California Use Procedures

VERSION 3.1

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California Use Procedures

VERSION 3.1

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about the voting system use procedures for California

Verity Voting 3.1

These procedures have been adopted by the Secretary of State pursuant to Elections Code §19100 and §19205 and shall regulate and govern the use of the Hart Voting System at all elections governed by the California Election Code.

No substitution or modification of the voting system shall be made with respect to any component of the voting system, including these Use Procedures, until the Secretary of State has been notified in writing and has determined that the proposed change or modification does not impair the accuracy and efficiency of the voting system sufficient to require a re-examination and approval.

The Secretary of State reserves the right, with reasonable notice to the vendor and to the jurisdictions using the voting system, to modify the Use Procedures used with the voting system and to impose additional requirements with respect to the use of the system if the Secretary of State determines that such modifications or additions are necessary to enhance the accuracy, reliability or security of any of the voting system. Such modifications or additions shall be deemed to be incorporated herein as if set forth in full.

These procedures constitute a minimum standard of performance. They are not intended to preclude additional steps being taken by individual election officials to enhance the security and reliability of the electoral process.

These procedures shall be effective immediately upon approval by the Secretary of State and shall be used in conjunction with all other statutory and regulatory requirements. Insofar as feasible, all procedures prescribed herein shall be carried out in full view of the public.

Where circumstances require it, the Secretary of State may adjust or suspend any of the conditions of recertification for a vendor or a jurisdiction, as the Secretary of State deems prudent and necessary to facilitate successful election administration. Such adjustments or suspensions shall be deemed to be incorporated herein as if set forth in full.

chapter 1

system overview and components

1

system overview and components

brief description

The Verity Voting system includes software, hardware, device, and peripheral components that allow election professionals to accomplish the following high-level tasks:

Pre-voting tasks:

- Ballot data creation (Verity Data)
- Election definition and ballot production (Verity Build)
- Device configuration

Voting tasks:

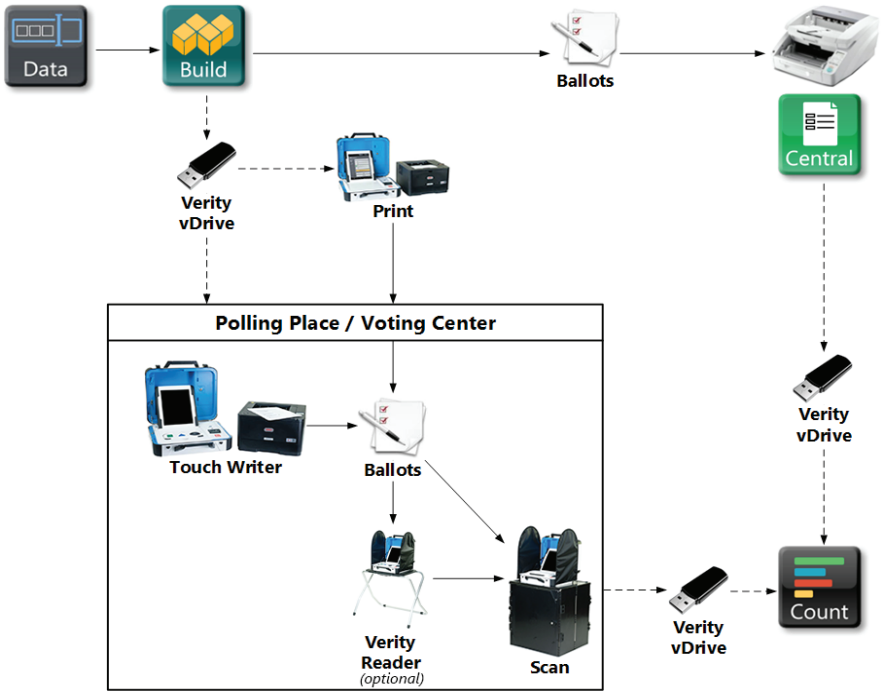
- Polling-place-based ballot printing (Verity Print)
- Polling place Ballot Marking Device (Verity Touch Writer)
- Polling place ballot review (Verity Reader)
- Polling place digital scanning for paper ballots (Verity Scan)
- High-speed, large-volume ballot scanning (Verity Central)

Post-voting tasks:

- Ballot adjudication (Verity Central)
- Counting of votes/Tabulation (Verity Count)
- Consolidation and reporting of results and audit logs (Verity Count)
- Audits and recounts

system architecture

System configuration is discussed in chapter 2; overall system architecture is illustrated in the diagram below.



This diagram illustrates the following components:

Verity Data: Ballot design software

Verity Build: Election definition and media creation/ballot printing software

Verity Central: Central ballot scanning and adjudication software

Verity Print: On-demand ballot printing device

Verity Touch Writer: Accessible ballot marking device

Verity Reader: Optional ballot verification device

Verity Scan: Ballot scanning device

Verity Count: Ballot tabulation and reporting software

Verity vDrive: Specially formatted USB media used to transfer the election ballot styles to voting devices, and to transfer cast vote records to Verity Count for tabulation.

Dotted lines represent the flow of data and air gaps using vDrives.

hardware components

Verity hardware

Verity Scan

Verity Scan is a polling-place-based digital scanner for casting 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 Touch Writer

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 Reader

Verity Reader is an accessible ballot verification device; voters can insert their marked paper ballot to visually verify how their ballot will be counted, and/or hear audio read-back of their ballot choices. Verity Reader is a paper-ballot review device only; Reader does not store or tabulate votes.

Verity Print

Using Verity Print, poll workers can print and issue blank paper ballots to voters. The voter votes their ballot and casts it either using Verity Scan, or into a ballot box to be scanned centrally.

Verity Access

Verity Touch Writer and Reader devices are equipped with **Verity Access**, which provides the voter with additional input options: a scrolling wheel and select button, headphones, and a connection that may be used with tactile buttons or sip-and-puff devices.

Verity vDrives

In the Verity system, vDrives are used to transfer digital ballot styles from Verity Build to Verity devices, and to transfer cast vote records from Verity Scan and Verity Central to Verity Count for tabulation.

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

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 have something (a programmed Verity Key) and to know something (the passcode associated with the Verity Key). Both the user passcode and the Verity Key must be authenticated together.

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

hardware components, *continued*

rechargeable system batteries

All Verity devices (Scan, Touch Writer, Reader, and Print) use a removable, rechargeable battery for backup power in the event of a loss of AC power.

- 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.

commercial off-the-shelf (COTS) hardware

computer workstations

Verity software applications (Data, Build, Central, and Count) are installed on specially configured, RAID-equipped computer workstations.

ballot scanners

Several models of medium- to high-speed scanners have been tested and certified for use with the Verity system in central ballot scanning operations with Verity Central.

ballot and report printers

Several models of printer have been tested for use with the Verity system for the purposes of printing ballots and reports.

UPS devices

Hart highly recommends that all jurisdictions use an uninterruptible power supply (UPS) device with all Verity workstations (Data/Build, Central, and Count). UPS devices provide disaster recovery and continuity of service in the event of a power outage. For more information, see page 43.

UPS devices may also be used to provide continuity of service for Verity Touch Writer ballot printers. For more information, see page 201.

Recommended UPS devices are available from purchase through Hart; contact Hart Support if you would like details or specifications for any of the recommended models.

USB media

Off-the-shelf USB media are used to import data to, and export data from, Verity computer workstations. All USB media used for these tasks should be formatted as NTFS.

Security procedures and recommendations for USB media, as well as security features of the Verity system that relate to the use of USB media are discussed on page 479.

vDrive duplicators

A commercial USB drive duplicator may be used as part of normal vDrive production (see page 193).

hardware components, *continued*

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 each Verity device type are listed below:

Device Type	Product Code
Verity Access	A
Verity Computer Workstation	D
Verity Print	P
Verity Scan	S
Verity Touch Writer	W
Verity Reader	R

For all non-electronic Verity products (ballot boxes and booths), 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: X15000101*)
- 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

hardware components, *continued*

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

Device Type	Product Code
Verity Ballot Box	X
Verity Accessible Booth (Touch Writer)	L
Verity Reader Booth	N

device case labels

In addition to the first digit of their serial numbers, the product type of each Verity device 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 device type are shown below:

Verity Access

Verity Print

Verity Scan

Verity Touch Writer

Verity Reader

device environmental standards

	Temperature	Humidity
Operation	41° F to 104° F	5% to 85% non-condensing
Storage	-4° F to 140° F	less than 88% non-condensing

hardware components, *continued*

equipment storage 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 Devices *(Verity Scan, Touch Writer, Reader, and Print)*

Item	Measurement
Height (closed) (in.)	7.7
Width (closed) (in.)	18.8
Depth (closed) (in,)	15.6
Weight w/ battery (lbs.)	28-29 lbs

Verity Touch Writer booth

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 Reader booth

Item	Collapsed in Bag	Collapsed	Deployed
Height (in.)	22.5	37.9	30.2
Width (in.)	38	38.8	38.8
Depth (in.)	3.5	7.2	25.5
Weight (lbs.)	11.5	10.6	10.6

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

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

Item	Measurement
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″ 8.5″ x 20″

thermal paper rolls

To ensure optimal print quality, it is recommended that jurisdictions purchase device thermal paper rolls directly from Hart (part number 1003705).

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

best practices for device storage

- Store devices and equipment on racks, off the floor.
- Cover racks to protect 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.

thermal paper storage

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, performance, and longevity.

- 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.
- 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 a 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.

hardware components, *continued*

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.
- For more information on AC power supply best practices, contact Hart Support.

software components

The core software components of the Verity system are Data, Build, Central and Count. These software components comprise the necessary components for ballot creation, election definition, central ballot processing, tabulation, and reporting. On server workstations, Data and Build are always installed together. Central and Count are each installed on separate workstations. In addition, Verity computer workstations may be networked locally in a variety of server-client configurations. For examples of possible server-client configurations, see page 75. Configuration of each jurisdiction's computer workstations must be determined prior to installation.

Verity Data

In Verity Data, you can enter, import and manage election data, jurisdiction data, and translations, and record and import audio. Verity Data allows you to choose ballot templates, view ballot previews, and lock the election data so that it may be opened in Verity Build. Verity Data features and procedures are discussed in Chapter 3.

Verity Build

In Verity Build, you can open an election, proof data, configure device settings, print ballots, and write vDrives and Verity Keys. In Build, you will perform the final steps to prepare the ballot for your election. Verity Build features and procedures are discussed in Chapter 4.

Verity Central

Verity Central is a powerful application designed to manage central ballot scanning operations. Here you can scan and review ballots, resolve write-in votes and voter intent issues, and write cast vote records to vDrive for tabulation in Verity Count. Verity Central features and procedures are discussed in Chapter 6.

Verity Count

Verity Count is Verity's comprehensive application for ballot tabulation and reporting. In Count, you will read vDrives, tabulate ballots, resolve write-in votes, print reports, and export election results. Verity Count features and procedures are discussed in Chapter 7.

version control

The following table represents the current system and software versions for all Verity components.

Component	Version
Verity Data	3.1.0
Verity Build	3.1.0
Verity Central	3.1.0
Verity Count	3.1.0
Verity Scan	3.1.0
Verity Touch Writer	3.1.0
Verity Reader	3.1.0
Verity Print	3.1.0

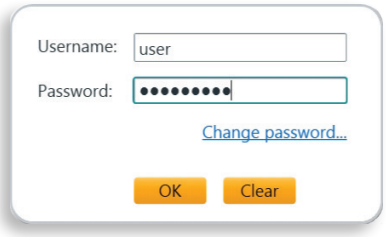
about Verity computer workstations

Feature navigation and other procedures common to all Verity workstations are discussed in the following section. Each Verity workstation is accessible only to authorized users, the credentials for which are determined and set by the jurisdiction. For more information on workstation security, and security features of the Verity system as a whole, see Chapter 10.

logging in to Verity

When a Verity workstation has started up, you will be presented with the Verity Login screen.

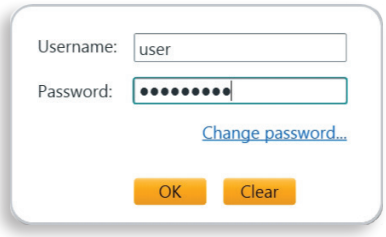
Enter your Username and Password, and then click **OK** to begin using Verity**.** Selecting the **Log Out** link in the upper right corner in any application will return you to this Login screen.



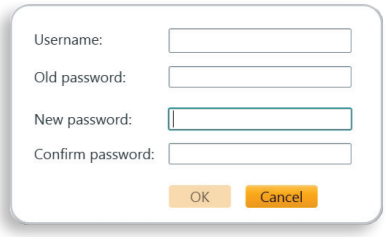
NOTE: *The first time you log in to a Verity workstation you will use a login supplied by Hart. You will then need to create your own unique login for subsequent use.*

- The first time you log in, Verity will prompt you to create a new password.
- At any time, you can use the **Change password...** link on the Login screen to create a new password:

1. Select **Change password....** ▶



2. Enter your existing password, and then enter a new password. Enter the new password a second time to confirm, and then click **OK.** ▶

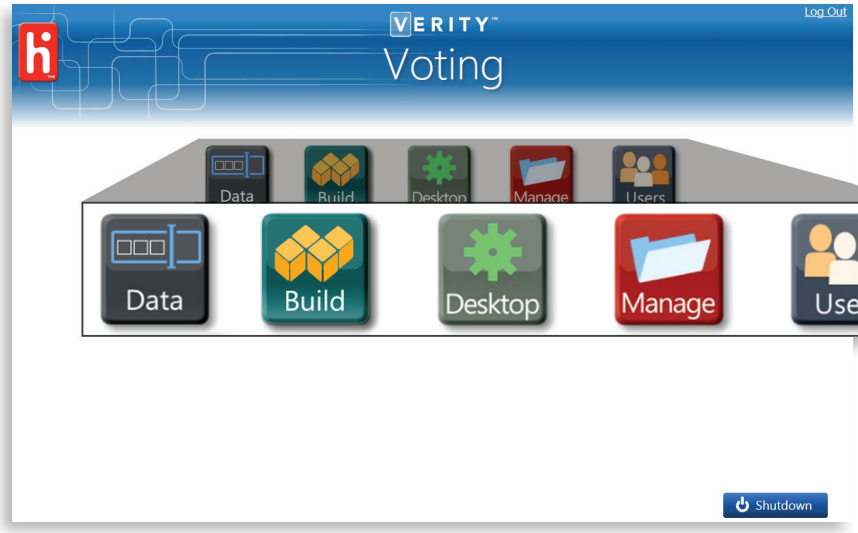


about Verity Computer workstations, *continued*

the Verity home screen

The home screen is the first thing you will see after you log in to a Verity workstation. The home screen has several large buttons or 'tiles'.

- Selecting the **Home** link in the upper left corner in any application will return you to this screen.
- Depending on the workstation you are using, the tiles shown will vary; below, for example, is the home screen of a Verity Data/Build workstation. In this case, clicking the leftmost tile will open the Verity Data application



- In the bottom right corner is the **Shutdown** button. Clicking this button will shut down the Verity computer workstation. For details on proper shutdown procedures, see page 44.

In addition to the application tile(s) (Data, Build, Central, or Count), there are three tiles labeled Desktop, Manage, and Users. Clicking these tiles will open the Desktop, Election Management, or User Management applications. These three applications are available to authorized users on all server workstations.

