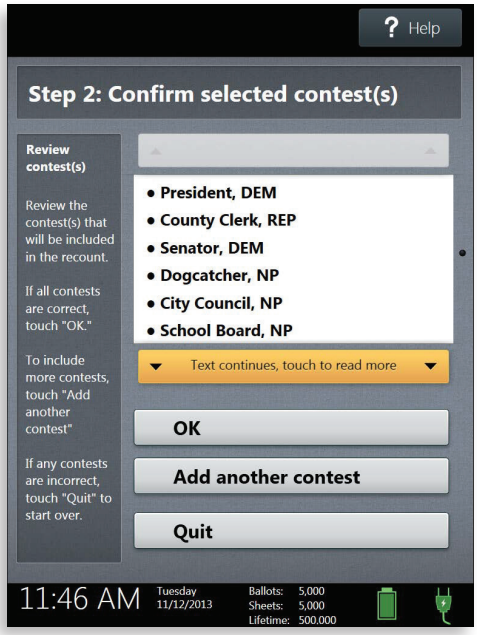
A) A green check mark will display next to the contest when you have selected it.

B) Touch the yellow bar to see additional contests.

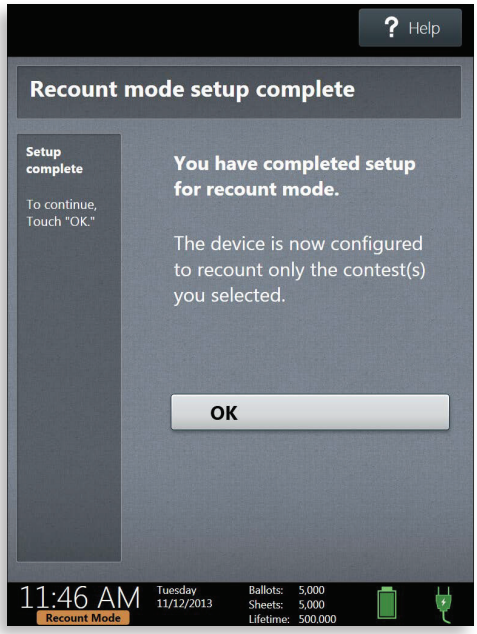
C) Use the keypad to search; select **ABC** to type using an alphabetic keypad.

enabling recount mode on Scan, *continued*

8 Select **OK** to confirm your contest selection(s), or choose **Add another contest** to choose additional contests. ▶



9 Recount mode setup is complete; select **OK**. You may now begin scanning ballots using the Verity Scan. Device reports will include only vote totals for the contests you selected in step 7. While the device is in Recount Mode, an indicator will appear on the bottom left.



changing ballot rules *(Verity Scan only)*

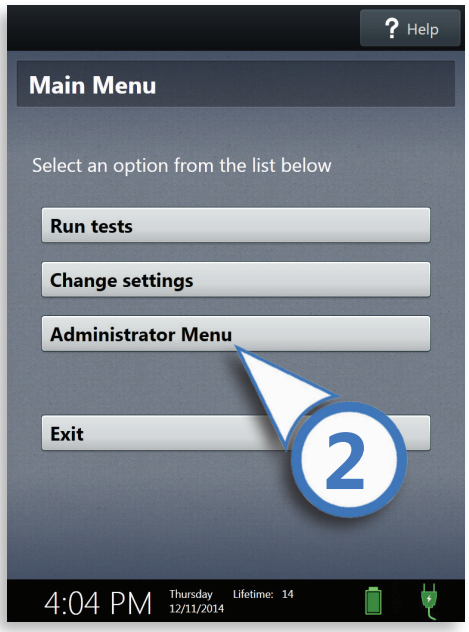
The change ballot rules function allows an administrator to change the second-chance voting behavior of that particular Verity Scan device. For instance, during a recount process, or if using a Scan to process absentee ballots, it may be desirable to override the scan behavior defined in Verity Build and use different settings for that specific device.

changing ballot rules in Verity version 1.0.X

1 On the **Ready to Open Polls screen**, select **Menu**. ▼

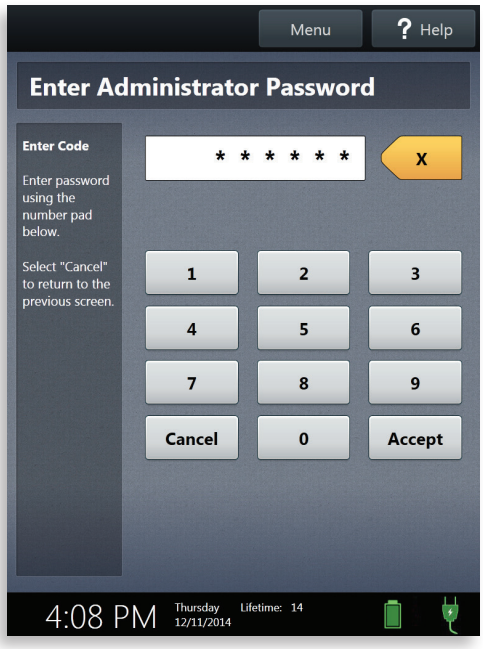
NOTE: *If polls have already been opened, press the poll worker button to access the Main Menu.*

2 Select **Administrator Menu**. ▼

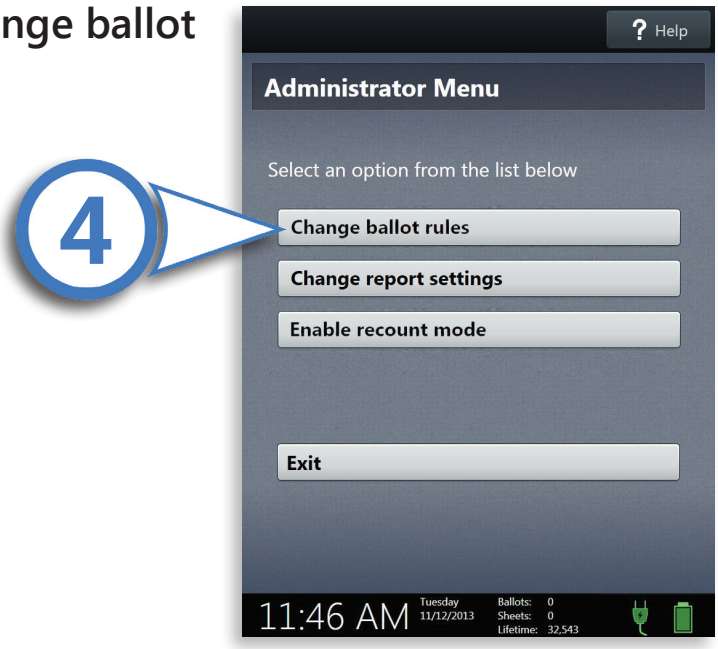


changing ballot rules, *continued*

3 Enter the device Administrator passcode and select **Accept**. ▶

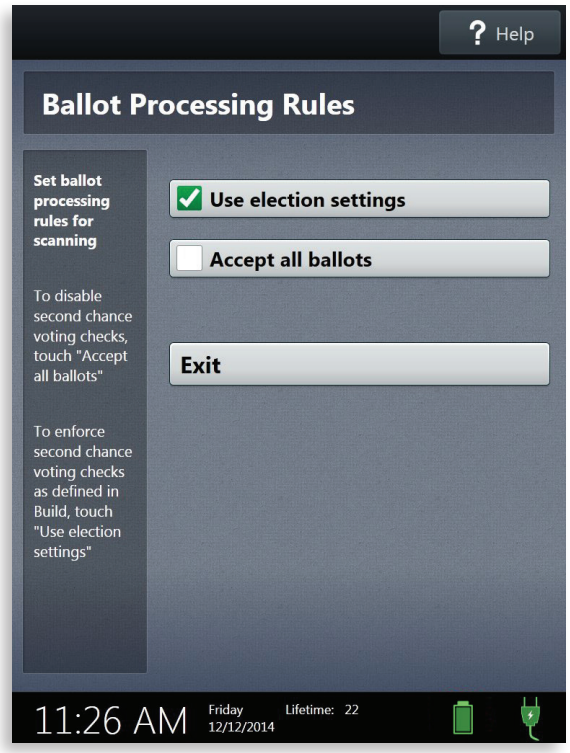


4 Select **Change ballot Rules**. ▶



changing ballot rules, *continued*

5 Select the desired ballot processing rules for that particular Scan device. ▼



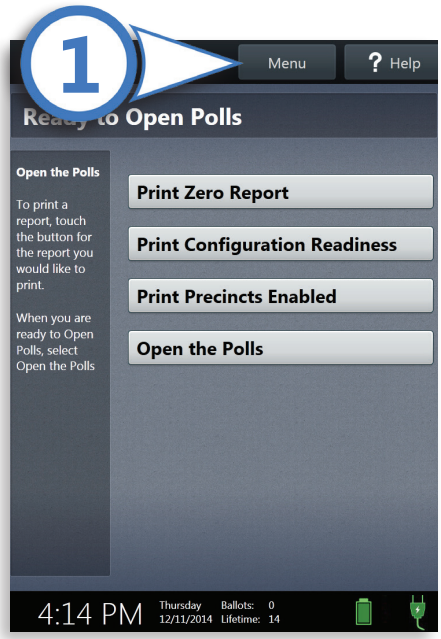
- Choose **Use election settings** to follow the rules defined in the Verity Build application (see the *Verity Administrator's Guide: Build*).
- Choose **Accept all ballots** to override Build settings and force the Scan device to accept all ballots as-is.

6 Select **Exit**. Changes to ballot rules will remain in effect until the device is restarted.

changing ballot rules, *continued*

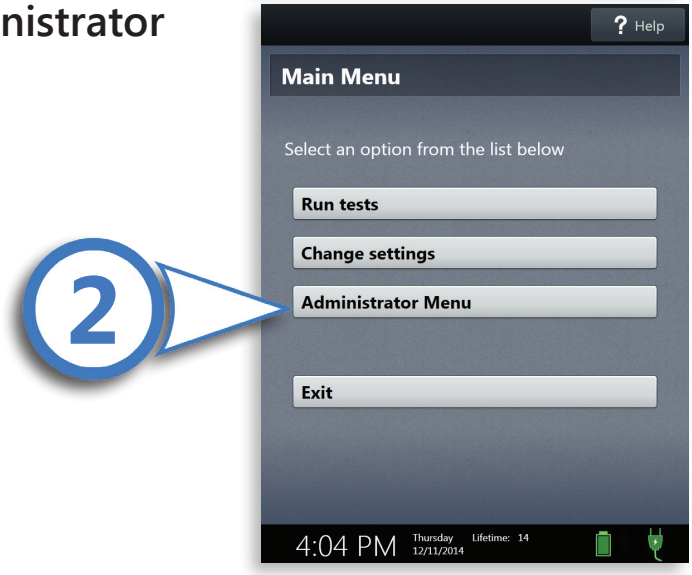
changing ballot rules (Verity version 1.1.X and later)

1 On the **Ready to Open Polls screen**, select **Menu**. ▶



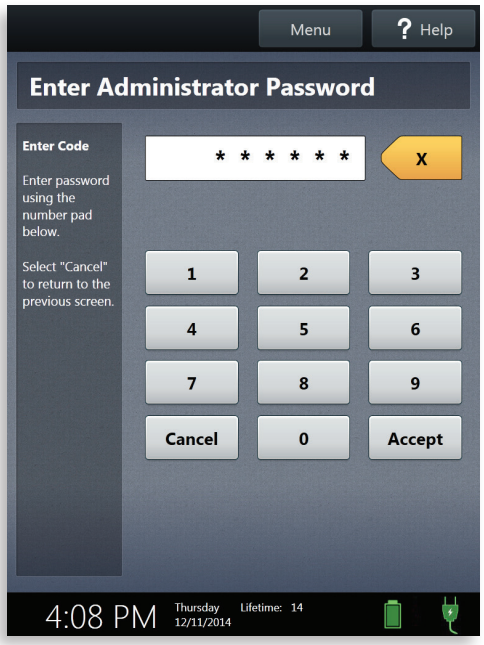
> **NOTE:** *If polls have already been opened, press the poll worker button to access the Main Menu.*

2 Select **Administrator Menu**. ▶

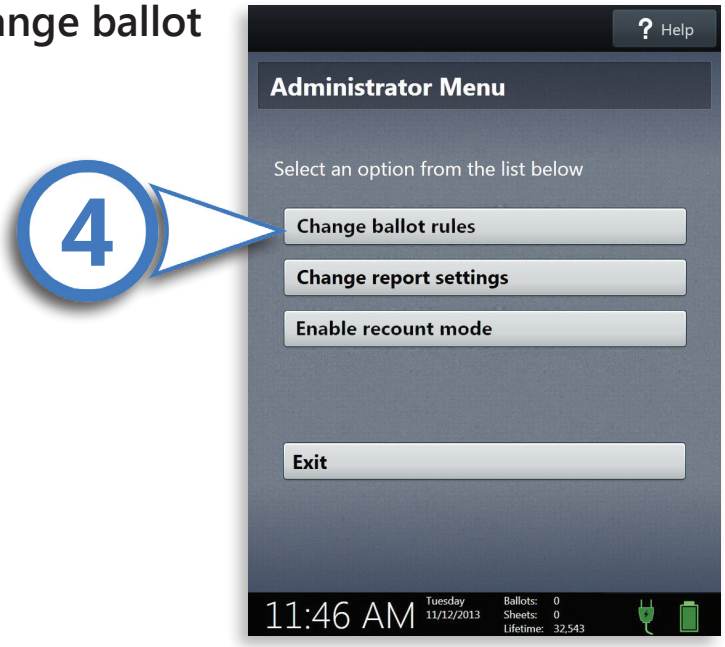


changing ballot rules, *continued*

3 Enter the device Administrator passcode and select **Accept**. ▶

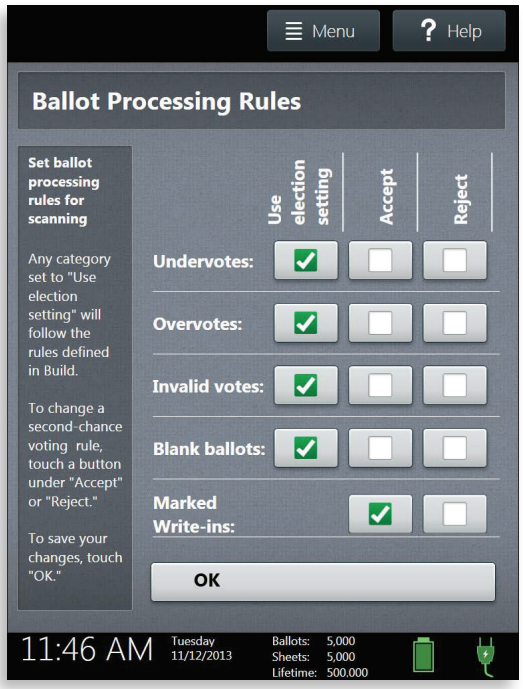


4 Select **Change ballot Rules**. ▶



changing ballot rules, *continued*

5 Select the desired ballot processing rules for that particular Scan device. You can set rules for processing of Undervotes, Overvotes, Invalid Votes, Blank Ballots, and voted Write-ins. ▶



- ▶ Any category set to **Use election setting** will follow the rules defined in the Verity Build application.
- ▶ Setting a category to **Accept** means the Scan will not prompt the user to correct any ballots.
- ▶ Setting a category to **Reject** means the Scan will reject any ballots matching that category. The ballot may still be cast by pressing 'Cast ballot as-is' when prompted.

6 Select **OK**. Changes to ballot rules will remain in effect until the device is restarted.

changing report settings *(Verity Scan & Controller; only available in Verity versions 1.1.X and later)*

The change report settings function allows an administrator to change the level of detail for certain device reports. For instance, you can change the Tally report for a device to "By Precinct", even if the report is set to print as a "Summary" in Build.