Desktop

Verity Desktop is available on all Verity workstations, and allows authorized users to manage a very limited set of operating system functions. Verity Desktop is workstation management software used for:

- Setting the system date and time.
- Exporting Verity application file hashes to removable USB media.
- Accessing the operating system for a limited time (less than 24-hours per access code). User access to the operating system's functionality is restricted to software updates and database management.
- Importing printer configuration files.

The Desktop application is discussed in depth on page 45.

Election Management

The Election Management application is available only on Verity server workstations. This software enables authorized users to add, import, export, archive, restore, and manage elections. Once and election is added or imported in the Election Management application, the election can be opened and handled per the features available within the Verity software installed on that workstation. Election Management is discussed in depth on page 47.

User Management

The User Management application is available on all Verity workstations. This software enables authorized users to create and manage user accounts within the Verity system. User Management is discussed in depth on page 58.

returning to the Verity home screen

To return to the Verity home screen from any application, click **Home** in the upper *left* corner**.**

returning to the Verity login screen

To log out of Verity and return to the Verity login screen from any application, click **Log Out** in the upper *right* corner**.**

about Verity Computer workstations, *continued*

the Disk and RAID indicators

At the top center of the Verity workstation screen are two icons, the Disk icon (**A**) and the RAID icon (**B**).

the Disk icon

In configurations with only a server workstation, this icon represents the available hard drive space on that workstation. In configurations with two or more networked workstations, the icon represents the hard drive space on the server, or primary, workstation. If server hard drive space is low, archival and deletion of older election data may be required before creating or editing a new election.

More than 20% of the free hard drive space remaining.

ATTENTION: remaining hard drive space is limited to between 5%-20%. Archive and delete some elections to increase available free space.

WARNING: remaining hard drive space is less than 5%. You must archive and delete some elections before continuing to use the software.

Unable to determine the amount of free disk space. If this indicator persists, please contact Hart Support.

the RAID icon

Hovering the mouse over the RAID icon displays the status of the RAID array on the workstation. RAID is an acronym for Redundant Array of Independent Disks; Verity utilizes RAID technology to store data on the server using multiple disk drives to provide redundancy and improve performance. The RAID icon indicates whether both independent drives are functioning properly, and whether they are synchronized. If the RAID drives become desynchronized, Verity will automatically rebuild them. If one drive fails, you can continue to use the system, however you will need to contact Hart for a replacement.

The hard drive array is working correctly

ATTENTION: The hard drive array is repairing itself. The system may run slowly while it is being repaired.

WARNING: One of your hard drives is not functioning. Please contact Hart Support.

Unable to determine the status of the hard drive array. If this indicator persists, please contact Hart Support.

uninterruptible power supply devices

To protect against data loss, and to ensure that important election data can be saved in the event of a power loss, Hart recommends the use of Uninterruptible Power Supply (UPS) devices with every Verity workstation. UPS devices provide uninterrupted backup power in the event of power loss, as well as provide some protection against power surges.

Only workstations and monitors should be plugged into the UPS device. Since desktop printers and scanners can draw high electrical current, they can cause damage to UPS devices, and potentially result in power loss to any workstation attached to the same UPS device. Therefore, all printers and scanners should be plugged into a separate outlet (i.e., not into a UPS device used for a computer workstation). Other appliances that draw a high electrical load (coffeepots, space heaters, refrigerators, etc.) should likewise be plugged into a separate outlet, and not into the UPS device used with the workstation. For a maximum level of precaution, these devices should be on a separate circuit than the UPS device.

UPS devices should be tested regularly, and replaced if needed, to ensure that backup power is always available. Recommended UPS devices are available from purchase through Hart; contact Hart Support if you would like details or specifications for any of the recommended models.

UPS devices only offer a limited amount of backup power—consult the UPS manual for specifications. In the event of a power loss, and the workstation is connected to a UPS device, save your work and then proceed to shut the computer down following the procedure described on the following page.

NOTE: *Surge protectors (or 'power strips') provide some protection for hardware, but do not prevent the potential loss of data during a power loss.*

about Verity Computer workstations, *continued*

shutting down Verity workstations

In general, Hart recommends that you shut down all Verity workstations when they are not in use. Shutting down a Verity workstation regularly allows the workstation to perform internal database maintenance that will help maintain optimal performance, and protects it from powering off unexpectedly in the event of a power loss.

The procedure used to execute a controlled shut down for any Verity computer workstation (Data/Build, Central, or Count) is straightforward. Save any unsaved data, click the Home link in the upper left-hand corner of the screen, and then click the Shutdown button on the lower right of the Verity home screen to ensure smooth power down and protection of data.

In the event that a forced shutdown is required (the computer is non-responsive or 'frozen'), press and *quickly release* the power button on the front of the workstation *once* (DO NOT hold the button down). This will close the application and shut down the workstation safely. This method of controlled shutdown may take a while, so be patient. Unsaved data may be lost when forcing the workstation to shut down, so it is important to save data regularly and archive your elections at key points. For more information on database maintenance, see page 57. For more information on best practices for archiving data, see page 51.

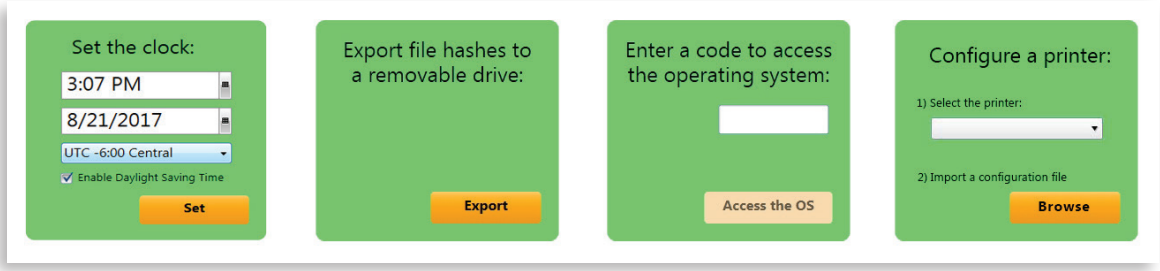
shutdown procedure for Verity server-client networks

Verity computer systems do not require power down or power up of peripherals (scanners or printers) in any kind of order. However, if you need to restart a workstation that is connected to other workstations as part of a server-client network, always use the following procedure to restart the entire network:

Step	Server	Clients
1) Problem identified that requires reboot of one or more stations		
2) Shut down all of the client workstations		
3) Shut down the server workstation		
4) Power on the server workstation, and wait for it to boot fully		
5) Power on the client workstations		

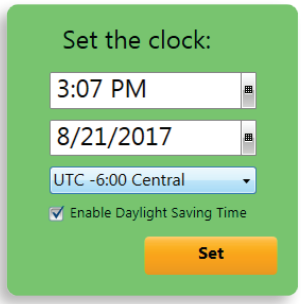
the Desktop application

The **Desktop** application contains four tiles that allow you to set the time, export file hashes, access the Windows operating system, and import printer configuration files. To access the Desktop application, click the Desktop tile on the Verity home screen.



- **Setting the clock**: Setting the workstation time and date here will affect all Verity applications installed on the workstation. Changes to the time, date, and time zone will be reflected in system logs.
- **Exporting file hashes**: Verity Desktop allows authorized users to export file hashes to a removable drive so that a file hash test can be performed. In a file hash test, the exported data is compared against a trusted build of the software, to confirm that no unauthorized changes were made to the software components.
- **Accessing the operating system**: For security purposes, a Verity workstation normally operates in what is known as "Kiosk" mode, in which the Windows desktop is not accessible, and the user only has access to the Verity applications installed. To access the Windows desktop, you must request a one-day use code from Hart.
- **Configuring a printer:** Here you can upload a configuration file for an installed printer.

setting the system clock and date



1. Under **Set the clock**, you can update the time and/or date by clicking the time or date field and typing in the desired value.
2. Set the timezone, if desired.
3. Check the box to enable Daylight Savings Time, if desired.
4. Click **Set.**

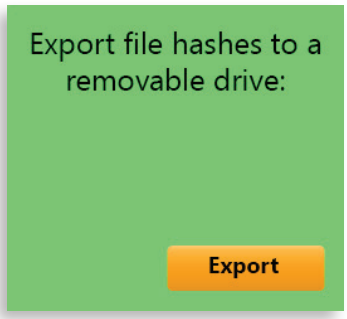
   NOTE: *When setting the time, you must indicate AM or PM.*

the Desktop application, *continued*

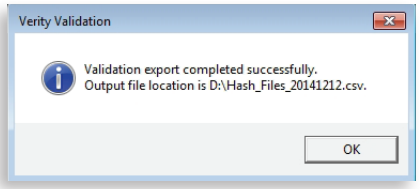
exporting file hashes

For more information on this feature, and about hash testing, see page 480.

1. Under **Export file hashes to a removable drive**, click **Export**.
2. Browse to the location where you would like to save the files, and then click **OK**.



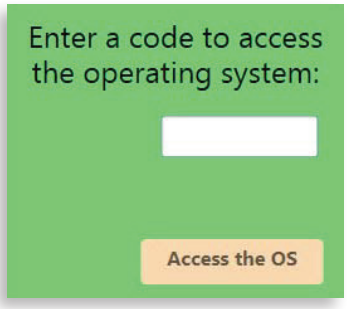
3. You will see the message **Validation export completed successfully...**; click **OK**.



accessing the Windows operating system

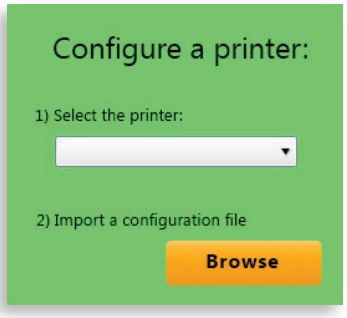
For more information on workstation security, see page 467.

1. Contact Hart Support (1.866.ASK.HART) and request a code.
2. Under **Enter a code to access the operating system**, type in the code you are issued.
3. Click **Access the OS**.



configuring a printer

1. Click the drop-down menu to select a printer from the list of installed printers. The printer must be powered on and connected to the workstation.
2. Click the **Browse** button to browse to locate and import a printer configuration file for the printer on removable USB media. For questions and assistance, contact Hart Support at 1.866.ASK.HART.



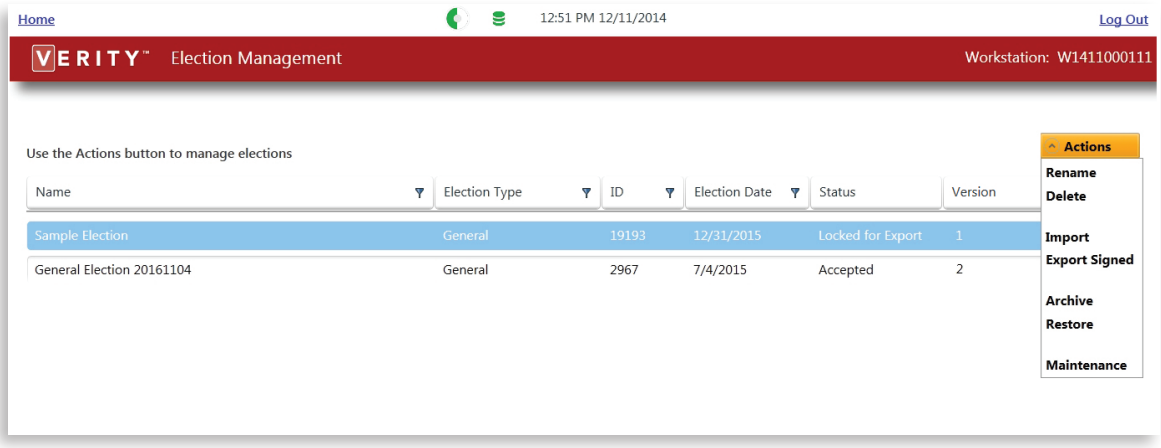
the Election Management application

In the **Election Management** application, administrators can add, copy, import, export, rename, delete, archive, and restore elections created in the Verity system. The Election Management application is available only on server workstations.

To access Election Management, click the **Manage** tile on the Verity Home screen.

The Election Management application is context-sensitive, meaning the management features available on each Verity workstation will vary depending on the Verity application installed. For instance: on a workstation equipped with Verity Data, you can add a new election; on a Verity Count workstation, you can import a signed election export.

You will use the Election Management application throughout the election process to manage the transfer of the election database from one Verity workstation to another; each step will be covered in this guide in the appropriate sequence.



managing elections

1. Clicking an election name from the list selects an existing election.
2. Clicking a filter icon ( ) in one of the column headers allows you to filter the list by category.
3. Clicking **Actions** allows you to choose a desired action for the selected election. Available actions vary depending on the applications installed on the workstation. Actions that may be available are listed and described on the following page.

the Election Management application, *continued*

actions available in the Election Management application

- **Add:** *(Data/Build workstations)* Adds a new election to the Election Management screen.
- **Copy:** *(Data/Build workstations)* Copies the selected election and creates a new election, in Open status. The new election will have a different Election ID.
- **Rename:** *(all workstations)* Renames the selected election. The election ID does not change.
- **Delete:** *(all workstations)* Removes the selected election from the election list and the workstation or network.
- **Import:** *(Data/Build workstations)* Imports an election data set from an external source. Import cannot be used to import a signed election export (the Import Signed function is used instead; see below).
- **Export:** *(Data/Build workstations)* Exports an unsigned election data set. An unsigned export cannot be imported on a Central or Count workstation (a signed election export is required, produced using the "Export Signed" function, see below).
- **Import Signed:** *(Central and Count workstations)* Imports a signed election export from a Verity Build workstation.
- **Export Signed:** *(Data/Build workstations)* Signs and exports the finished and accepted election. Signed election exports are imported on Count and Central workstations.
- **Archive:** *(all workstations)* Creates an archival copy of the selected election on an inserted removable USB media. The election status does not change. See page 49.
- **Restore:** *(all workstations)* Restores an archived election without changing the election status. An archive can be restored only for the same type of system on which the archive was created (e.g., an archive from a Central system cannot be restored on a Count system). See page 50.
- **Maintenance:** *(all workstations)* Runs a database optimization program to ensure that Verity runs quickly and efficiently. See page 57 for more information.

about election status

The election status is indicated in the Election Management application, and in each Verity software component. There are three possible election statuses:

- **Open for Editing**: The election is in the process of being created and can be edited in Verity Data.
- **Locked for Export**: The election has been locked from further edits in Verity Data and is now ready to open in Verity Build.
- **Accepted**: The election has been proofed in Verity Build and you can now print ballots and create vDrives and Keys. The election is now ready for export to Verity Central or Count.

Verity Central and Count require a signed election export from the Build workstation (the process for creating a signed export is discussed on page 196). The act of creating a signed export on the Build workstation creates the election definition. Importing a signed export on a Central or Count workstation requires the user to insert a Verity Key for that election (created in Build) and also enter the Verity Key application password.

The staging feature (discussed on page 155) allows you to create multiple versions of the same election (the election status is independent of the election version).

archiving elections in the Election Management application

1. Open the Election Management application.
2. Insert a removable USB media device into an available port on the workstation.
3. Select the election to be archived.
4. Under the Actions menu, select **Archive**.
5. Browse to the location of the removable media where you would like to save the file.
6. Click **OK**. The election will be saved in its current state in the location you have chosen.
7. Label the USB media clearly with the election name, date, and election status.

the Election Management application, *continued*

restoring an archived election

To restore an archived election, the same election cannot already exist in the Election Management application.