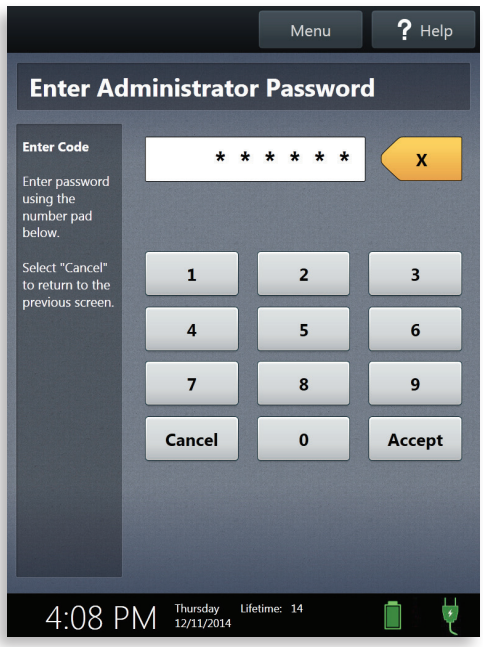
1 On the **Ready to Open Polls screen**, select **Menu**.

> **NOTE:** *If polls have already been opened, press the poll worker button to access the Main Menu.*

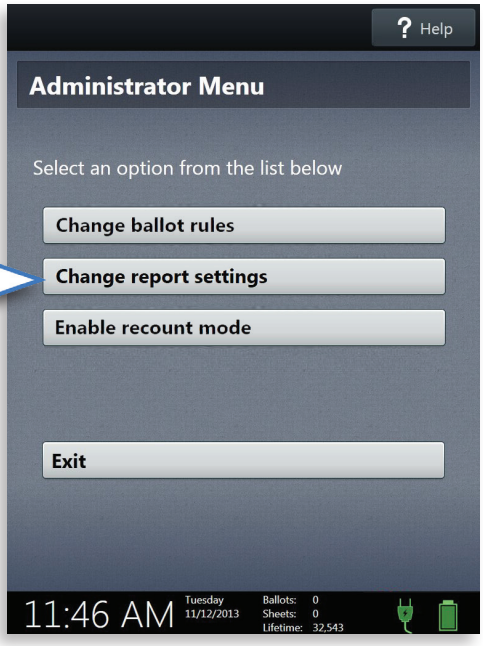
2 Select **Administrator Menu**.

changing report settings, *continued*

3 Enter the device Administrator passcode and select **Accept**. ▶

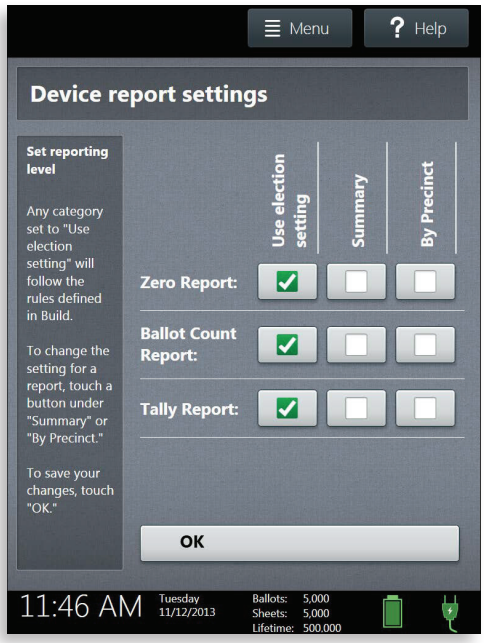


4 Select **Change report settings**. ▶



changing report settings, *continued*

5 Select the desired report settings for that particular device. You can set rules for the Zero report, Ballot Count report, and Tally report. ▼



- Any category set to **Use election setting** will follow the rules defined in the Verity Build application.
- Setting a category to **Summary** means the Scan will print a summary version of that report
- Setting a category to **By Precinct** means the Scan will print a detailed report, broken down by precinct.

6 Select **OK**.

appendix A: device reports

Verity voting device reports are printed on each device's thermal printer. Some reports are automatically printed at the appropriate time; others are printed only upon request of the user. On the following page is a list containing each device report, including:

- Report name.
- Report contents or description.
- When the report is printed.
- All reports include the date and time the report was printed.

list of Verity device reports

Report name	Report contents/description	When it is printed
Power-up Self Test	• Software version • Device status • Power/battery status	Automatically, when device is turned on.
Zero report (Print, Touch Writer)	• Election Name and Date • Jurisdiction and polling place • Election Mode (i.e. Early Voting or Election Day) • Ballot count • Lifetime count • Number of precincts/splits • Access code summary (TW)	Before polls are opened, upon request.
Zero report (Controller, Scan)	• Election Name and Date • Jurisdiction and polling place • Election Mode (i.e. Early Voting or Election Day) • Ballot count • Lifetime count • Number of precincts/splits • Tally summary by contest* • Access code summary (Controller)	Before polls are opened, upon request.
Open Polls	• Election Name and Date • Jurisdiction and polling place • Election Mode (i.e. Early Voting or Election Day) • Ballot count • Lifetime count	Automatically, when polls are opened (i.e. Election Day) or re-opened (i.e. Early Voting).
Suspend Polls (Print, Touch Writer)	• Total Ballots printed • Precincts voted (summary)	Automatically, when polls are suspended.
Close Polls (Print, Touch Writer)	• Election Name and Date • Jurisdiction and polling place • Election Mode (i.e. Early Voting or Election Day) • Ballot count • Lifetime count • Total Ballots printed • Precincts voted (summary)	Automatically, when polls are closed.

appendix A: device reports

Report name	Report contents/description	When it is printed
Suspend Polls (Controller, Scan)	• Election Name and Date • Jurisdiction and polling place • Election Mode (i.e. Early Voting or Election Day) • Ballot count • Lifetime count • Tally (summary by contest)*	Automatically, when polls are suspended.
Close Polls (Controller, Scan)	• Election Name and Date • Jurisdiction and polling place • Election Mode (i.e. Early Voting or Election Day) • Ballot count • Lifetime count • Tally (summary by contest)*	Automatically, when polls are closed.
Precincts Enabled	• Election Name and Date • Jurisdiction and polling place • Election Mode (i.e. Early Voting or Election Day) • Ballot count • Lifetime count • Number of precincts/splits • List of precincts	Available on the Ready to Open Polls screen.
Configuration Readiness	• Jurisdiction • Polling Place • Voting Type • Device Type • Device Serial Number • Software version • Ballot count • Lifetime count • vDrive ID	Available on the Ready to Open Polls screen.
Access Code Summary	• Total access codes issued since polls were opened • Access codes cast/used • Access codes expired • Access codes deactivated • Access codes spoiled • Access codes open • Access codes in use	Available at any time on the Controller or Touch Writer.

Report name	Report contents/description	When it is printed
Tally*	• Total number of precincts/splits associated with the device • Vote totals for each contest choice/candidate, grouped by contest, for the device • Total ballots cast on the device.	After polls are closed on Controller/Scan, upon request.
Ballot Count	• Number of precincts/splits associated with the polling place • Number of precincts/splits with cast ballots • Total number of cast ballots • Total ballots cast for each precinct for the election • Total ballots cast for each precinct for that day	After polls are closed on Controller/Scan, upon request.
Write-in Report	• Ordered by precinct, and then contest • Each unique write-in entered • Votes received for each unique write-in	After polls are closed on Controller/Scan, upon request.

NOTE: *The type of Tally report available (summary or by precinct) is determined according to settings chosen by the election officials. The Tally report may not be included for some jurisdictions, depending on local election procedures.*

B

appendix B: security recommendations

election security recommendations

Verity provides state of the art voting system security. In addition to the security provided by the system, we also recommend jurisdictions follow standard election security procedures. Some of these standard security procedures include:

- Restrict access to voting equipment behind locked doors when not in use.

- Ensure chain of custody when delivering, receiving or transporting any voting equipment, vDrives or ballots.

- For authentication purposes, check for documentation containing serial numbers, seal numbers and identification for anyone tasked with delivery or transport.
- Do not leave voting equipment unattended when polling place is open.
- Do not issue Access Codes or paper ballots until voter has been properly qualified and there is an available voting booth.
- Do not remove or tamper with seals except under controlled circumstances when counting ballots, or unless otherwise directed to do so by senior election officials. Verify proper paperwork when removing seals (i.e. the Ballot & Seal Certificate).
- Report any suspicious activity to the local election officer.

password security

- Passwords should be contain least 6 characters
- Passwords should contain both numbers and letters
- Passwords should contain both uppercase and lowercase letters

appendix C: hash testing

Verity devices allow Administrator users to export file hashes to a removable drive. This provides a means of verifying, using hash testing, that the software installation is identical to the certified software. The generation of hash files is a reproducible method of reading a data stream to produce a number (the "hash value") that serves as a digital "fingerprint" of the data. Hash testing is a common method used to verify the integrity of installed software, and may be used to confirm that the voting system software running on your workstations matches the software as certified by the EAC.

about file hashes, *continued*

To conduct hash testing, a third party program may be used to generate the hash value for installed software, and the hash value can be compared to that of the original source data to confirm that it has not been altered or corrupted.

For further information, see the Verity Knowledge Base Article *Hash Testing for Installed Software*. For information on hash testing with software workstations, see the *Verity Administrator's Guide* for that software application.

This information is being shared as a courtesy by Hart InterCivic. Contact your state's or jurisdiction's election authority for additional information concerning hash testing requirements in your jurisdiction. Consult your Information Technology department for assistance with hash tools.

exporting file hashes on Verity voting devices

As with Verity software workstations, you can also export file hashes from the Verity voting devices themselves.

1 On a non-Verity workstation, prepare a standard USB flash drive (*do NOT use a vDrive*): on the USB flash drive, create a folder named "**HartValidation**".

2 Set up the Verity voting device and connect it to AC power. Open the vDrive compartment. The voting device should not have a vDrive or Key inserted.

3 Insert the USB flash drive into one of the two USB ports inside the vDrive compartment on the voting device.

4 Press the *red* button on the back of the device to power it on. Look for the Verity Initialization screen. ▶

exporting file hashes on voting devices, *continued*

5 When you see the Verity Initialization screen, press and hold the blue Validation button inside the vDrive compartment.

6 Hold the button down until you see the message "**Hash values have been calculated and stored**". This may take some time.

NOTE: *if you see the message* **No vDrive Found**, *this means that either* **a)** *the HartValidation folder was not found on the inserted USB drive, or* **b)** *the Validation button was not pressed/held as directed. Verify the correct folder is present on the USB drive, restart the device and repeat steps 4-6.*

7 Remove the USB drive. Repeat the process with fresh USB flash drives for any additional devices.

8 For information on comparing exported Hash files to the trusted software build, see the Verity Knowledge Base article *Hash Testing for Installed Software*.

appendix
D

appendix D: Logic and Accuracy Testing *(devices only)*

! IMPORTANT: If your jurisdiction uses Verity Central and/or Verity Count software, see Appendix E: *Logic and Accuracy Testing (devices and software)*, page 208.

A Logic and Accuracy test (LAT or L&A) is a test of the tabulation accuracy of a voting system. The LAT is designed to verify that, for the election being tested, a vote for any ballot option will tabulate as expected for that ballot option. A Logic and Accuracy test is not a test of device functionality or an acceptance test. State and local guidelines dictate the time frame for performing Logic and Accuracy Tests; however, Hart InterCivic recommends that a Logic and Accuracy Test is performed, at a minimum, before any ballot, in any form, goes to any voter, and that a Logic and Accuracy Test include votes cast on every type of device that will be used to capture cast vote records in the upcoming election (e.g., Verity Controller/Touch, Verity Scan).

logic and accuracy testing: an overview

! IMPORTANT: All LAT recommendations and procedures presented here are superseded by your State election law, rule, and code.

A properly run LAT using voting devices only tests the logic of tabulation on the device, and includes the following:

- Voting on devices that capture Cast Vote Records (e.g. Verity Controller/Touch, Verity Scan).

NOTE: *In accordance with Hart best practices, the Touch Writer is not a required component in an LAT, since it does not capture Cast Vote Records. Each jurisdiction must, of course, follow state and local guidelines.*

- Tabulating the votes recorded via the device Tally Report.

When conducting the LAT, consider the following:

- Perform the LAT with Test mode vDrives. Use the vDrive Planning Worksheet and remember to plan for an appropriate number of Test mode vDrives.
- Run the complete LAT from the same Verity Build database used for the Official election.
- Work with Hart Ballot Production Services to create an Election Day Polling Place specifically for the LAT and assign all precincts to this polling place. Predefine your LAT device(s) with this Polling Place using Test Mode vDrive(s).

suggested materials and supplies

- ☐ LAT Checklist
- ☐ LAT Log
- ☐ LAT labeled envelope
- ☐ Test mode vDrives from Verity Build (or provided by your Hart Ballot Production Specialist); 1 per Verity device used in the LAT. *Note that vDrives are not required for Verity Touch devices.*
- ☐ Test deck of ballots printed from Build (or provided by your Hart Ballot Production Specialist) and marked according to State requirements
- ☐ Spare blank test ballots
- ☐ At least one Verity Scan and/or Verity Controller/Touch (more as needed according to your LAT plan)

Hart recommended procedures for performing an LAT *(devices only)*

Complete the following steps to perform an LAT. Follow state requirements governing the prior announcement and publication of the test date, time, and location.

hand-count the Test Deck

Hand count the test deck of pre-voted paper ballots, taking overvotes and blanks into account. Hart Ballot Production Services will provide the pre-voted ballots. If you work with Hart to prepare a custom test deck, you may wish to keep a spreadsheet or matrix of the votes marked in the test deck for each ballot option, according to your state requirements.

prepare the equipment

NOTE: *for instructions on predefining voting devices, see page 113.*

Predefine the Verity voting devices. You must make sure each device being used in the LAT is predefined with your Election Day LAT Polling Place ID. You may use more than one set Verity devices in order to speed up the testing, but you do not need to test every device in an LAT. Each device *does* need to be tested if performing functionality testing (see page 34 for functionality testing procedures). Again, all LAT procedures presented here are superseded by State election law, rule, and code.

Hart recommended procedures for performing an LAT (devices only), *continued*

vote on the Verity Controller/Touch and/or Verity Scan using the test deck

NOTE: *for instructions on voting using the Verity Controller/Touch or Verity Scan, see the appropriate* Verity Polling Place Operations Guide.

1. Print the Zero report on the Verity device.
2. Open polls on the Verity device.
3. Scan the test deck using the Verity Scan/Vote the test deck using Verity Controller/Touch.
4. Close polls on the Verity device.
5. Print and save the device Tally report to check accuracy of the test against the expected results.

compare results

Compare the Tally Report from the voting device against the expected results based on the test deck. The reports should match exactly the expected results from the test deck. If the results do not match, identify the discrepancy and reconcile or re-run the LAT.

the LAT Log

The LAT log includes a checklist of reports that should be printed and filed with the LAT materials and a place to record the pertinent LAT data and signatures of participants. Complete and file the LAT log and other paperwork in the LAT-labeled envelope with the vDrives used for the LAT. In some jurisdictions, a second LAT (sometimes referred to as the "LAT 2") is required before tabulating election results. If this is the case in your jurisdiction, you will reference the reports you file from the first LAT to complete the LAT 2. For instructions on performing an LAT 2, see below.

performing an "LAT 2" *(devices only)*

If your jurisdiction requires a second LAT on Election Day, repeat the procedures on pages 205 and 206. The second LAT, if performed, must be done prior to tabulating official election results. Compare and validate the results against those from the first LAT. Again, all LAT procedures presented here are superseded by State election law, rule, and code.

appendix E: Logic and Accuracy Testing *(devices & software)*

A Logic and Accuracy test (LAT or L&A) is a test of the tabulation accuracy of a voting system. The LAT is designed to verify that, for the election being tested, a vote for any ballot option will tabulate as expected for that ballot option. A Logic and Accuracy test is not a test of device functionality or an acceptance test. State and local guidelines dictate the time frame for performing Logic and Accuracy Tests; however, Hart InterCivic recommends that a Logic and Accuracy Test is performed, at a minimum, before any ballot, in any form, goes to any voter, and that a Logic and Accuracy Test include votes cast on every type of device/software that will be used to capture cast vote records in the upcoming election (e.g., Verity Controller/Touch, Verity Scan, Verity Central), as well as any software used for vote tabulation (e.g., Verity Count).

logic and accuracy testing: an overview

! IMPORTANT: All LAT recommendations and procedures presented here are superseded by your State election law, rule, and code.