NOTE: *Archives can only be restored on the same type of system and configuration they were created with. For example: a Central archive cannot be restored on a Count workstation.*

1. Open the Election Management application.
2. Insert the removable USB media containing the archived election to be restored.
3. Under the Actions menu, select **Restore**.
4. Browse to the location on the removable USB media and select the archive folder.
5. Click **OK**. The archived election now appears in the Election Management application.

best practices for election backup and recovery

It is critical that election administrators and staff practice proper backup procedures throughout an election. Because Verity software applications are designed to operate on only secure, "kiosked" computers, all backups must be saved to external USB media. For this reason, election administrators should have an external file management and backup process in place prior to working with elections in Verity.

Furthermore, an organized backup procedure will assist election administrators in knowing what critical data needs to be archived and when, and will assist in disaster recovery should the need arise.

Any good election backup and recovery plan should include the following:

- Following procedures to protect against data loss
- Knowing what to back up
- Maintaining organization of election materials
- Performing regular and scheduled backups

protecting against data loss

Election staff can minimize the risk of data loss by adhering to the following recommendations:

- Backup election data regularly and at critical points throughout the process (see page 56).
- Use UPS devices with each Verity workstation. UPS (Uninterruptible Power Supply) devices provide uninterrupted backup power in the event of power loss, as well as provide some protection against power surges. Hart recommends UPS devices for all Verity workstations, as they provide both data and hardware protection. Only workstations and monitors should be plugged into the UPS device (see below).
- Use a separate, dedicated circuit for printers and scanners. Since printers and scanners can draw high electrical current, they can cause damage to UPS devices, and potentially result in power loss to any workstation attached to the same UPS device. Hart recommends that all printers and scanners be plugged into a dedicated circuit, such as a surge protector (i.e., not into a UPS device used for a computer workstation). Other appliances that draw a high electrical load (coffeepots, space heaters, refrigerators, etc.) should likewise be plugged into a separate circuit, and not into the UPS device used with the workstation.

NOTE: *Surge protectors (or 'power strips') provide some protection for hardware, but do not prevent the potential loss of data during a power loss. Hart recommends that all workstations be protected using a UPS device (see above).*

the Election Management application, *continued*

what to back up

Election Archives: You can generate an Election Archive at any time, using the Election Management application. The Election Management application is available to authorized users on all Data/Build, Central, and Count server workstations. An Election Archive consists of a folder containing all the data, settings, and associated files for a specific election. An Election Archive is used to store the full set of data and files for an election, and may be used to restore that election in its current state. You can only restore an Election Archive on a workstation with the same configuration as the workstation where you created the archive (e.g., you cannot restore a Verity Build archive onto a Verity Central workstation). When you create an Archive in Manage, Verity automatically names the Archive folder with the following information:

- Configuration type (for the workstation where the archive was created)
- Election ID
- Election Name
- Date and Time the archive was created
- Election Status when the archive was created (Open for Editing, Locked for Export, or Accepted)

Examples:

DataBuild_78574_SampleCountyGeneralElection_20160803-1304_Accepted

Count_78574_SampleCountyGeneralElection_20160805-1303_Accepted

In Verity Manage, you can use the Copy function to copy an existing Open, Locked, or Accepted election. However, using the Copy function will create a copy of the election, with a new election ID. Any ballots or vDrives created using the original election will not work with the copy, because the two elections do not share the same Election ID.

Using the Archive function, on the other hand, creates an archive of the election in its current state, and maintains the Election ID. An Archive can be restored to a workstation if needed, using the Restore function in Election Management. Because the Archive shares the same Election ID as the original, any ballots and vDrives created in the original election will work in the restored archive.

The staging feature allows you to create multiple versions of the same election, and the use of this feature requires special consideration. For more information, see page 155.

For disaster recovery and preparedness, an Election Archive from Build is the most important and useful item that can be backed up. Recommended archive points are discussed on page 56.

the Election Management application, *continued*

Election Export Files: Election Export Files are created using the Election Management application. An Election Export File is a ZIP file containing the necessary information to transfer an election to a separate Verity workstation. For example, an Election Export File is used to transfer an election from a Verity Data/Build workstation to a Verity Central workstation. There are two types of Election Export Files:

- Signed Export Files: A Signed Export File is created using the Export Signed function in Manage, and can only be created from an election in an Accepted state. A Signed Export File contains the necessary security files to transfer an election from Verity Build to Verity Central or Count. A Signed Export File is required in order to scan ballots in Verity Central or to read vDrives in Verity Count. Signed Election Export files are imported using the Import Signed function in Election Management.
- "Unsigned' Export Files: An 'Unsigned' Export File is created using the Export function in Manage, and can only be created from an election in a Locked for Export state. An 'Unsigned' Export File can only be used to transfer an election from one Verity Build workstation to another; it cannot be used to transfer an election from Verity Build to Verity Central, or Count. 'Unsigned' Election Export files are imported using the Import function in Election Management.

Election Data Files: Election Data Files (sometimes referred to as 'Imports' or 'Exports') are the component data sets used to create the election. These could include .csv, .txt, and .rtf files, as well as audio files and images. Election Data Files can be imported or exported from within certain Verity applications (e.g., Data, Central, Count, etc.).

Once all election information is compiled in Verity Data, you may export the Full Election Dataset, using the Export menu under the Edit Data tab in Verity Data. Saving a copy of the Full Election Dataset will allow you to rebuild a copy of the election, if needed, by importing the Full Election Dataset into a new Verity Data election. A Full Election Dataset may be exported from any election in an Open for Editing or Locked for Export state. Detailed discussion of exporting Election Data Files in Verity Data (including the Full Election Dataset) is found beginning on page 138.

Reports: You can back up reports to external drive as well. Saving reports keeps all election records for that particular election in one place for convenient reference, and allows for reprinting later.

Other Election Materials: Other materials that can be backed up might include ballot previews (used for proofing), ballot print queue files, order forms, audit logs, etc. If your jurisdiction creates ballot print files (PDFs), you can back up these files as well.

the Election Management application, *continued*

organization of election materials

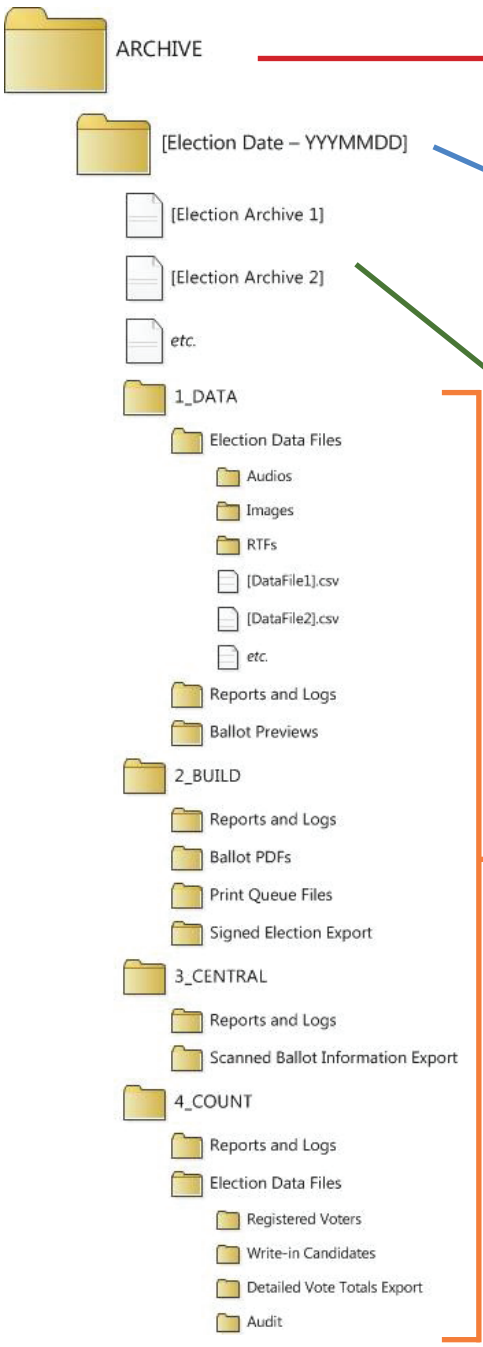
Proper organization of election materials is important, because it can help make recovery easier, and ensure that you have all election data available should a need arise. Election administrators can help ensure proper organization by using a Verity Election Folder Template. Recommended procedures for creating and using an election folder template are discussed below.

How to use a Verity Election Folder Template:

1. Create your Verity Election Folder Template. You may use the sample folder structure shown on the following page.
2. Rename the copy of the Verity Election Folder Template for the specific election.
3. Save any relevant election data to the appropriate location within the Election Folder as you move through the election process. Election data should be saved regularly, and at key points (see page 56).
4. Periodically, election administrators should copy the entire Election Folder to a secure, preferably off-site location, to assist in disaster recovery should the need arise.

Verity Election Archives can contain numerous subfolders, log files, and images, some of which may contain long file names. The Windows operating system enforces limits on the number of characters within a single file path (a file path is the list of all subfolders and the file name itself, which the computer uses to look up and access a file when you need to retrieve it). Therefore, there is a limit to the number of characters available for naming subfolders. For this reason, Hart recommends that you keep the Election Folder name short, and use a bare minimum of subfolders when saving Election Archives. The number of characters available to you will vary depending on the specific Archive, but the sample folder structure shown on the following page should work for any Verity election.

sample Verity folder structure



The 'ARCHIVE' folder should go on the root of the drive you are using for storage.

The backup files and folders for each election should be stored in a folder named with the date of the election, in YYYYMMDD format (for example, the election on November 8, 2016 would be 20161108).

Election Archive folders should be stored directly under the Election Date folder, not within additional subfolders. (Remember that each Election Archive consists of a folder that Verity automatically names with the Workstation Type, Election ID, Election Name, Date Created, and Election Status).

Other materials that you back up may be organized by application, using subfolders. You may create additional subfolders if necessary (such as separate Test and Official subfolders for Count Reports, etc.).

the Election Management application, *continued*

regular and scheduled backup recommendations

Archiving elections using the Election Management application is a critical part of the election backup process. Archives are typically not very large, and many can fit on a single removable device. At minimum, elections should be archived any time the election status will change (e.g., when locking the election in Verity Data, or accepting the election in Verity Build), or when a critical election process has been completed (e.g., after writing vDrives and printing ballots in Verity Build) or is about to occur (e.g., performing Manual Vote Recording in Count). Recommended archive points are listed below, with the workstation where the archive should be performed in parentheses.

- Election archives in an 'Open for Editing' state
  - Regularly, throughout the process of creating the election in Verity Data (Data/Build workstation)
  - Before Locking election data (Data/Build workstation)
- Election archives in a 'Locked for Export' state
  - After setting passwords and election settings in Build (Data/Build workstation)
- Election archives in an 'Accepted' state
  - After Accepting the election (Data/Build workstation)
  - **After printing ballots and writing vDrives** (Data/Build workstation). For disaster recovery and preparedness, an Archive of the Accepted election after ballots are printed and vDrives written is the most valuable. If you archive at no other point in the process, you should still archive here.
  - After scanning Test ballots (Central workstation)
  - After scanning Official ballots (Central workstation)
  - After reading Test vDrives (Count workstation)
  - After reading Official vDrives (Count workstation)
  - Before performing Manual Vote Recording in Count, if applicable (Count workstation)
  - After all election activities are completed (official results verified) (Count workstation)

The backup of other election materials (reports, ballots, Election Data Files, etc.) can be done as these items are created or needed during the election process.

maintaining the election database

The Maintenance tool optimizes the database so Verity can run more efficiently. To run the Maintenance tool, follow the steps below.

NOTE: *If workstations are networked, ensure that all users are logged out of Verity client workstations before running the Maintenance operation. If a user is not logged out of Verity, the Maintenance operation will not complete its tasks.*

1. Open the Election Management application.
2. Under the Actions menu, select **Maintenance**. A warning dialog window displays.
3. Click **Yes** to launch the Maintenance program.

   NOTE: *A rotating progress wheel may display while Verity performs maintenance, depending on how long the operation takes.*

best practices for workstation performance

Regular database maintenance can significantly enhance the performance of your Verity workstation; storing many elections on a single workstation can impact responsiveness in areas such as rendering ballot previews, reading vDrives, and generating reports. The best practices for improving workstation performance are listed below:

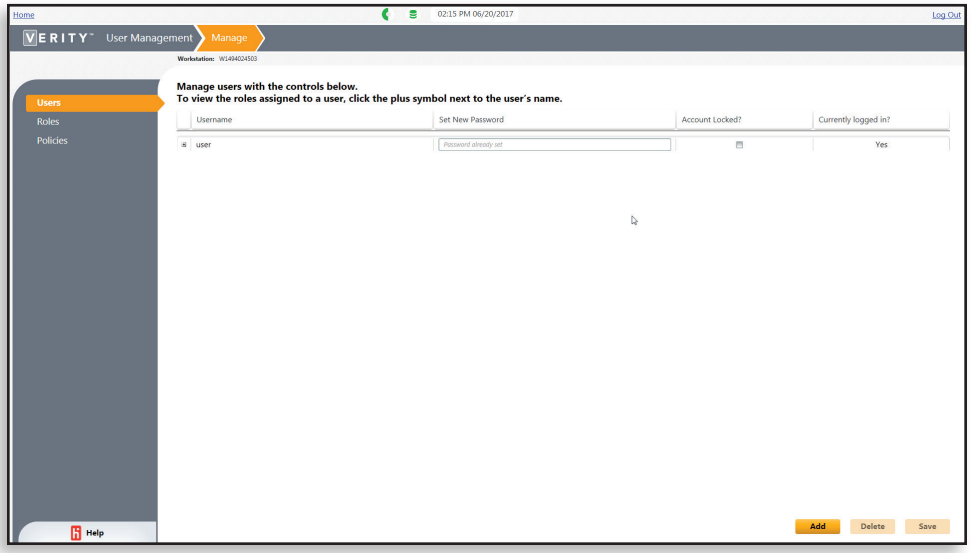
- Archive and delete old elections regularly
  - Frequency: *Where possible, archive and delete previous elections before adding any new election to the Verity system.*
  - Although the number of elections is limited only by the amount of space on the hard drive, in general, fewer elections are easier to manage. It is generally most prudent to keep only active elections on workstations, and to archive and then delete older elections, as allowed by local procedures. Archived elections can always be restored as needed to retrieve information.
  - For a full discussion of archive procedures and best practice, see page 51.
- Delete unneeded Tasks
  - Frequency: *Always delete unnecessary tasks.*
  - If a single election is affecting performance, you can delete any unnecessary Tasks from Central or Count that contain large amounts of data, such as ballot images in Central or cast votes in Count. Of course, ensure that any potentially necessary information is archived properly before it is deleted.

the Election Management application, *continued*

- Run the Maintenance tool (see page 57) before every election
  - Frequency: *Before adding a new election, run the maintenance tool.*
  - The maintenance tool is available under the Actions menu, within the Election Management application.
  - Running the maintenance tool may take anywhere from a few seconds to several minutes or hours, so plan accordingly.
  - All server workstations can experience frequent data changes, contain large amounts of data, and/or have high performance demands, so all can benefit from regular database maintenance. The maintenance tool optimizes the indices in the election database on your workstation.
- Reboot the computer
  - Frequency: *Reboot the computer at least once weekly during every election cycle.*
  - When a Verity workstation is rebooted properly, the workstation will perform internal maintenance in preparation for the shutdown. Proper shut down procedures are discussed on page 44.

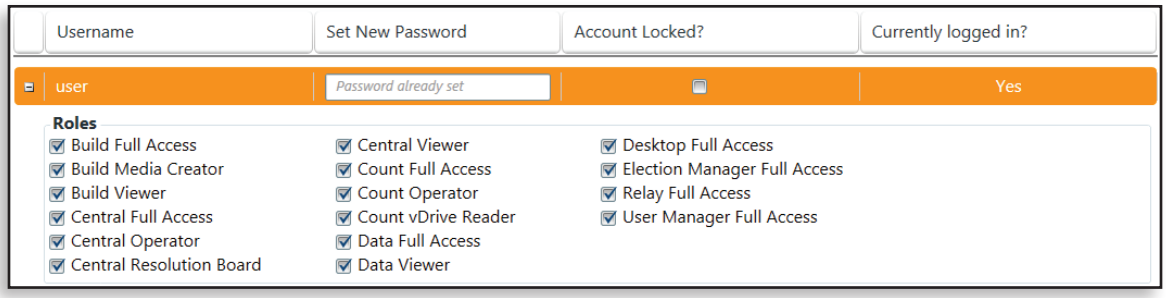
the User Management application

The **User** Management application allows users to add users, manage passwords, define and manage user roles, disable or remove users, and set user and password policies. To open the User Management application, click the **Users** tile on the Verity home screen.



adding a user and assigning user roles

1. Choose the **Users** menu on the left, and then click **Add** in the lower right.
2. Type a User Name and Password.
3. To define user roles, expand a user profile by clicking the **+** and check the boxes to assign the user a role for each of the Verity applications. For a description of each type of user role, see page 60.



4. Click **Save** in the bottom right corner.

the User Management application, *continued*

disabling a user account

NOTE: *This feature may be useful if an account will be used again, but only at specific times.*

1. Check the box next to the user name, under the **Account Locked** column.
2. Click **Save** in the bottom right corner.

removing a user account permanently

1. Click a user account to select it.
2. Click **Delete** on the bottom of the screen.
3. Click **Yes** to confirm.
4. Click **Save** in the bottom right corner.

changing user passwords

1. Click in the password field next to the user name.
2. Type the desired password.
3. Click **Save** in the bottom right corner.

user roles in Verity

User roles determine what a user is able to do within each Verity application. Each user role has specific privileges, or abilities, within that application. Under the Roles menu, authorized users can edit existing user role definitions, or add custom user roles to meet their jurisdiction's needs. Below are the default user roles available for each application, and the default privileges available to each user role. In addition to performing the actions themselves, in some cases, full access users can also provide on-the-spot authorization to allow other users to perform the action.

Verity Data user roles

- **Viewer**: Can view all of the screens in Data, print reports, and print ballot previews; Viewers cannot change election data.
- **Full Access**: Can perform all Viewer operations and add, change, and delete election data.

the User Management application, *continued*

Verity Build user roles

- **Viewer:** Can open elections, preview ballots, and print reports for proofing purposes. Viewers cannot modify content, configurations, or elections.
- **Media Creator:** Can perform all Viewer tasks. Can create Keys & vDrives, and print ballots.
- **Full Access:** Has full access to Verity Build.

Verity Central user roles

- **Viewer:** Can open elections and tasks, and print and export reports. Cannot modify content, configurations, or elections.
- **Resolution Board:** Can open and view ballots with voter intent issues to determine validity, resolve ballots, and run reports.
- **Operator**: Has full access to Verity Central, including the ability to review ballots with voter intent issues, change election status, restore elections, and perform all tasks for ballot scanning and generating reports.
- **Full Access:** Has all of the abilities of Operators, plus additional access for administrative setup and closing polls.

Verity Count user roles

- **vDrive Reader:** Can open elections and tasks to read vDrives.
- **Operator:** Can open and manage elections and tasks, generate reports, and update polling place data and precincts. Can import and export data, resolve ballots, and access the auditing dashboard.
- **Full Access:** Has unrestricted access to all aspects of Verity Count. Can manually record votes, access all aspects of reports and the auditing dashboard.

Desktop, User Management, and Election Management roles

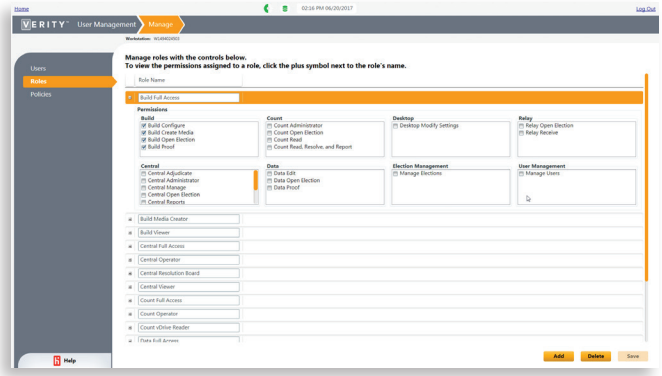
- These applications have only one user role; full access to these applications can be granted (or not) to each user.
- You should create one additional full access account to User Management and store the user name and password in a safe, to avoid being locked out of one's system if all passwords are forgotten.

the User Management application, *continued*

managing user roles

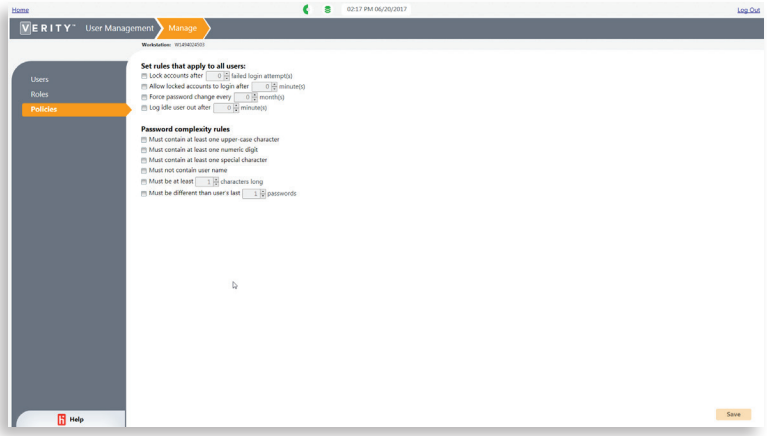
To edit existing user roles, or to add a new custom user role, select the Roles menu on the left:

- To edit an existing user role, click the **+** to expand that user role, and assign (or remove) privileges for each Verity application.
- To add a new custom user role, click the **Add** button in the bottom left, and type a name for the new role.



user policies

The policies menu allows authorized users to set user login rules, and password complexity rules that apply to all users.



1. Select the **Policies** menu on the left.
2. Check the box next to each item to enable that item:
   - Set the number of failed login attempts before the account is locked.
   - Set the period of time a locked account will remain locked.
   - Set the frequency with which passwords must be changed.
   - Set the idle user log out time.
   - Set rules regarding password complexity.
3. Click **Save** in the bottom right corner.

managing passwords in Verity

The Verity voting system requires the use of passwords and passcodes to ensure security throughout the election definition, voting, ballot scanning, and tabulation processes. In addition to the user passwords required to access the Verity software applications, there are a number of other passwords and passcodes that the system administrator must create and manage.

In Build, you must create separate device passcodes for poll workers, maintenance and warehouse personnel, and administrators. These passcodes allow you to manage the ability of staff to access different menus and functions on the devices themselves.

- **Poll worker passcodes** give poll workers access to activate Touch Writer ballots, print reports, and perform certain other actions related to the voting process.
- **Maintenance passcodes** give warehouse and technical support personnel access to predefine and calibrate devices, and change certain device settings.
- **Administrator passcodes** allow administrators to change additional device settings, such as changing ballot rules.

In addition, in Build, you will create additional device passcodes for opening, suspending, and closing polls for each voting type in the election.

Finally, you must create and manage the passcodes associated with the Verity Key, including an administrator passcode for the Key itself, and device and application passcodes.

- The Key administrator passcode is required to write the Key for each election. It cannot be recovered if forgotten.
- Device and application passcodes are used, in conjunction with the physical Key itself, to authorize certain actions, such as predefining devices, and importing elections exported from the Build workstation.
- A complete list of actions requiring the use of the Verity Key is found on page 195.

It is important to carefully manage these passwords and passcodes to ensure that the authorized personnel know their required passcodes when needed. Log all passcodes in a secure location and limit access. Device passcodes can be unique, or shared across functions—you can use the same passcode for opening polls for all voting types, or create a unique passcode for each voting type (the password will be the same for all devices assigned to that voting type). You can create a new set of passcodes for each election, if desired. **Remember that creating unique codes increases security, but also requires more careful management.**

terms and definitions

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.

adjudication

The task of assigning the voter's intent to votes on ballots that contain mismarks, marginal marks, or are damaged, such that the voter's intent cannot be determined via the ballot scanning software. Also called resolution.

air gap

A physical separation that describes how voting system components relate to each other and manage data. A variety of methods can support a physical 'air gap,' primarily the absence of any network connection between components. These air gaps act as a physical firewall for all data and access ensuring integrity and security.

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 facilitate accessible voting. 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 election officials to view the steps that occurred on the election equipment and software in order to verify or reconstruct the user actions taken, without compromising ballot or voter privacy.

ballot count

A number that indicates how many ballots have been processed on that device for the current election. A device's ballot count is reset to zero when elections staff load a new election on that device.

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 numbering may be used for inventory purposes.

terms and definitions, *continued*

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 Production Services (BPS)

The Hart InterCivic Ballot Production Service (BPS) is a fee-based service that provides ballot programming and ballot printing service for customers who use Hart InterCivic voting devices.

ballot rotation

Process of varying the order of the candidate names within a given 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.

BMD

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

canvass

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

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.

CMOS battery

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

terms and definitions, *continued*

commercial off-the-shelf (COTS)

Commercial, readily available hardware devices (such as scanners, printers or computers) or software products (such as operating systems or database management systems).

contest

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

credentials

Authentication information that enables users to access software functions. Credentials typically include user IDs and passwords.

cryptographic key

Value used to control cryptographic operations, such as decryption, encryption, signature generation or signature verification.

cumulative voting

A method of voting exclusive to multi-member district election (e.g. county board) in which each voter may cast as many votes as there are seats to be filled and may cast two or more of those votes for a single candidate.

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 ballot scanning device.

damaged contest

A contest where the option box cannot be read by the scanner. This may be caused by and obstruction (white-out, tape, etc.) that obscures an option box.

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).

digital signature

An asymmetric key operation where the private key is used to digitally sign an electronic document and the public key is used to verify the signature. Digital signatures provide data authentication and integrity protection.

terms and definitions, *continued*

duplex

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

election ID

An identification code assigned to an election by Verity Data 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* **cryptographic key.**

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 a regulatory agency.

incomplete ballot

A multi-sheet ballot being scanned in a scan batch that is missing one or more sheets.

invalid vote

An instance where A) a voter in an open primary has voted for a candidate for an opposing party after first declaring affiliation with another party, or B) a voter has made a selection in a dependent contest without making the proper selection(s) in the determining contest.

key management

Activities involving the handling of cryptographic keys and other related security parameters (e.g., access to the physical keys and passwords) during the entire life cycle of the keys, including the creation, inventory and storage, re-writing, and use of the keys throughout an election cycle.

terms and definitions, *continued*

lifetime count

A number, shown on the Verity device touch screens, that indicates how many ballots 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.

marginal mark

An voter mark, sufficiently faint or small, such that it falls very near the counting threshold, and therefore will not be consistently counted as marked or unmarked.

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 valid choices.

non-partisan office

An elected office for which candidates run without a political party affiliation.

option

A choice on a ballot.

option box

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

overvote

An instance where a voter has marked more than the allowed number of options for a given contest. It is not possible to overvote using the Verity Touch Writer.

page

In reference to paper ballots, one side of a sheet of paper.

partisan office

An elected office for which candidates run as representatives of a political party.

polling place

A designated location where voters cast ballots. A single polling place may support multiple precincts.

terms and definitions, *continued*

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.

precinct-split

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

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 are not included in the tabulation until after the voter's eligibility is confirmed.

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. The practice is 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.

residual votes

A residual vote count reflects the difference between the number of people who turned out for an election, and the total number of votes cast for a particular office. For example. residual votes may include overvoted or undervoted contests and unassigned or rejected write-in votes.

resolution

See **adjudication**.

terms and definitions, *continued*

sample ballot

A ballot printed as a sample of the real election ballot. Sample ballots cannot be counted by the Verity system.

security controls

Operational, physical, and technical controls designed to protect the confidentiality, integrity, and availability of a system and its information.

security seal

Tamper-evident seals put in place by the jurisdiction on voting devices and ballot boxes. Seals are used to deter (and provide evidence of) any unauthorized access to the devices or compartments containing voted ballots.

sheet

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

sheet count

A number that indicates how many physical ballot sheets have been scanned on that device or workstation for the current election. The sheet count is reset to zero when a new election is loaded by election staff before an election.

sip-and-puff

A breath-controlled input device that enables persons with limited mobility to vote independently. A voter's personal sip-and-puff device may be connected to the Verity Access controller.

spoiled ballot

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

system battery

Rechargeable battery pack used in Verity voting devices.

tabulation

Process of counting votes.

tactile switches

(sometimes referred to as 'dual mode switches,' or 'jelly switches,') A tactile input device consisting of two large buttons of contrasting color. Tactile switches are used to enable persons with limited mobility to vote independently. Tactile switches may be connected to the Verity Access controller.

terms and definitions, *continued*

thermal printer

Roll-feed printer that uses heat to print on the paper, and thus does not use ink or toner. Verity Scan, Touch Writer, and Print devices contain a built-in thermal printer.

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.

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.

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.

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.

zero report

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

chapter 2

system installation & configuration

2

system installation and configuration

Verity workstation installation and configuration

Verity workstations are delivered preconfigured and installed with Verity software as ordered by the local jurisdiction. Workstation configuration and software type and version should be verified during the implementation process, according to established acceptance testing procedures (see page 77).

Verity computer workstations are tested and certified using specially configured off-the-shelf commercial desktop computers. Use of any other third-party workstation is not supported, may cause performance and security issues, and will void any warranties and guarantees issued by Hart. For more information, contact Hart Support at 1-866-ASK HART.

In the event a software upgrade is scheduled, any necessary hardware or software upgrades will be performed according to the procedures outlined beginning on page 82.