A properly run LAT tests the logic of tabulation system-wide, and includes the following:

- Voting on devices that capture Cast Vote Records (e.g. Verity Controller/Touch, Verity Scan), and scanning of paper ballots in Verity Central (if applicable).

NOTE: *In accordance with Hart best practices, the Touch Writer is not a required component in an LAT, since it does not capture Cast Vote Records. Each jurisdiction must, of course, follow state and local guidelines.*

- Tabulating the votes in Verity Count and comparing Count application reports to expected outcomes.

When conducting the LAT, consider the following:

- Perform the LAT with Test mode vDrives. Use the vDrive Planning Worksheet and remember to plan for an appropriate number of Test mode vDrives.
- Run the complete LAT from the same Verity Build database used for the Official election.
- In Verity Data, create an Election Day Polling Place specifically for the LAT and assign all precincts to this polling place (or, work with Hart Ballot Production Services to do so, if applicable). Predefine your LAT device(s) with this Polling Place using Test mode vDrive(s).

suggested materials and supplies

- ☐ LAT Checklist
- ☐ LAT Log
- ☐ LAT labeled envelope
- ☐ Test mode vDrives created in Verity Build (or provided by Hart)
  - ☐ 1 per voting device used in the LAT *(vDrives not required for Verity Touch)*
  - ☐ 1 per Verity Central workstation used in the LAT
- ☐ Test deck of ballots printed from Verity Build (or provided by Hart) and marked according to State requirements
- ☐ Spare blank test ballots
- ☐ At least one Verity Controller/Touch and/or Verity Scan (more as needed according to your LAT plan)
- ☐ Verity Central workstation and scanner (if applicable)
- ☐ Verity Count workstation

Hart recommended procedures for performing an LAT

Complete the following steps to perform an LAT. Follow state requirements governing the prior announcement and publication of the test date, time, and location.

hand-count the Test Deck

Hand count the test deck of pre-voted paper ballots, taking overvotes and blanks into account. If you use Hart Ballot Production Services, Hart will provide the pre-voted ballots. If creating your own test deck, you may wish to keep a spreadsheet or matrix of the votes marked in the test deck for each ballot option, according to your state requirements.

prepare the equipment

NOTE: *for instructions on predefining voting devices, see page 113.*

Predefine the Verity voting devices. You must make sure each device being used in the LAT is predefined with your Election Day LAT Polling Place ID. You may use more than one set of Verity voting devices in order to speed up the testing, but you do not need to test every device in an LAT. Each voting device *does* need to be tested if performing functionality testing (see page 34 for functionality testing procedures). Again, all LAT procedures presented here are superseded by State election law, rule, and code.

Hart recommended procedures for performing an LAT, *continued*

vote on the Verity Controller/Touch and/or Verity Scan using the test deck

NOTE: *for instructions on voting using the Verity Controller/Touch or Verity Scan, see the appropriate* Verity Polling Place Operations Guide.

1 Print the Zero report on the Verity voting device(s).

2 Open polls on the voting device(s).

3 Scan the test deck using the Verity Scan/Vote the test deck using the Verity Controller/Touch.

4 Close polls on the voting device(s).

5 (Optional) Print and save the device Tally report if you would like to check accuracy of the test against the expected results prior to tabulation in Count.

6 Remove the vDrive from Verity Controller and/or Verity Scan and take to the Count workstation for tabulation.

NOTE: *the Tally report will only be available if you have checked "Allow Tally" when configuring the election in Build (see the* Verity Administrator's Guide: Build*).*

! IMPORTANT: In Build, if you set the device reporting detail for the Tally Report to "Summary", the report will contain only the totals for the device. If, however, you set reporting detail to "By precinct/split", a detailed report will print showing the results for all contests, by each precinct; this may take a very long time to print if you have many precincts. Therefore, if you chose "By precinct/split" in Build, you may wish to skip this step in the interest of time. See the *Verity Administrator's Guide: Build*.

Hart recommended procedures for performing an LAT, *continued*

process ballots in Verity Central

NOTE: *For instructions on processing ballots using Verity Central, see the* Verity Administrator's Guide: Central.

1 On the Central workstation, insert a Test vDrive into the USB port.

2 Log into Verity and import the signed election export file from Build using the Manage application.

3 Log out of Manage and log in to Central.

4 Open the election in Central.

5 Create and open a task for LAT 1 (Task type: Test).

6 Print and file a Zero report, if required.

7 Scan the test deck in Central.

8 Resolve undervotes, overvotes, damaged contest and write-ins (if applicable), according to the test plan.

9 Write all ballots to vDrive.

10 Print and save a Batch Detail report for later reference.

11 Remove vDrive and take to the Count workstation for tabulation.

Hart recommended procedures for performing an LAT, *continued*

tabulate in Verity Count

NOTE: *For instructions on tabulation using Verity Count, see the* Verity Administrator's Guide: Count.

1 On the Count workstation, import the signed export file from Build using the Manage application, if you have not already done so.

2 Exit Manage and open Verity Count.

3 Open the election in Count.

4 Create and open a task for **LAT 1**. (Task type: **Test**)

5 Print and file a Zero report.

6 Read in vDrives from the Verity Controller and/or Verity Scan device(s) and Verity Central.

7 Tabulate the vDrives in Count.

8 Resolve write-ins in Count (if applicable).

9 Print and file a Cumulative report, including overvotes, undervotes, and write-ins (if applicable).

compare results

Compare the Cumulative report from Count and the reports from Controller, Scan and Central against the expected results based on the test deck. The reports should match exactly the expected results from the test deck. If the results do not match, identify the discrepancy and reconcile or re-run the LAT.

the LAT Log

The LAT log includes a checklist of reports that should be printed and filed with the LAT materials and a place to record the pertinent LAT data and signatures of participants. Complete and file the LAT log and other paperwork in the LAT-labeled envelope with the vDrives used for the LAT. In some jurisdictions, a second read of the LAT vDrives (sometimes referred to as the "LAT 2") is required before tabulating election results. If this is the case in your jurisdiction, you will use the vDrives and reports you file from the first LAT to complete the LAT 2. For instructions on performing an LAT 2, see the next page.

performing an "LAT 2"

If your jurisdiction requires a second read of the LAT vDrives on Election Day, follow the recommended procedures below. The second LAT, if performed, must be done prior to tabulating official election results. Again, all LAT procedures presented here are superseded by State election law, rule, and code.

NOTE: *For instructions on tabulation using Verity Count, see the* Verity Administrator's Guide: Count.

1 Open the election in Count.

2 Create and open a task for **LAT 2**. (Task type: **Test**)

3 Print and file a Zero report.

4 Read in vDrives from the first LAT.

5 Tabulate the vDrives in Count.

6 Resolve write-ins in Count (if applicable)

7 Print and file a Cumulative report, including overvotes, undervotes, and write-ins (if applicable).

8 Compare the Cumulative report against the reports from the first LAT and reconcile if necessary.

appendix
F

appendix F: Verity device pass code access requirements

The table on the following pages lists the Verity device passcode access requirements.