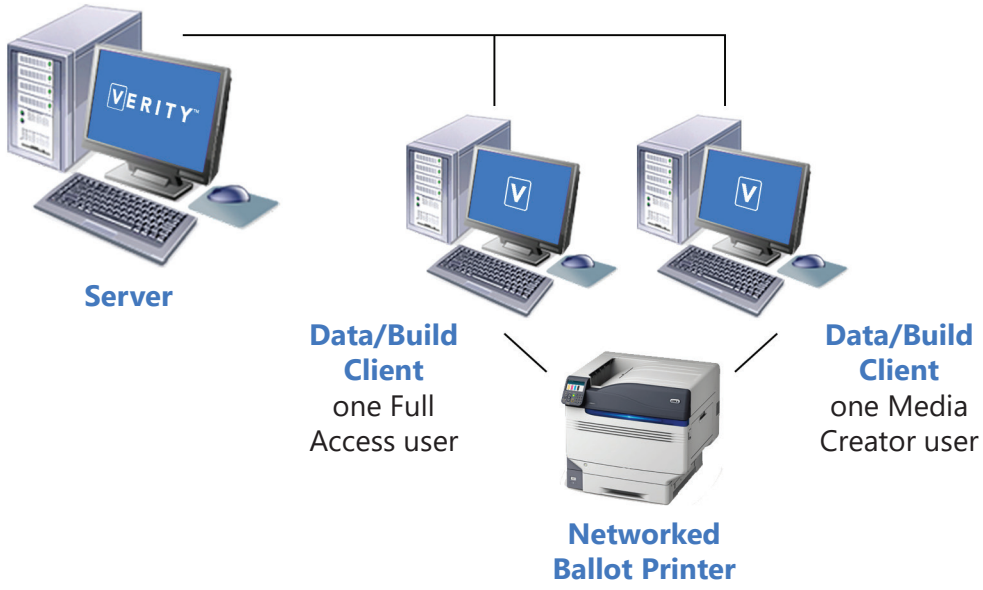
network configurations

Optional local network configurations are set during the software imaging and install process, prior to product delivery. The configurations illustrated below are samples only; your jurisdiction's configuration may vary, and the below diagrams are not intended to illustrate all possible configurations.

NOTE: *An individual user can only be logged into one networked workstation at a time. Client workstation date/time is set by the server date/time via the local network.*

sample configuration #1

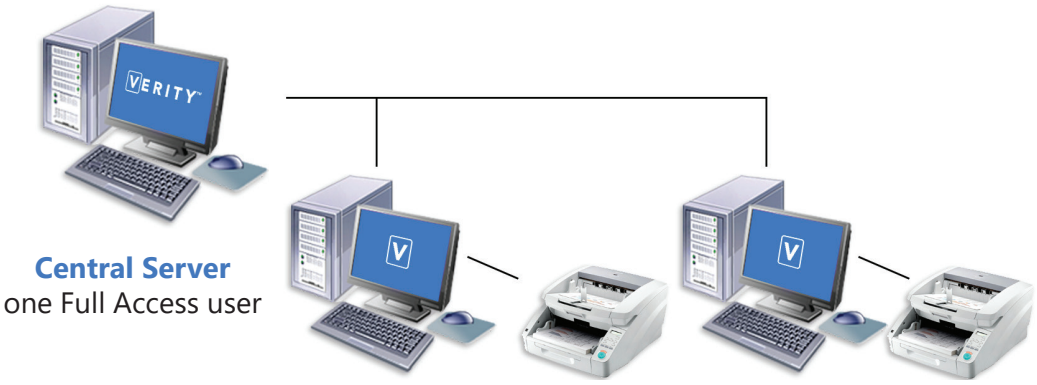
Below is a sample configuration with one server and two Data/Build clients, with a networked ballot printer. In the sample configuration shown, one Full Access user and one Media Creator user are logged in simultaneously. Print jobs can be sent from either workstation.



workstation installation and configuration, *continued*

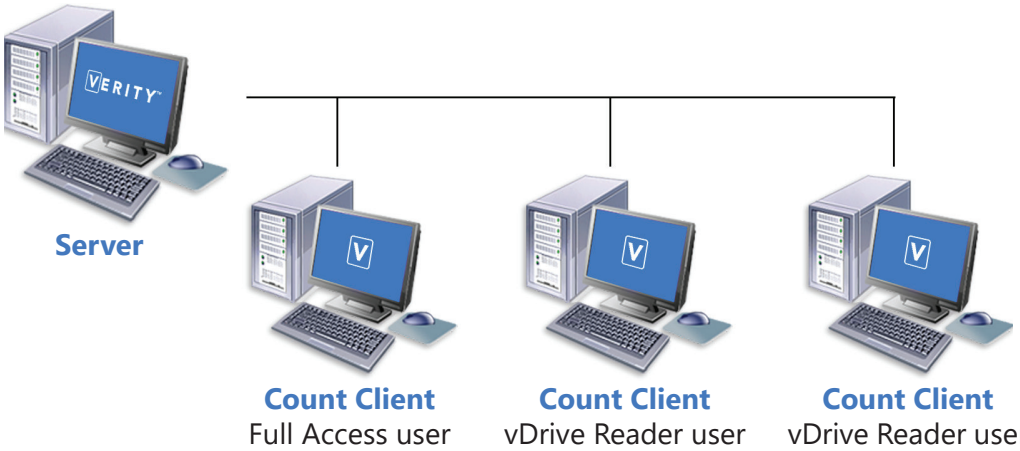
sample configuration #2

Below is a sample configuration with one Verity Central server and two Central clients, each with a dedicated ballot scanner. In the sample configuration shown, one Full Access user and two Operator users are logged in simultaneously.



sample configuration #3

Below is a sample configuration with one server and three Verity Count clients. In the sample configuration shown, one Full Access user and two vDrive Reader users are logged in simultaneously.



hardware acceptance testing

acceptance testing overview

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

A Hart project manager will work with election officials to prepare an acceptance testing plan appropriate to the specific jurisdiction and to the types and quantity of equipment being implemented.

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

- ☐ Thermal printer paper
- ☐ Device/equipment keys
- ☐ Verity Key, vDrive(s), and ballots created using the acceptance testing election
- ☐ Acceptance test logs and checklists (at least 1 for each type of device or equipment)
- ☐ Asset labels (if applicable)
- ☐ Power supply (power strips, extension cords, etc.)
- ☐ Other supplies as appropriate to your specific testing plan

hardware acceptance testing, *continued*

acceptance test: suggested workflow

Below is the Hart suggested procedure for conducting an acceptance test for an implementation including voting devices, booths, ballot boxes, and storage caddies. Again, 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.

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)
2. Set up teams to handle each part of the process (a minimum of two people per team is recommended).
   - Unloading Trucks
   - Unpacking equipment and disposal of packing materials
   - 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 some packing boxes for future use, or recycle.
   - Verity Touch Writer booths
   - Verity Reader booths
   - Ballot printers
   - Printer tables
   - Ballot boxes
   - Verity devices and tablets

   NOTE: *Be sure to keep each tablet together with the device that it shipped with; each device and tablet are married together.*
   - Storage caddies

hardware acceptance testing, *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 Writer device needed

   ballot printer testing*:
   - 1 Verity Print or Touch Writer device needed
   - 1 ballot overlay set (recommended)

   ballot box testing:
   - 1 Verity Scan device needed

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

   Verity Print testing:
   - 1 ballot printer needed

   Verity Reader testing:
   - 1 Verity Reader booth needed

   Verity Scan testing:
   - 1 ballot box needed

   NOTE: *Ballot printers are shipped with a starter cartridge with sufficient toner for most testing plans.*
6. If desired, affix asset labels to equipment as needed; record asset numbers.
7. After testing, move equipment to storage area.

hardware acceptance testing, *continued*

acceptance test checklists

Each type of Verity equipment should be tested using a dedicated acceptance test checklist (these forms will be developed with your Hart project manager). Test results should be recorded on a matching test log.

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 205).
- ☐ Setting device clocks, if necessary (page 236).
- ☐ Verifying device software versions (page 81)
- ☐ Performing inventory of devices and accessories and recording device serial numbers, and affixing and recording asset labels.
- ☐ Performing Hash testing of device and workstation software components, if required (for details, see page 480).

NOTE: *Your jurisdiction may have other requirements in addition to or in place of the items noted above.*

Verity workstation acceptance testing checklist

In most cases, a Hart representative will work closely with election officials and staff to set up the Verity software workstations ordered for your implementation. Acceptance testing checklists will be developed in consultation between the jurisdiction and a Hart project manager. 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 free of shipping damage
- ☐ All components and accessories connect properly
- ☐ All components power on
- ☐ Peripheral components (microphones, printers, scanners, etc.) are mechanically functional.
- ☐ All software components ordered are present and installed with the correct configuration and version.

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. The version number will vary and must match the expected version number for your jurisdiction. Software versions installed on Verity computer workstations may be verified by clicking the About link, located in the Help tab on each Verity application screen. Contact Hart or the California Secretary of State if you have any questions about the software version numbers that you should validate.

preparing tested equipment for storage

- ☐ Power down equipment properly.
- ☐ 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.
- ☐ Affix security seals to the equipment and log seal numbers as required.

device and workstation upgrade procedures

overview of upgrade procedures

The following instructions describe the procedures for performing a scheduled upgrade to Verity software and devices. As part of the upgrade process, the device CFAST cards and workstation hard drives must be replaced. This section discusses the upgrade process and provides instructions for replacing the CFAST memory cards used in Verity devices, and replacing removable workstation hard drives.

Before performing any upgrade to Verity workstations or devices, ensure that you have properly backed up all election data. For best practices on backing up election data, see page 51. Once an upgrade has been scheduled, Hart will develop an upgrade plan in coordination with jurisdiction officials. Upgrades can be performed following one of two general methods, at the jurisdiction's preference:

- **Self-service method:** Using this method, costs to the jurisdiction are limited to shipping. Upgraded materials (hard drives and CFAST cards) are provided to the jurisdiction, and the original materials are returned. The replacement of materials is completed by the jurisdiction, and no on-site presence by Hart is required.
- **Full-service method:** This method is the same as the self-service method, except Hart personnel will travel on-site to assist in the replacement of materials. Additional cost may be involved if using this method.

Updated software images and master CFAST cards will be provided at the time of the upgrade to comply with the CVSS air gap requirements (see page 487). After receipt, all upgraded workstations and devices should be thoroughly tested, following local and state rules. Acceptance testing procedures are discussed on page 80; hash testing of devices and software is discussed on page 480.

removing and replacing voting device CFAST cards

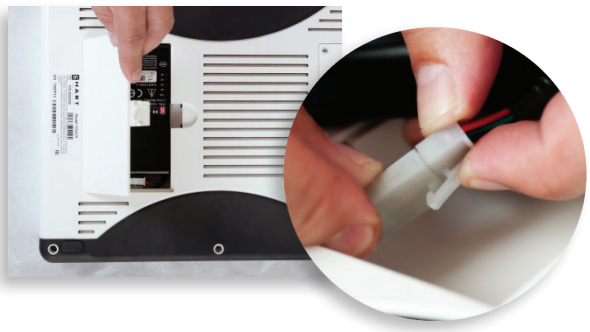
Materials and Supplies:

- Voting devices to be upgraded
- Keys to device locks
- Small (#0) Phillips head screwdriver
- Replacement CFAST memory cards
- Replacement tamper-evident seal(s) (part number 1001-682)
- Spare screws (part number 1005-078)
- Isopropyl alcohol wipes

Procedure:

1. Ensure the device is unplugged. Unlock and open the voting device case. Unlock and remove the voting device tablet from its storage compartment.

2. Turn the tablet over and open the system battery door. Disconnect and remove the system battery (if present). Replace the battery door.



3. Remove the metal tie seal securing the service compartment door. Unscrew the four screws and remove the service compartment door.

device and workstation upgrade procedures, *continued*

4. Inside the service compartment, you will see a metal plate secured by a post. Remove the metal plate to reveal the CFAST memory card.

5. Gently slide out the old CFAST memory card.

NOTE: *CFAST cards will be labeled with the device type and version.*

6. If you will be installing the replacement CFAST cards at a later date, then reinstall the metal CFAST cover and post. Replace the service compartment door with the four screws. Install a new metal tie seal. Return the tablet to its stowed position, lock in place, and close the case.

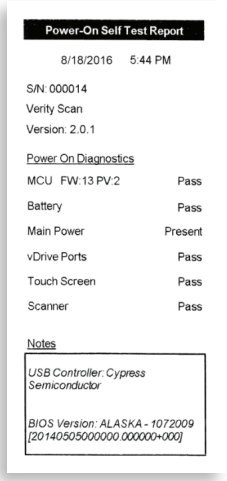
Follow the instructions below to install new CFAST cards in your Verity devices. Note that each CFAST card is specific to a device type (e.g., a Scan CFAST card will not work in a Touch Writer, and vice versa). CFAST cards are labeled according to device type and version; ensure that you install the correct card(s).

1. Ensure the device is unplugged from AC power. Unlock and open the voting device case. Unlock and remove the voting device tablet from its storage compartment.
2. Turn the tablet over and open the system battery door. Ensure that the system battery is disconnected and removed (if present). Replace the battery door.
3. Remove the metal tie seal, unscrew the four screws and remove the service compartment door.
4. Inside the service compartment, remove the post and metal plate.
5. Insert the new CFAST memory card.

device and workstation upgrade procedures, *continued*

6. Reinstall the metal CFAST cover and post.
7. Reattach the service compartment door with the four screws. Affix new metal tie security seal to the compartment door.
8. Seat the tablet in the cradle, tilt it back, and lock it in place using the device key.

9. Plug in the AC adapter and power on the voting device.
10. Verify the updated Version number on the Power-On Self Test report (or on the test screen, for devices without thermal printers). The version number may vary across different device types (e.g. Scan vs. Touch Writer vs. Reader), but must match the expected version number for the specific upgrade you are performing.


Power-On Self Test Report

8/18/2016 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]

10. Perform a device acceptance test, and/or hash testing, according to local rules and procedures. Power off the device, unlock the tablet, return it to its stowed position, lock in place, and close the case.

device and workstation upgrade procedures, *continued*

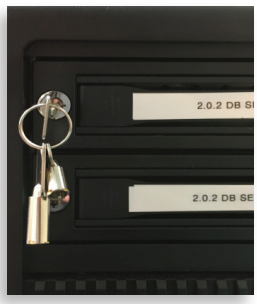
removing and replacing workstation hard drives

Materials and Supplies:

- Computer workstations to be upgraded
- Replacement hard drive set (2 drives)
- Hard drive security key
- Replacement tamper-evident seal(s) (part number 1001-682)

Procedure:

1. Before removing workstation hard drives, ensure that all election data is properly backed up. For best practices on backing up election data, see page 51.
2. Ensure the computer workstation is powered down completely (follow proper shutdown procedures as discussed on page 44). Remove tamper seals/locks and unlock the hard drives using the hard drive security key.



3. Press on the left side of the hard drive tray and the handle will pop out.

4. Repeat steps 1-2 for the other drive, and then pull out both of the old hard drives.

device and workstation upgrade procedures, *continued*

NOTE: *Each hard drive set is labeled to indicate the software application(s) and version installed. Each hard drive set is also labeled with a serial number (an 11-digit number beginning with the letter "D"). When installing the hard drives in the workstation, log the software type(s) and serial numbers for future reference.*

5. Insert the new hard drives into the top and bottom drive slots.

! IMPORTANT: One drive will be labeled Top, and the other drive labeled Bottom. Insert the drives into the corresponding slots.

6. Push the drives in as far as they will go (do not force), and then press on the handle to push them completely in.

7. Lock the drives in place using the hard drive security key.
8. Affix locks/new tamper seals as required.
9. Verify the updated software version on the workstation. (To verify a software version, power on the workstation, launch the Data, Build, Central, or Count application, click on the Help tab, and then click the About link.) Perform a workstation acceptance test according to established procedure.

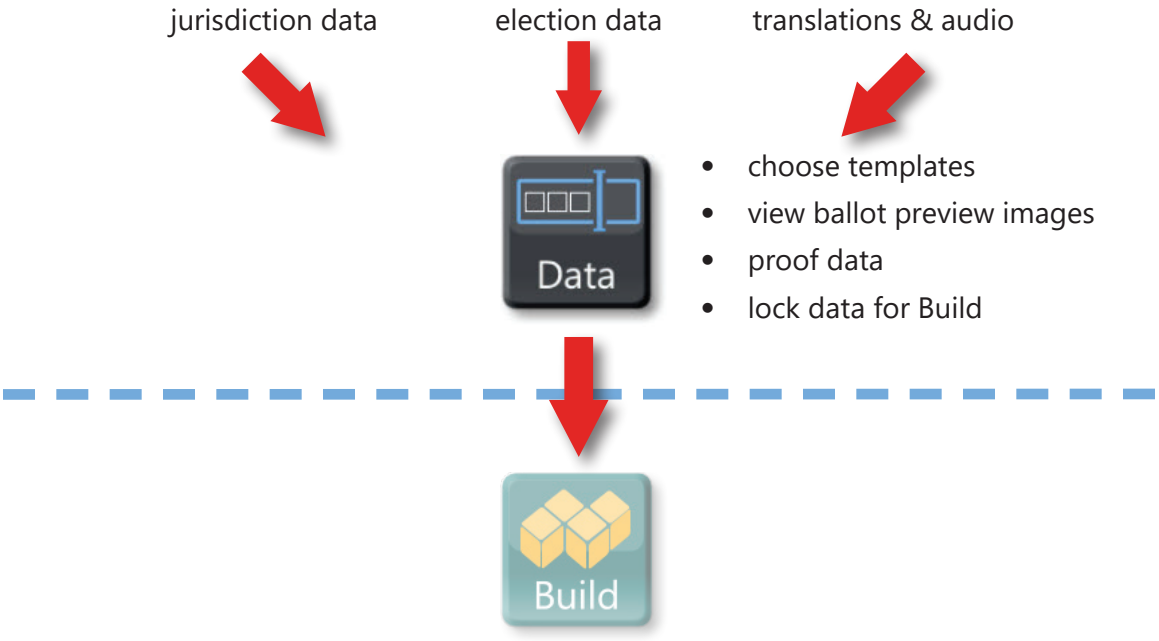
chapter 3
ballot creation

3

ballot creation

about Verity Data

In Verity Data, you can enter, import and manage election data, jurisdiction data, and translations, and record and import audio. Verity Data allows you to choose ballot templates, view ballot previews, and lock the election data so that it may be opened in Verity Build.

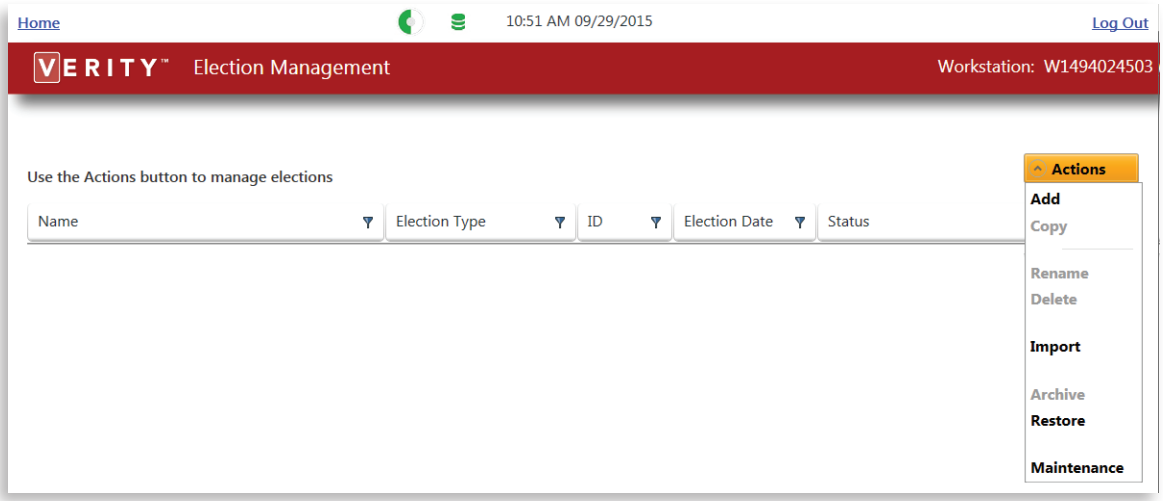


getting started with Verity Data

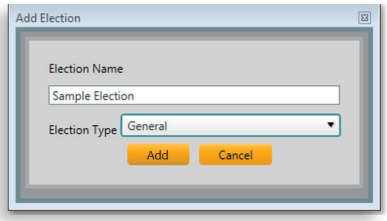
adding a new election on the Data workstation

To open an election in Verity Data, you first must create the election in the Election Management application on that workstation.

NOTE: *Election Management is available only on server workstations*



1. If you have already launched Verity Data, click the **Home** link in the upper left corner to return to the Verity Desktop.
2. On the Verity home screen, click the Manage tile.
3. In the Election Management application, click **Actions**.
4. Select **Add** from the Actions drop-down menu.
5. Type an Election Name (you can change this later, if needed), and choose an Election Type (General, Closed Primary, or Open Primary). Click **Add**. ▶



6. Click **Home** in the upper left corner to return to the Verity Home screen

getting started with Verity Data, *continued*

about election status

The election status is indicated in the Election Management application, and in each Verity software component. There are three possible election statuses:

Open for Editing: The election is in the process of being created and can be edited in Verity Data.

Locked for Export: The election has been locked from further edits in Verity Data and is now ready to open in Verity Build.

Accepted: The election has been proofed in Verity Build and you can now print ballots and create vDrives and Keys. The election is now ready for export to Verity Central and/or Count.

Verity Central and Count require a signed election export from the Build workstation (the process for creating a signed export is discussed on page 196). The act of creating a signed export on the Build workstation creates the election definition. Importing a signed export on a Central or Count workstation requires the user to insert a Verity Key for that election (created in Build) and also enter the Verity Key application password.

The staging feature (discussed on page 155) allows you to create multiple versions of the same election (the election status is independent of the election version).

opening the Data application

Log into the Verity Data workstation. On the Verity home screen, click the Data application tile to open Verity Data. The Data application contains four tabs: Select Election, Edit Data, Preview Ballots, and Lock Election Data.

using on-screen help

Help is available on every screen of the Verity Data application; it will contain information related to the current screen, including instructions, notes, and important information regarding the steps you must complete on that screen.

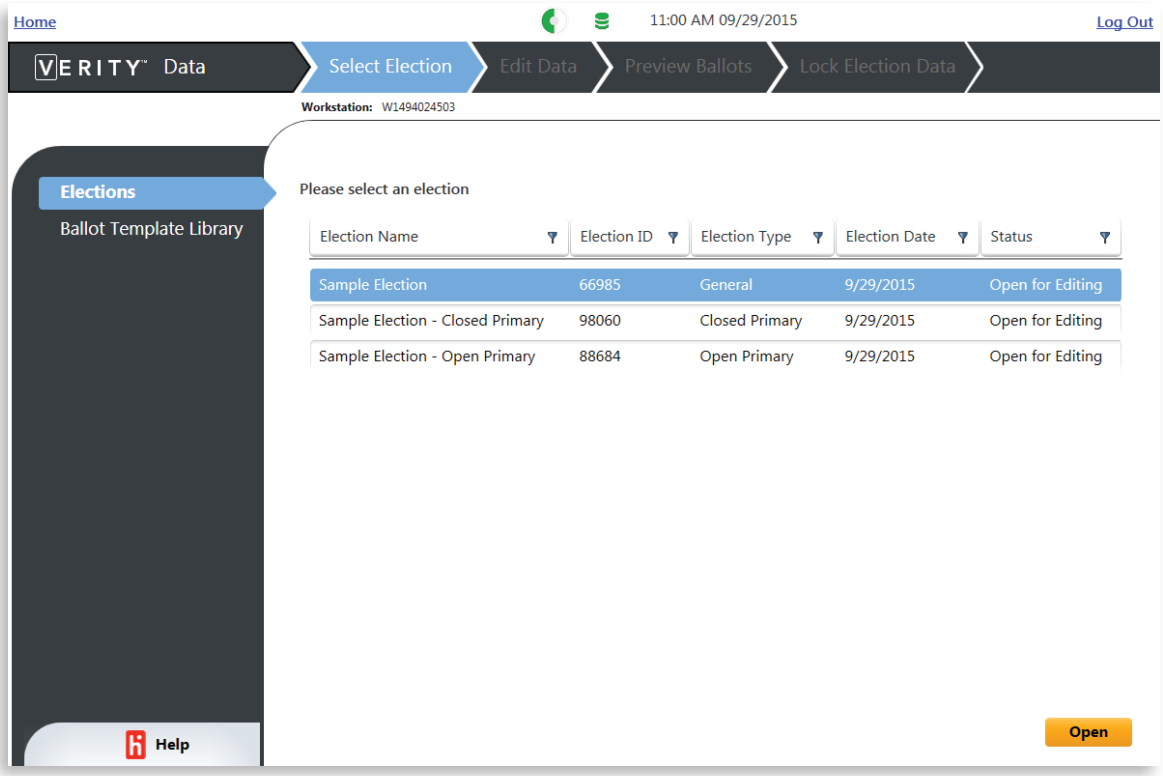
1. Click the tab labeled Help at the bottom left of the screen to expand the help tab.
2. The help tab will display information about the current screen.
3. Click the **x** in the upper right corner of the help tab to close the tab.

selecting and opening an election

Under the Select Election tab, you will choose the election you would like to work on. Remember that an election must be added in the Election Management application on the Data workstation before it will be available to edit in Verity Data (see page 91). Only elections in an Open for Editing status can be opened in Verity Data. The following menus are available in the Select Elections tab:

Elections: Select and open an election.

Ballot Template Library: Browse and import ballot templates for use with Verity Data



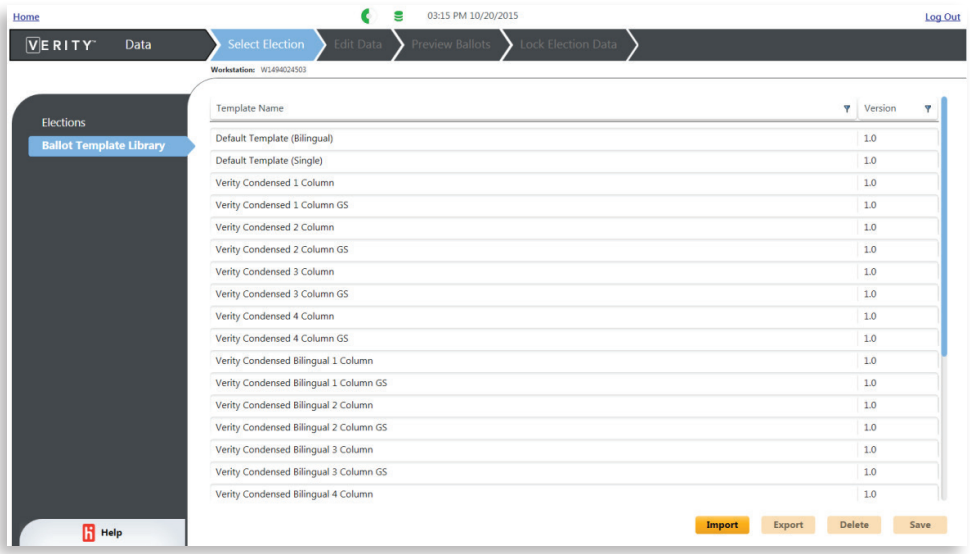
selecting and opening an election

1. Click the **Select Election** tab, if you are not already there.
2. Click to select the election you need to work with from the list.
3. Click **Open** in the bottom right of the screen.

selecting and opening an election, *continued*

the ballot template library

The ballot template library provides a place to view ballot templates currently available for use in Verity Data, and to import additional templates. Verity Data arrives pre-loaded with several ballot templates; additional templates may be available from Hart in the future.



To import additional templates:

1. Insert a USB drive containing the new ballot template(s).
2. Click the **Select Election** tab.
3. Select the **Ballot Template Library** menu.
4. Click **Import** on the bottom right of the screen.
5. Browse to the location of the new template on your removable USB drive. Select the template and click **OK**.

You may also **Export** a selected template to removable USB media, or **Delete** a selected template. Deleting a template from the Ballot Template Library permanently removes that template, and cannot be undone.

entering and editing election data

Under the Edit Data tab, you will enter and edit data relating to the election, jurisdiction, contests and choices, and ballot headers and instructions. You will also create ballot translations and record ballot audio. Finally, you can import formatted data from outside sources, or export data from your current election. The following menus are available in the Edit Data tab:

Election: Enter and edit election data, including voting types and parties.

Jurisdiction: Enter and edit jurisdictional data, including precincts, districts and polling places.

Contests: Enter and edit contests and ballot choices/candidates, and set ballot rotation.

Ballot Data: Create ballot instructions, headers and ballot stubs, and set ballot order.

Translations: Enter ballot translations for multi-language ballots.

Audio: Record ballot audio for Verity Touch Writer and Verity Reader.

Import: Import data into your current election.

Export: Export data from your current election.

In Verity Data, you may enter data manually, in the Election, Jurisdiction, Contests, and Ballot Data menus. You may also use Verity Data's Import functionality to import either of the following:

- Data from newly prepared import files
- Exported data from previously archived elections

In order to import data directly using the Import menu, the files you wish to import must be correctly formatted. For information on how to correctly format data for import into Verity, and for instructions on using the Import menu, see page 128.

entering and editing election data, *continued*

using images and rich text in your ballot

Verity supports manual uploading of images via the appropriate menus under the Edit Data tab in Verity Data. You may upload images in the following menus:

- Parties
- Contest Titles
- Ballot Instructions (paper ballots)
- Additional Text
- Ballot Header
- Ballot Stub

You can find instructions for uploading images for each of these types of ballot elements under the appropriate section of this guide.

When manually typing text for ballot instructions and proposition text, you may use the built-in rich text options (bold, underline, italics, etc.) to format your text. If you have additional formatting needs, or if you want to include images within proposition text, you can use the Import functionality (see page 128).

In addition to manually uploading images and typing rich text, you may also directly import images and rich text via the Import menu. Detailed information on importing images and rich text using the Import menu is discussed beginning on page 134.

You can include images with the following import files:

- Parties
- Contest Titles
- Ballot Instructions (paper ballots)
- Additional Text

You can include rich text files with the following import files:

- Contest Titles (for proposition text)
- Ballot Instructions (paper ballots)

an important note about font and character support

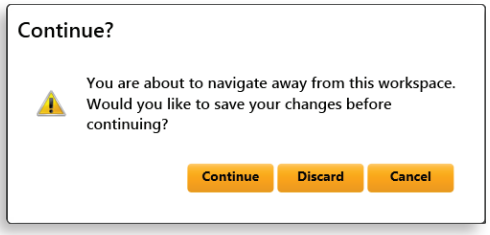
English ballots produced using the Verity system use the Segoe UI font family. Use of other fonts is not supported; if local jurisdictions require use of other fonts for ballot headers, additional text, stubs, etc., it is possible to upload such elements as images. However, please be aware that excessive use of images will increase the ballot file size, and may result in additional processing time when exporting finished ballots to PDF.