Menus/Actions	Code(s) Required
CHANGE SETTINGS MENU	
Set Clock	Maintenance Code
Touchscreen Calibration	
Set Alert Volume (Verity Scan only)	
Scanner Contrast Calibration (Verity Scan only)	
Scanner Speed Calibration (Verity Scan only)	

Menus/Actions	Code(s) Required
POLL WORKER TASKS MENU (Touch Writer)	
Create Ballot Access Code	Poll Worker Code
Deactivate an Access Code	
Spoil Current Ballot	
Print Access Code Summary	
MAIN MENU (Touch)	
Spoil Ballot	Poll Worker Code
ADMINISTRATOR MENU	
Change Ballot Rules (Verity Scan Only)	Administrator Code
Enable Recount Mode (Verity Scan Only)*	
Change Report Settings (Verity Scan and Controller Only)*	
Create Recovery vDrive	
OTHER ACTIONS	
Load Election (upon inserting a vDrive for a new election)	Maintenance Code; Verity Key Password
Open Polls	Open Polls Code
Suspend Polls	Suspend Polls Code
Close Polls	Close Polls Code

**if available in your jurisdiction*

glossary

abandoned ballot

A ballot that the voter did not cast into the ballot box before leaving the polling place. Local election rules dictate dispensation of an abandoned ballot. In some jurisdictions, abandoned ballots must be spoiled (see also spoiled ballot).

absentee ballot

Ballot cast by a voter unable to vote in person at his or her polling place on election day.

absentee voting

A voting method by which people can cast their ballots without going to the polling place on election day. In some jurisdictions, early voting is referred to as 'absentee-in-person' or 'absentee walk-in' and by-mail voting is sometimes referred to as 'absentee-by-mail.'

acceptance testing

Examination of voting equipment and testing of basic functionality upon delivery including validation that the delivered system is, in fact, the certified system purchased.

access code

The five-digit number given to each voter that indicates to the Verity system which precinct and ballot style to display to the voter on the Touch or Touch Writer. The access code is printed by the poll worker from the Touch Writer that the voter will use. The access code is only valid for a limited time and does not link to any voter information.

access code summary report

A report that is printed on the Controller or Touch Writer. It lists the number of access codes issued, voted, expired, and canceled.

Americans with Disabilities Act (ADA)

A 1990 federal act that established comprehensive standards for the treatment of persons with disabilities in employment, public accommodations, and other programs, including those operated by state and local governments.

audio ballot

A ballot in which a set of contests is presented to the voter in spoken, rather than written, form.

audio-tactile interface (ATI)

Voter interface designed to not require visual reading of a ballot. Audio is used to convey information to the voter and sensitive tactile controls allow the voter to communicate ballot selections to the voting system.

audit log

A report containing recorded information that allows elections officials to view the steps that occurred on the equipment and/or software included in an election in order to verify or reconstruct the user actions taken without compromising ballot or voter privacy.

ballot

The official presentation of all of the contests to be decided in a particular election.

ballot box

A secure receptacle for the Verity Scan that collects scanned paper ballots and that also has an emergency compartment for temporary storage of unscanned voted ballots in case the Scan is disabled.

ballot box security seal

The seal attached to the ballot box door to secure the paper ballots. *See also* **security seal**.

ballot count

A number, shown on the Verity configuration reports and Polls Open screens that indicates how many ballots have been processed on that device for the current election. The ballot count of a device is reset to zero when a new election is loaded by election staff before an election.

ballot image

For a paper ballot, the electronic digital picture of the ballot. For an electronic ballot, the Cast Vote Record of the electronic ballot.

ballot instructions

(1) Instructional text that appears at the top of the ballot. There are two separate types of Ballot Instruction text: (1) Electronic and (2) paper ballot. There is also separate audio instruction associated with the Touch or Touch Writer ballot instruction. (2) Information provided to the voter during the voting session that describes the procedure for voting a ballot. Such material may (but need not) appear directly on the ballot.

ballot marking device (BMD)

An electronic machine at which a voter can make selections and then print a marked ballot, which the voter takes to a scanning device to be cast. No vote records are stored on the ballot marking device itself.

ballot number

In Verity, a number that can be placed on the ballot but which is not digitally processed in the system and is not part of the Cast Vote

Record.

ballot position

The order on the ballot in which a candidate's name appears. For example, candidate B may have the 2nd position on the ballot, meaning that there is one candidate's name ahead of candidate B for that contest.

ballot stub

A perforated, removable portion of a ballot used in some jurisdictions. The ballot stub does not contain voteable contests.

ballot style

A ballot style is a grouping of certain precincts with an identical contest configuration. Every precinct's (or split precinct's) ballot is linked to one ballot style and there may be several precincts with the same ballot style. In Verity, the ballot style information is carried on the vDrive.

ballot text

Informational text embedded in the ballot that does not have the properties of a contest and cannot be voted. Ballot text is often used to identify a section of the ballot.

bar code

A printed horizontal strip of vertical bars of varying widths, groups of which represent decimal digits. In the Verity voting system, bar codes are required in order for paper ballots to be correctly scanned.

BMD

See **ballot marking device (BMD).**

by-mail

When voters receive ballots through the mail system, and then return

voted ballots to the scanning and tabulation center via the mail system (or via drop boxes).

candidate

Person contending in a contest for office. A candidate may be explicitly presented as one of the choices on the ballot or may be a write-in candidate.

canvass

Compilation of election returns and validation of the outcome that forms the basis of the official results by a political subdivision.

cast ballot

Ballot that has been deposited by the voter in the ballot box or electronically submitted for tabulation.

Cast Vote Record (CVR)

An anonymous record of the contest options that a voter selected on his/her cast ballot (otherwise known as the voter's choice set). In the Verity voting system, Cast Vote Records are stored in electronic format. One Cast Vote Record is equivalent to one ballot, and is the permanent record of all votes produced by a single voter whether in electronic, paper or other form. Also referred to as ballot image when used to refer to electronic ballots.

central count

When the ballots are scanned and then tabulated at a central facility, and not at the polling place(s) where in-person voting took place.

certification

Procedure by which a third party gives written assurance that a product, process or service conforms to specified requirements. See also state certification and national certification.

certification testing

Testing performed under either national or state certification processes to verify voting system conformance to requirements.

challenged ballot

Terminology and rules for challenged ballots vary by state. In general, a challenged ballot results when a voter's right to cast a ballot in a certain jurisdiction is challenged for various procedural reasons. If the challenge stands, the voter may, in most cases, vote provisionally.

close polls report

Report printed by the Verity voting device when the polls are closed. This report includes a time stamp indicating the date and time printed.

closed primary

Primary election in which a voter receives a ballot listing only those candidates running for office in the political party with which the voters is affiliated. In some states, non-partisan contests and ballot issues may be included. In some cases, political parties may allow unaffiliated voters to vote in their party's primary.

CMOS battery

Coin battery within a Verity device tablet that maintains the system clock functions while the device is turned off.

component

Element within a larger system; a component can be hardware or software. For hardware, it is a physical part of a subsystem that can be used to compose larger systems (e.g., circuit boards, internal modems, processors, computer memory). For software, it is a module of executable code, that can be moved around as a whole that performs a well-defined function and interacts with other applications.

contest

A choice to be made on the ballot; a race. Contest types include offices, issues, referendums, measures, and propositions.

count

Process of totaling votes. Also the name of Verity's tabulation software application. *See* **tabulation**.

credentials

Authentication information that enables access to operations in the system or associated databases. Credentials typically include user IDs and passwords.

cryptography

Discipline that embodies the principles, means, and methods for the transformation of data in order to hide their semantic content, prevent their unauthorized use, prevent their undetected modification and establish their authenticity.