Special character support varies for certain data fields in Verity Data. For a table of character restrictions, see page 508. Note that the degree sign character (Unicode 0xB0) is only supported for ballot instruction and proposition text elements.

saving your work

While entering data for your election, you should save your progress regularly by clicking the **Save** button on the bottom right-hand corner of the screen. The save button is available whenever you have made changes or entered new data.

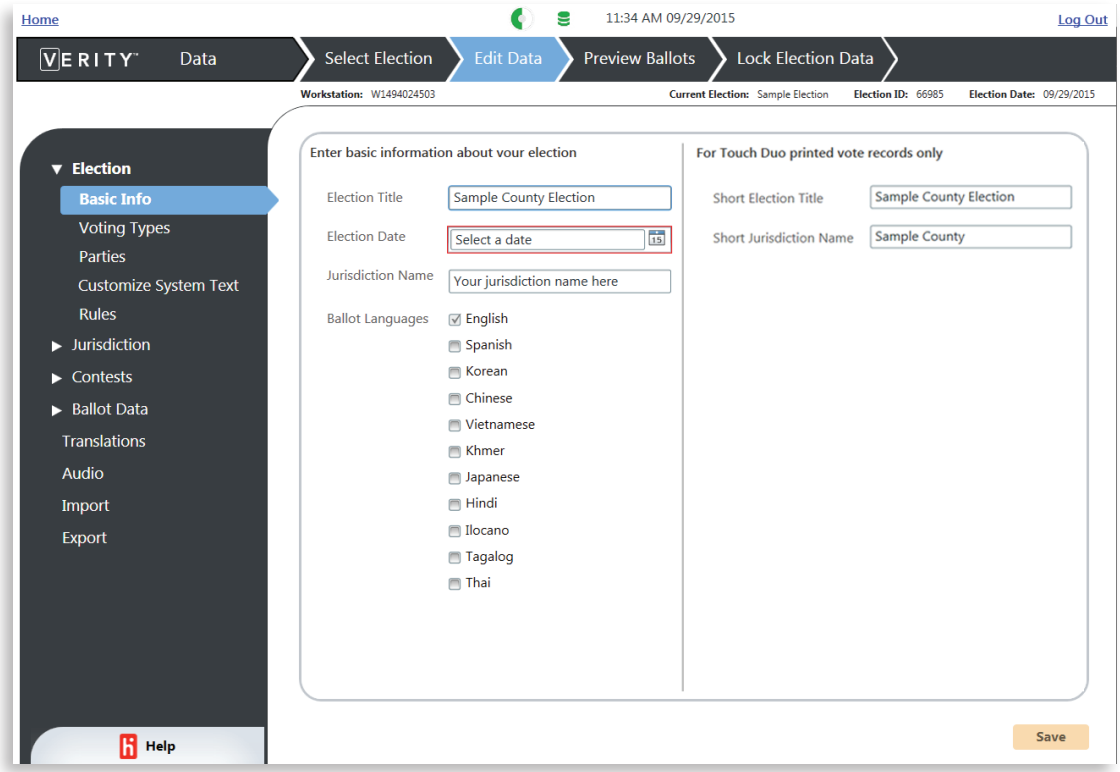
If you navigate to a new tab or menu after adding or editing data, without clicking the Save button, you will see the message shown below.



- Click **Continue** to save your data before leaving the screen.
- Click **Discard** to leave the screen and discard your changes.
- Click **Cancel** to stay on the current screen without saving.

entering election data

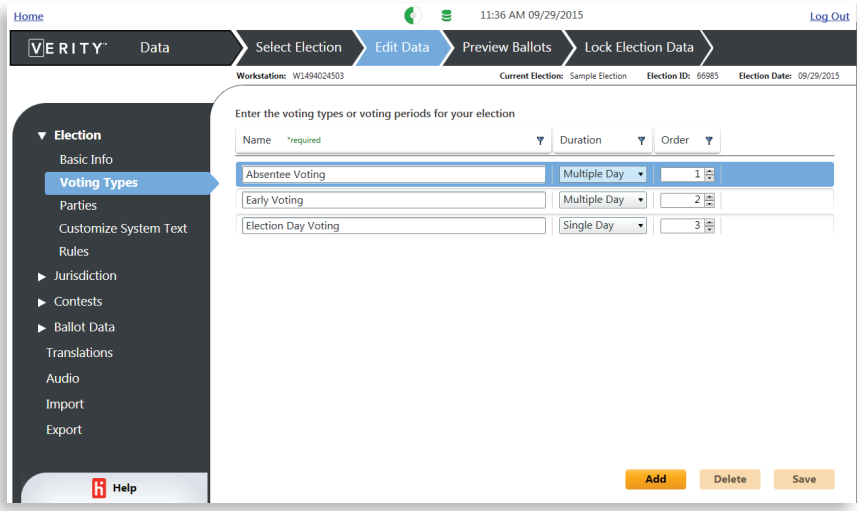
entering basic election information



1. Select the **Edit Data** tab.
2. Under the **Election** menu, select **Basic Info**.
3. Enter the **Election Title** (e.g., Sample County General Election, November 2015).
4. Choose the **Election Date**. This is the date of Election Day.
5. Enter the **Jurisdiction Name**.
6. Next to **Ballot Languages**, check the box next to each ballot language to be included in the election (*Up to 10 languages may be chosen from the following available languages: English, Spanish, Korean, Chinese, Vietnamese, Khmer, Japanese, Hindi, Ilocano, Tagalog, Thai*).
7. Touch Duo devices are not used in the State of California, so the Short Election Title and Short Jurisdiction Name may be left blank.
8. Click the **Save** button.

defining voting types

When you create a new election, Verity Data will automatically assign three voting types: Absentee Voting, Early Voting, and Election Day Voting. In the Voting Types menu, you may edit or delete these voting types, and/or add additional voting types. You will also assign the duration, as well as set the order in which voting types will be displayed in the Verity system and on reports.

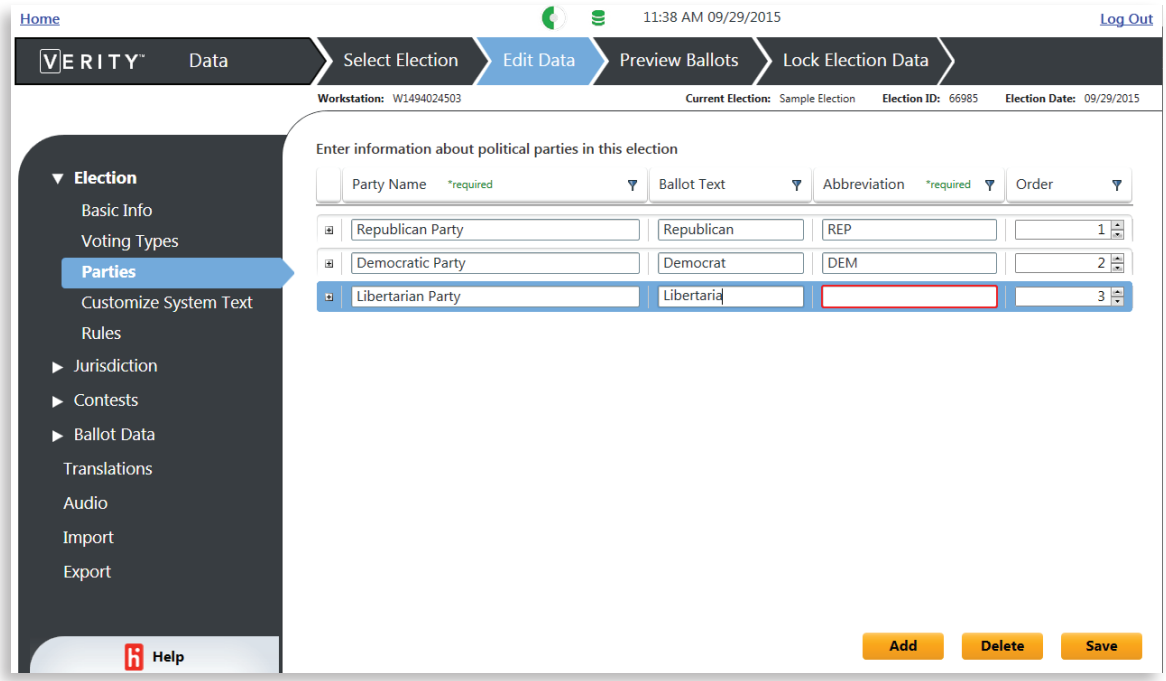


1. Select the **Edit Data** tab.
2. Under the **Election** menu, select **Voting Types**.
3. Edit the Voting Type Name(s), if needed.
4. Change the voting type duration, if needed. The voting type duration represents the length of time that voting type will be held; it can be either Multiple Day (for instance, Early Voting), or Single Day.
5. Edit the display order for each Voting Type. This setting will determine the order in which Voting Types are displayed within the Verity System, and on reports produced by Verity.
6. Add new Voting Type(s) or delete existing Voting Types, if needed.
   - To add a new Voting Type, click the **Add** button on the bottom right of the screen. Enter the Name, Duration, and Order for the new Voting Type.
   - To delete an existing Voting Type, select the Voting Type you wish to delete (the selected item will be highlighted in blue), and then click the **Delete** button on the bottom right of the screen. Click **Yes** to confirm.
7. Click the **Save** button.

entering and editing election data, *continued*

defining political parties

When you create a new election, Verity Data will automatically define two political parties: Republican and Democratic. For Primary Elections, a nonpartisan party is included. In the Parties menu, you may edit or delete these political parties, and/or add additional parties. You will assign the Party Name, Ballot Text (the way the party will appear on the ballot), Party Abbreviation, as well as set the order in which the parties will be displayed in the Verity system and on reports.



1. Select the **Edit Data** tab.
2. Under the **Election** menu, select Parties.
3. Edit the Party Name(s), if needed. This is what will appear in party selector contests and within the application.
4. Edit the Ballot Text, if needed. This is the party text that will appear with affiliated candidates on the ballot.
5. Edit the Party Abbreviation, if needed.

   NOTE: *Only upper and lowercase Latin alphabet characters, and the forward slash / are allowed for this field. If a forward slash is used, it must appear only as the second of three characters.*

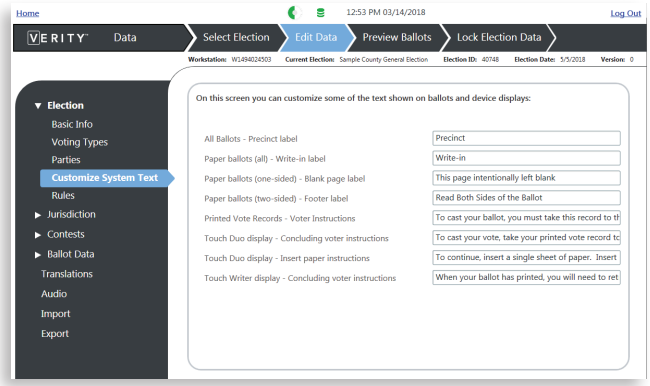
entering and editing election data, *continued*

6. Edit the display order for each Party. This setting will determine the order in which Parties are displayed within the Verity System, and on reports produced by Verity.
7. Click the **+** to expand the party. Under the Image tab, you can upload an image for the party. Select the ballot type/language on the left, click the folder icon to browse to the image you wish to upload, then click **Add**.
8. Add new parties, or delete existing Parties, as needed.
   - To add a new Party, click the Add button on the bottom right of the screen. Enter the Name, Ballot Text, Abbreviation, and Order for the new Party.
   - To delete an existing Party, select the Party you wish to delete (the selected item will be highlighted in blue), and then click the **Delete** button on the bottom right of the screen. Click **Yes** to confirm.
9. Click the **Save** button.

entering and editing election data, *continued*

customizing system text

When you create a new election, Verity Data will automatically define the text labels for common items appearing on the ballot, including the labels for Blank Pages, Precincts, Write-ins, etc. In the Customize System Text menu, you may edit these labels to meet the needs of your jurisdiction.



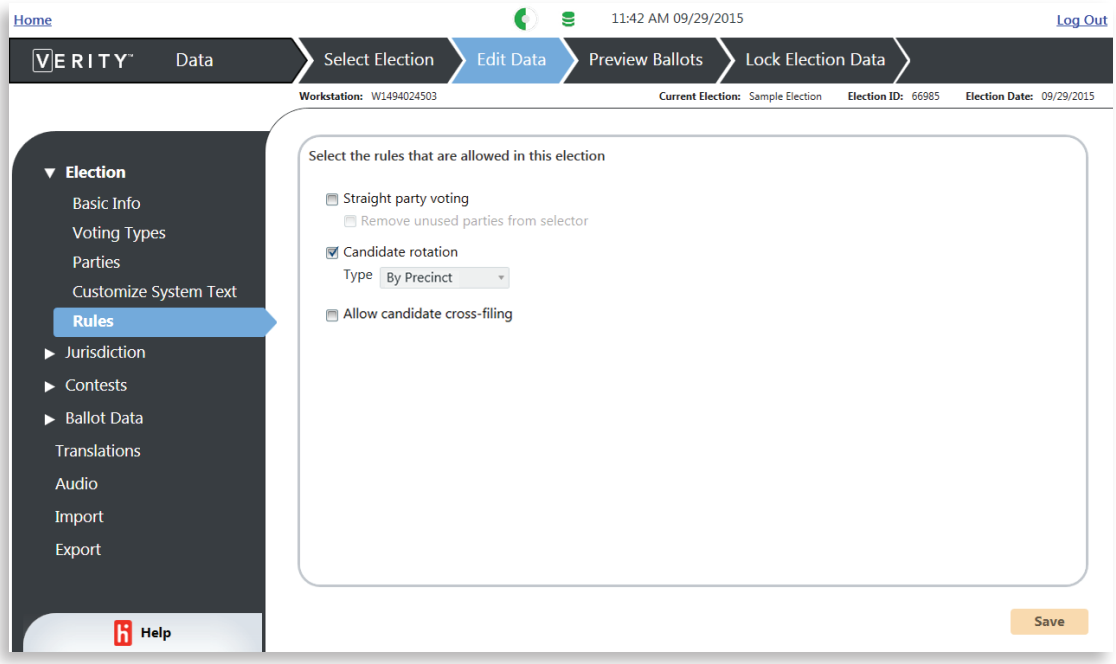
1. Select the **Edit Data** tab.
2. Under the **Election** menu, select **Customize System Text**
3. Edit the Touch Writer printing notification, Blank Page Label, Precinct Label, Read Both Sides Label, and/or Write-in Label, if needed.

   NOTE: *If custom wording is entered for the Touch Writer printing notification, you will need to record audio for this custom text (see page 126 for audio recording functionality).*

   - **All Ballots - Precinct Label: Default is "Precinct". This item will appear as a prefix to the precinct name in each ballot header.**
   - **Paper ballots (all) - Write-in label: Default is "Write-in". This item will appear before the write-in line in any contest that contains a write-in option on paper ballots. The ampersand (&) is not allowed for this field.**
   - **Paper ballots (one-sided) - Blank page label: Default is "This page intentionally left blank". This item will appear on ballot pages that do not contain contests, instructions, or ballot text (e.g., the back side of a one-sided ballot).**
   - **Paper Ballots (two-sided) - Footer label: Default is "Read Both Sides of the Ballot". This will appear at the bottom of each printed ballot page when there are instructions, contests or ballot text on both sides of the page.**
   - **Touch Writer display: Default text is shown. For display items: if custom text is used, you must record custom audio for this text. Printed Vote Records, Touch Duo display text are not relevant, since the Touch Writer Duo device is not used in the State of California.**
4. If changes were made, click the **Save** button.

setting election rules

In the Rules menu, you may set or change settings related to Straight Party voting (General Elections), Nonpartisan ballots (Closed Primary Elections), and Rotation.