CVR

See **Cast Vote Record (CVR)**.

damaged ballot

A paper ballot that has been torn of otherwise damaged to the extent that it cannot be read using an optical or digital scanning device.

digital scan

A process where ballots are scanned and the electronic, or digital, images of the ballot are captured in whole (as opposed to optical scan, where the image is not captured but light reflected off of or absorbed by marked surfaces is used to collect vote data).

direct record electronic (DRE)

The term for an electronic machine at which a voter can view, vote, and cast a ballot.

district

A selection of precincts and/or split precincts that determine a voting group.

DRE

See **direct record electronic (DRE).**

duplex

Two-sided. In Verity ballots are printed and scanned on both sides of the ballot sheet. The Verity Scan scans both sides of the ballot sheet.

early voting

A term for votes cast in-person prior to election day. Nomenclature for early voting varies from state to state in the U.S. (absentee in-person, absentee walk-in, etc.).

election

A formal process of selecting a person for public office or of accepting or rejecting a political proposition by voting.

Election Assistance Commission (EAC)

Federal agency created by HAVA and chartered with, among other things, overseeing the testing and certification of voting systems.

election database

In Verity Layout and Build, a data file or set of files that contain information about political subdivisions and boundaries, all contests and questions to be included in an election, and the candidates for each contest.

election day

A specific day, set by federal or state statute, when voting takes place and results tabulation and reporting begins.

election ID

An identification code assigned to an election by Verity Layout and Build that is unique for every election. The election ID is used internally by the software applications.

emergency ballot slot/emergency ballot bag

A special receptacle in the Verity ballot box, with its own unique access door, that can be used to securely store unscanned ballots.

encryption

Process of obscuring information by changing plain text into cipher text for the purpose of security or privacy. *See also* **cryptography**.

firmware

Computer programs (software) stored in read-only memory (ROM) devices embedded in the system. A Verity device's firmware version is displayed on the Power On Self Test report.

functionality test

Testing of hardware functionality (e.g., testing to see that a Verity Access button responds correctly when pressed). Functionality tests are built into the Verity voting devices.

general election

Election in which voters, regardless of party affiliation, are permitted to select candidates to fill public office and vote on ballot issues. In the U.S., federal general elections are held on the first Tuesday after the first Monday in November, in every even-numbered year.

hash testing

A test run to check that installed software has not been altered since its initial installation. The installed software is compared against a 'trusted build' of the software that has been certified by an regulatory agency.

Help America Vote Act (HAVA)

Signed into law October, 2002, HAVA intends to assist states in the administration of federal elections and establishes 'minimum standards for states and units of local governments with the responsibility for the administration of federal elections.' Most importantly, HAVA mandates that each polling place in the United States have a federally approved

handicap accessible voting system.

help button

Button on the Verity Access; when pressed, the Verity Touch or Touch Writer screen will display contextual help text.

invalid vote

An instance where a voter in an open primary has voted for a candidate for an opposing party after first declaring affiliation with another party.

lifetime count

A number, shown on the Verity device touch screens, that indicates how many ballots (Cast Vote Records) have been voted on the device over its lifetime. The lifetime count cannot be reset.

logic and accuracy test (LAT or L&A)

In the context of an election, a test to check the accuracy of the voting system tabulation. An LAT is accomplished by submitting test ballots for which the results are already known (i.e., a 'test deck') through the ballot counting system and comparing the results with the expected results. If an error occurs (i.e., the actual test deck count does not match the expected count), then the problem is investigated and corrected, and the test is repeated.

move wheel

The rotary wheel on the Verity Access that allows a voter to navigate the ballot and highlight choices by turning the wheel.

multi-seat contest

Contest in which multiple candidates can run, up to a specified number of seats. Voters may vote for no more than the specified number of candidates.

non-partisan office

An elected office for which candidates run independent of political party affiliation.

nonvolatile memory

Memory in which information can be stored indefinitely with no power applied. ROM is an example of nonvolatile memory.

open polls report

Report printed by the Verity voting device when the polls are opened. This report includes a time stamp indicating the date and time printed.

open primary

Primary election in which any voter can participate, regardless of their political affiliation. In the U.S., states that have open primaries do not require voters to register by party. Some states require voters to publicly declare their choice of party ballot at the polling place, after which the poll worker provides or activates the appropriate ballot. Other states allow the voters to make their choice of party ballot within the privacy of the voting booth.

option

A choice on a ballot.

option box

The target area where a voter marks in order to make a selection on a ballot.

paper-based voting system

Voting system that records votes, counts votes, and tabulates the vote count, using one or more ballot cards or paper ballots. In some regions, the term paper ballot is equivalent to hand counted ballot.

poll worker button

A button located on the back panel of the Verity device used to access poll worker and administrator functions.

polling location

Physical address of a polling place.

polling place

The area within the polling location where voters cast ballots. Sometimes, a single polling place supports several precincts.

power on self test report

A report printed from the Verity voting device any time the device is powered on. This report shows a time stamp, firmware version, and diagnostic test result. A self-diagnostic test is run on the system, and the result is indicated as either a pass or fail on the report.

precinct

Election administration division corresponding to a contiguous geographic area that is the basis for determining which contests and issues the voters legally residing in that area are eligible to vote on. In traditional election nomenclature, precinct was once equivalent to polling place. This is not necessarily the case any longer.

primary election

Election held to determine which candidate will represent a political party for a given office in the general election.

provisional ballot

A ballot provided to individuals who claim they are eligible to vote but whose eligibility cannot be confirmed when they present themselves to vote. Once voted, such ballots cannot be included in the tabulation until after the voter's eligibility is confirmed.

race

A choice to be made on the ballot; a contest. Race types include offices, issues, referendums, measures, and propositions.

ranked choice voting

Practice that allows voters to rank candidates in a contest in order of

choice 1, 2, 3, and so on. A candidate receiving a majority of the first choice votes wins that election. If no candidate receives a majority, the last place candidate is deleted, and all ballots are counted again, with each ballot cast for the deleted candidate applied to the next choice candidate listed on the ballot. The process of eliminating the last place candidate and recounting the ballots continues until one candidate receives a majority of the vote. Also known as instant runoff voting, preferences or preferential voting, or ranked order voting.

recount

Re-tabulation of the votes cast in an election.

replacement ballot

A ballot that is designated by the election authority to be a replacement for a damaged ballot.

runoff election

Election to select a winner following a primary or a general election, in which no candidate in the contest received the required minimum percentage of the votes cast. The two candidates receiving the most votes for the contest in question proceed to the runoff election.

sample ballot

A ballot printed as a sample of the real election ballot. Sample ballots contain a special barcode which prevents them from being counted by the Verity system.

security controls

Management, operational, and technical controls (such as safeguards or countermeasures) prescribed for an information system to protect the confidentiality, integrity, and availability of the system and its information.

security seal

Tamper-evident seals put in place by the jurisdiction on voting devices and ballot boxes to restrict access to voted ballots and compartments

containing voted ballots.

select button

Button on the Verity Access; a voter presses this button to select an option or ballot choice highlighted by the move wheel.

sheet

In reference to paper ballots, one piece of paper printed on both sides, i.e., duplex.

sheet count

On the Verity Scan device, a number, shown on the touch screen, that indicates how many physical ballot sheets have been scanned on that device for the current election. The sheet count of a device is reset to zero when a new election is loaded by election staff before an election.

sip-and-puff

A voter's personal input device that connects to the Verity Access using the disabled access jack. This enables disabled voters with extremely limited mobility to vote with a mouth-controlled device.

split precinct

When a precinct is divided to accommodate non-standard division of boundaries within it (i.e. when sub-jurisdiction districts affect the ballot styles within a parent jurisdiction precinct).

spoiled ballot

A ballot that has been rendered invalid, either by a voter who is still present at the polling place (making it necessary to give the voter a new ballot) or by virtue of being abandoned by the voter. *See also* **abandoned ballot**.

straight party voting

A voting method that presents a contest at the top of the ballot that allows selection of a single political party in order to automatically select candidates of that party in contests that allow straight party

voting.

stub number

A number that can be placed on the ballot stub. In Verity, the stub number is not tied to the ballot number.

suspend polls report

A report that automatically prints when suspending polls during early voting.

system audit log

Captures system-specific information, such as operating system login or logout and operating system alerts, faults, and failures (that is, running on battery).

system battery

Rechargeable battery pack used in Verity voting devices.

tabulation

Process of totaling votes. *See also* **count**.

tactile switches

Also called 'dual mode switches,' or 'jelly switches,' these red and green 'paddles' enable voters with disabilities to vote without using the touch screen, move wheel or select button on the Verity Access. Voters without fine motor control may use these. The red tactile switch allows voters to navigate through the ballot, similar to turning the move wheel in a clockwise direction. The green switch is similar to pressing the select button.

tally report

An report that may be printed from a Verity voting device after polls are suspended closed. It includes the date, time, precinct, a tally of votes for each contest, and an access code or ballot summary. Use of this report may vary by jurisdiction.

thermal printer

Roll-feed printer built in to each Verity voting device used to print reports and, on the Controller or Touch Writer, access codes. This printer uses heat to print on the paper, and thus does not use ink or toner.

touch screen voting machine

A voting machine that utilizes a computer screen to display the ballot and allows the voter to indicate his or her selections by touching designated locations on the screen.

undervote

An instance where the number of choices selected by a voter in a contest is less than the maximum number allowed for that contest, or when no selection is made for a single choice contest.

uninterruptible power supply (UPS)

A device that maintains AC power for a connected device during a power outage.

unique identifier

A number placed on the sheets of a ballot that uniquely identifies the ballot in order to prevent scanning of duplicate paper ballots. Within the Verity system, unique identifiers are optional and cannot be tied to an individual voter (as there is no individual voter data in the Verity system). Unique identifiers contain no serial (i.e. sequential) data.

universal serial bus (USB)

An external peripheral interface standard for communication between a computer and other devices. In the Verity voting system, the vDrive and Verity Key connect to a USB port.

Verity Access

Verity's audio-tactile interface device.

glossary

Verity Build

Verity ballot production software. Build allows you to review and proof ballots, print ballots, and generate vDrives and Verity Keys for running the election.

Verity Central

Verity vote resolution software. Central processes high volumes of paper ballot scanning to compile and send to Verity Count for tabulation and results.

Verity Controller

Verity polling place device for issuing access codes for and managing Verity Touch direct record electronic voting devices.

Verity Count

Verity vote tabulation software. Count receives, reads, aggregates, and reports on election results. The system analyzes results, providing deeper details based on specified options such as the types of votes and elections.

Verity Data

The Verity application used to manage data such as ballot content, ballot formats, and ballot style previews.

Verity Key

Verity election cryptographic module. Provides secure authentication of critical actions within the Verity voting system.

Verity Print

Verity device for on-demand selection and printing of paper ballots.

Verity Relay

Verity application designed to receive transmissions from specially-equipped Verity Scan with Relay devices. Transmitted data is written to a transfer vDrive and taken to Verity Count for tabulation.

Verity Scan

Verity polling place scanning device. These devices scan physical printed and marked ballots for collecting and tabulating votes.

Verity Scan with Relay

Verity Scan device modified with Relay modem kit upgrade. Scan with Relay is a Scan device equipped and configured for Relay transmission.

Verity Touch

Verity polling place direct record electronic voting device.

Verity Touch Writer

Verity polling place ballot marking device, with print capabilities for paper ballots.

Verity vDrive

In the Verity system, the electronic media used for transferring of election definitions and data, CVRs, and device audit logs between the Verity software workstations and voting devices.

Voluntary Voting System Guidelines (VVSG)

Standards created by the National Institute of Science and Technology and used by the EAC to test and certify voting systems.

vote center

Sometimes called super precincts or county-wide polling places. A polling place where all or a large set of election precincts and ballot styles are available for voters from a large area to come in-person to vote on election day.

vote for n of m

A ballot choice in which voters are allowed to vote for a specified number ('n') of candidates in a multi-seat contest where 'm' is the number of valid choices.

voted ballot

A ballot that has been cast.

voting position

Specific response field on a ballot where the voter indicates the selection of a candidate or ballot proposition response.

voting system

The total combination of mechanical, electromechanical or electronic equipment (including the software, firmware, and documentation required to program, control, and support the equipment) that is used to define ballots, cast and count votes, report or display election results; and to maintain and produce any audit trail information; and the practices and associated documentation used to identify system applications and versions of such applications; to test the system during its development and maintenance; to maintain records of system errors and defects; to determine specific system changes to be made to a system after the initial qualification of the system; and to make available any materials to the voter (such as notices, instructions, forms or paper ballots).

voting system software

All the executable code and associated configuration files needed for the proper operation of the voting system. This includes third party software such as operating systems, drivers, and database management tools. See also dynamic voting system software, semi-static voting system software, and static voting system software.

write-in

A name of a candidate entered by the voter in order to vote for a candidate that is not listed in that contest.

write-in, certified

A candidate that has been certified by the election authority as being a valid write-in candidate for the election.

zero report

A voting device report that must be printed before polls are opened on the first day of early voting and on election day. A zero report must also be printed from the tabulation workstation prior to counting ballots on election day. This report lists the time, the number of precincts at the polling place, the contests and candidates on the ballot, and verifies that the current number of votes for each candidate or option is zero.

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Verity documentation

Verity Software Administrator Guides

These are your go-to guides for software operation and election management using Verity software; there is one guide for each of the major Verity software applications.

6641-009 Verity Administrator's Guide: Data
6641-010 Verity Administrator's Guide: Build
6641-011 Verity Administrator's Guide: Central
6641-012 Verity Administrator's Guide: Count

Verity Support Procedures Guide

Your primary guide to equipment management, functionality testing, warehouse procedures, and voting device tasks and troubleshooting.

6643-002 Verity Support Procedures Guide

Verity Polling Place Operations Guides

Your primary guide for polling place operations, designed with Poll Workers in mind. Includes procedures for setting up equipment, opening polls, assisting voters, and closing polls. Choose the version according to the type of equipment used in your jurisdiction:

6642-002 Verity Polling Place Operations Guide - Scan & Touch Writer
6642-003 Verity Polling Place Operations Guide - Print
6642-004 Verity Polling Place Operations Guide - Controller & Touch

Verity Field Guides

Condensed guides for quick reference in a more portable format. The Poll Worker's Field Guides are condensed versions of the Polling Place Operations Guides; the Troubleshooting Field Guide is a condensed version of the Troubleshooting section of the Support Procedures Guide.

6651-002 Verity Poll Worker's Field Guide - Scan & Touch Writer
6651-003 Verity Poll Worker's Field Guide - Print
6651-004 Verity Poll Worker's Field Guide - Controller & Touch
6653-002 Verity Troubleshooting Field Guide

Verity Training Course Packs

Course packs are available for each of Verity training courses; each course pack include a PowerPoint presentation as well as a trainer's Agenda.

6661-010 Verity Course Pack: Data
6661-011 Verity Course Pack: Build
6661-018 Verity Course Pack: Central
6661-019 Verity Course Pack: Count
6661-012 Verity Course Pack: Polling Place Operations - Scan & Touch Writer
6661-013 Verity Course Pack: Polling Place Operations - Print
6661-014 Verity Course Pack: Polling Place Operations - Controller & Touch
6661-015 Verity Course Pack: Assisting Persons with Disabilities
6661-017 Verity Course Pack: Support Procedures
6661-020 Verity Course Pack: Train the Trainer
6661-021 Verity Course Pack: Management & Best Practices

Verity Knowledge Base

In addition to the core documents listed above, Hart InterCivic is committed to providing a growing knowledge base of articles. Knowledge Base articles are targeted towards specific election-related topics, best practices, and recommended procedures, updated in response to feedback from our customers. For a current list of available Knowledge Base articles, please contact Hart Support at 1 (866) ASK HART.

Hart Support

NOTE: the following contact information is for use by election officials and staff only; poll workers should not be encouraged to call the Hart CSC Help Desk.

Hart Customer Support Center (Help Desk)

1.866.ASK.HART

hartsupport@hartic.com