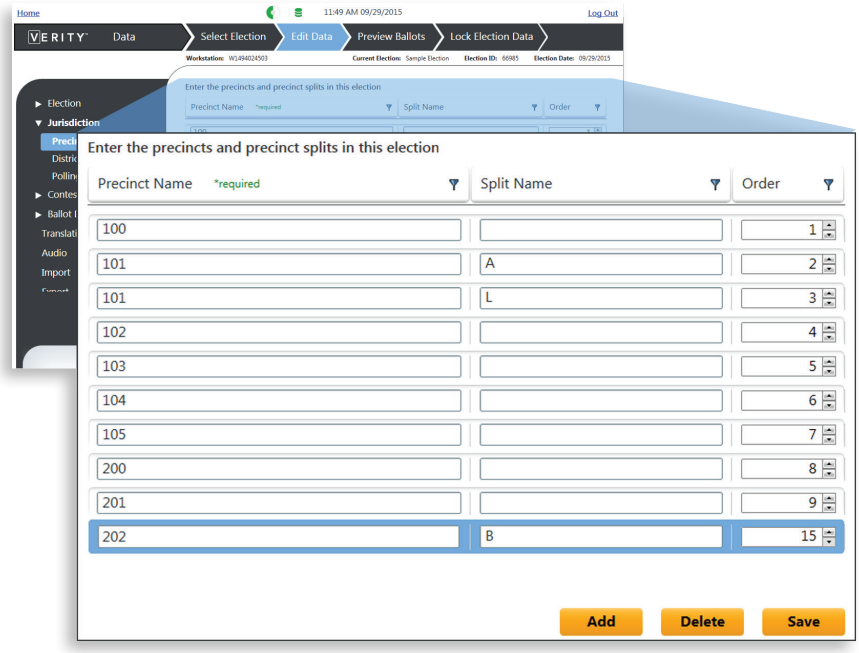
1. Select the **Edit Data** tab.
2. Under the Election menu, select **Rules**.
3. (*General Elections only*) Uncheck the box next to Straight party voting.
4. (*Closed Primary Elections only*) If your closed primary election will include non-partisan contests and/or non-partisan/crossover ballots, check the box next to **Nonpartisan ballots**.
5. Check the box next to **Candidate Rotation**, and set rotation type to **By Precinct**.
6. If your jurisdiction allows cross-filing, check the box next to **Allow candidate cross-filing**.
7. Click the **Save** button.

entering and editing election data, *continued*

entering jurisdiction data

Under the Jurisdiction menu, you can define precincts, districts, and polling places. You can also associate the precincts to districts and polling places.

entering precinct information



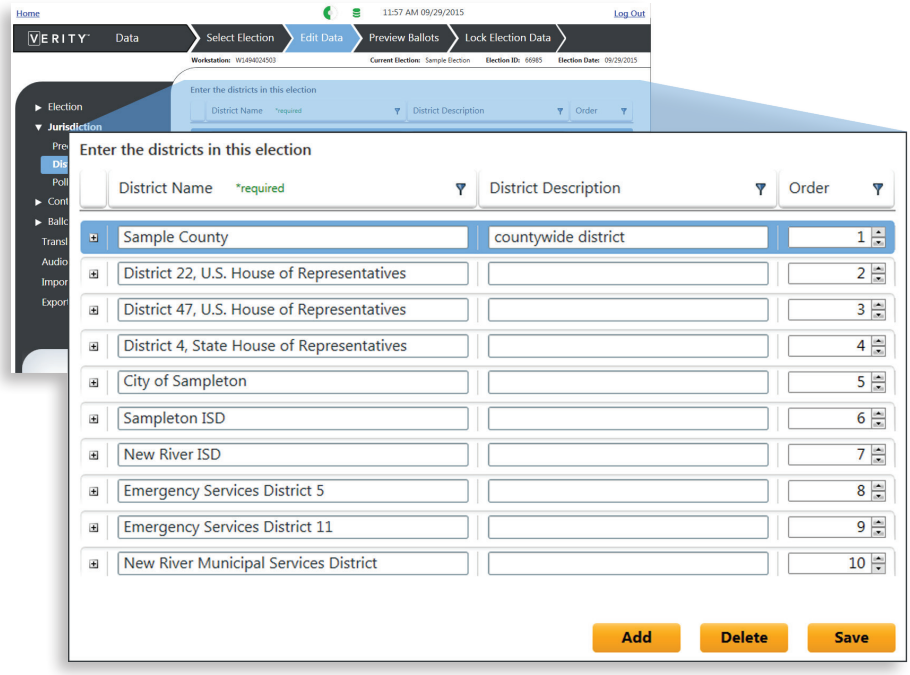
1. Select the **Edit Data** tab.
2. Under the Jurisdiction menu, select **Precincts**.
3. To add a precinct, click the **Add** button on the bottom right of the screen.
4. Enter the Precinct Name and Split Name for each precinct.

   NOTE: *The following characters are not allowed for these fields: % $ / * : °*

   NOTE: *You may also delete an existing precinct. Select the precinct you would like to delete (the selected item will be highlighted in blue), and then click the* **Delete** *button on the bottom right to delete that precinct.*
5. Edit the display order for your precincts, if needed. This setting will determine the order in which Precincts are displayed within the Verity System, and on reports produced by Verity.
6. Click the **Save** button.

entering district information

A district is a group of precincts; using districts can make the process of associating precincts with contests easier, and is required in order to generate post-election District reports. You must be sure to enter all districts for which you are required to generate reports.



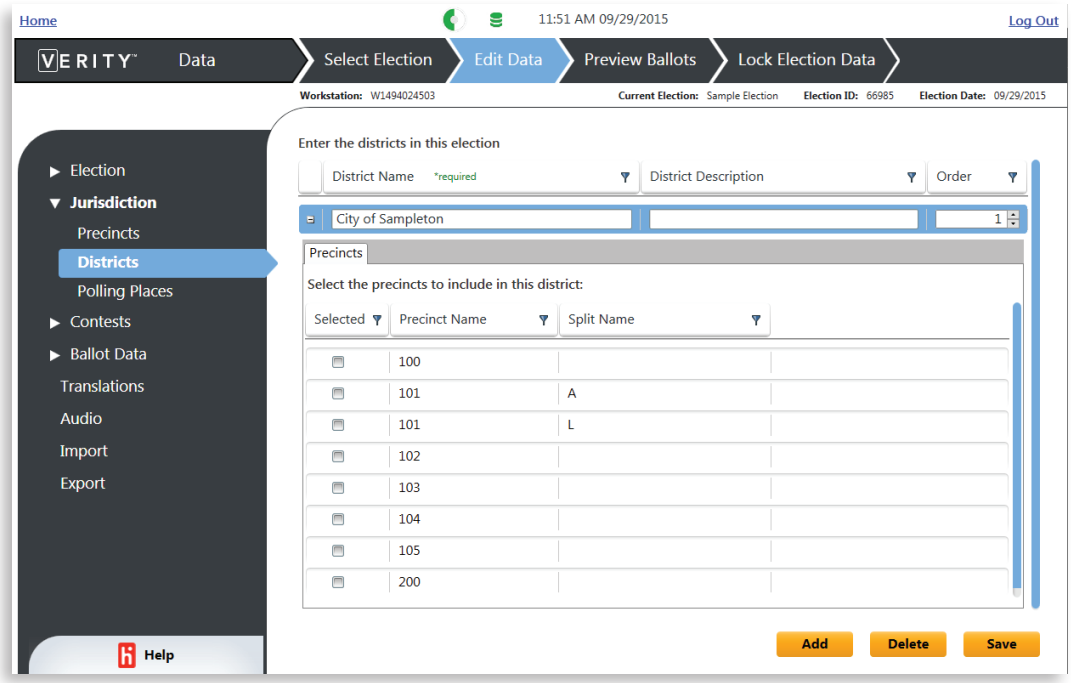
1. Select the **Edit Data** tab.
2. Under the **Jurisdiction** menu, select **Districts**.
3. To add a district, click the **Add** button on the bottom right.
4. Enter the **District Name** for each district. You may also enter a **District Description**, if needed.

   NOTE: *You may also delete an existing district. Select the district you would like to delete (the selected item will be highlighted in blue), and then click the* **Delete** *button on the bottom right to delete that district.*
5. Edit the display order for your district, if needed. This setting will determine the order in which Districts are displayed within the Verity System, and on reports produced by Verity.
6. Click the **Save** button.

entering and editing election data, *continued*

associating precincts with districts

After creating your districts, you will need to associate your precincts with those districts.

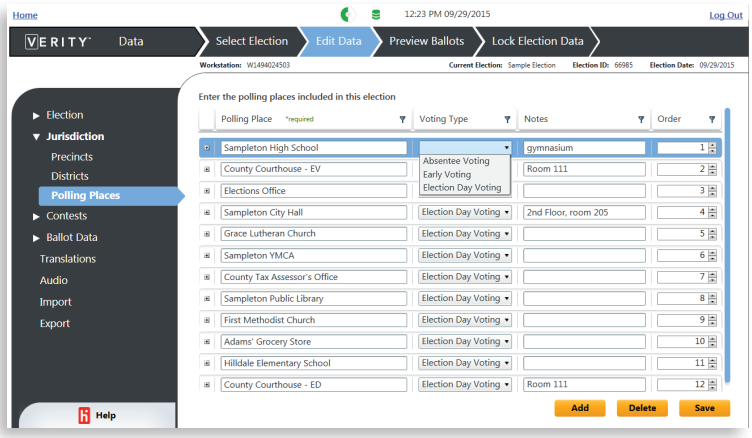


1. Select the **Edit Data** tab.
2. Under the **Jurisdiction** menu, select **Districts**.
3. Click an existing district to associate precincts to that district. The selected district will be highlighted in blue, and a Precincts tab will appear below it.
4. In the **Precincts** tab under the selected district, check the box next to a precinct to associate it with that district.

   NOTE: *You may associate multiple precincts with each district.*
5. Click the **Save** button to close the Precincts tab and return to the districts list.
6. Repeat steps 3-5 for each district; when you have finished, click the **Save** button.

entering polling place information

In the Polling Places menu, you will enter your Polling Place names, assign a voting type to each polling place, and set the polling place display order.



1. Select the **Edit Data** tab.
2. Under the **Jurisdiction** menu, select **Polling Places**.
3. Click **Add** to add a new polling place.

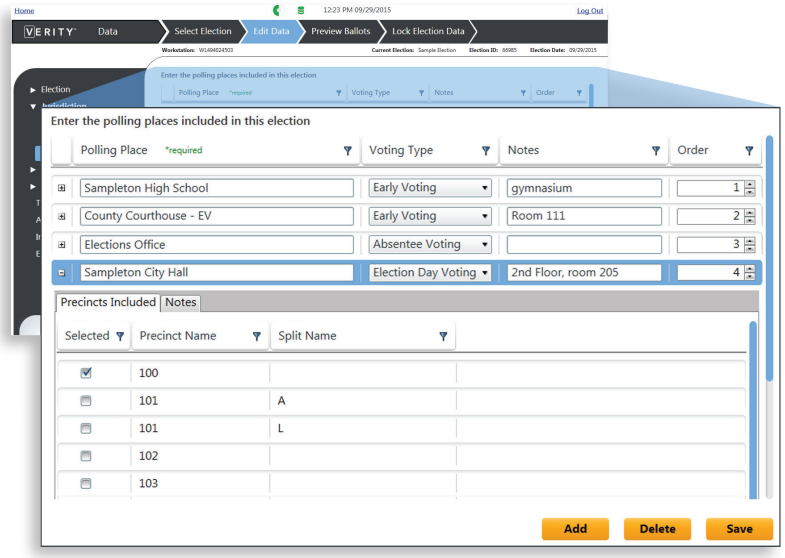
   NOTE: *You may also delete an existing polling place. Select the polling place you would like to delete (the selected item will be highlighted in blue), and then click the* **Delete** *button on the bottom right to delete that polling place.*
4. Enter the name for each polling place in the **Polling Place** column.
5. Assign a voting type to each polling place in the **Voting Type** column.

   NOTE: *If you have multiple voting types occurring at a single location, create separate polling places for each voting type. For example, "City Hall" could be assigned to the Election Day voting type, and "City Hall - EV" could be assigned to the Early Voting voting type.*
6. You may enter **Notes** for a polling place, if desired (e.g., floor/room #).
7. (*Closed Primary Elections only*) In the **Party Name** column, select the parties that will be participating at each polling place. You may select multiple parties for a single polling place.
8. Edit the display order for your polling places, if needed. This setting will determine the order in which polling places are displayed within the Verity System, and on reports produced by Verity.
9. Click the **Save** button.

entering and editing election data, *continued*

associating precincts to polling places

You will use the Polling Places menu to associate the precincts you have created with your polling places.



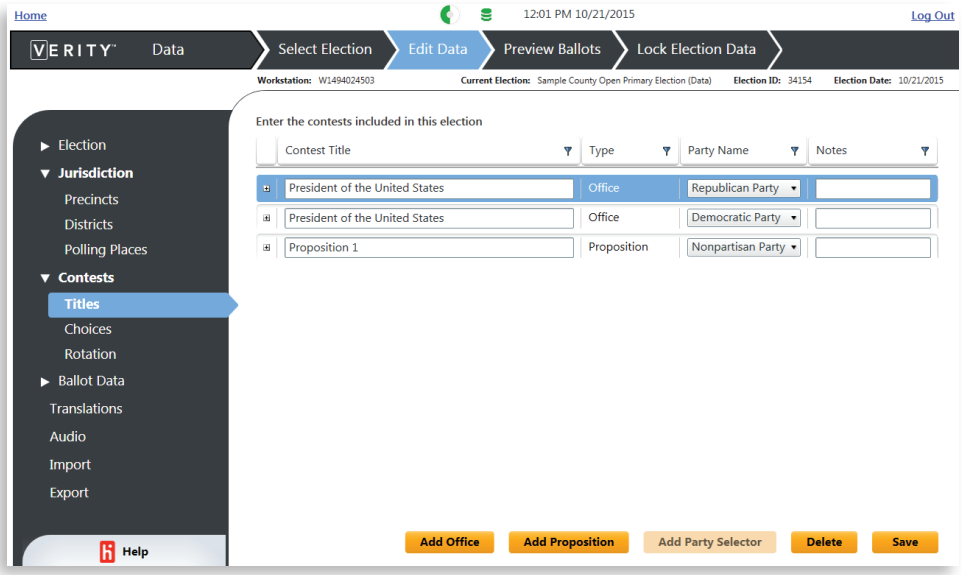
1. Select the **Edit Data** tab.
2. Under the **Jurisdiction** menu, select **Polling Places**.
3. Click an existing polling place to associate precincts to that polling place. The selected polling place will be highlighted in blue, and a Precincts Included tab will appear below it.
4. In the **Precincts Included** tab under the selected polling place, check the box next to a precinct to associate it with that polling place.
   - Use SHIFT+click to select multiple adjacent items
   - Use CTRL+click to select multiple non-adjacent items
   - To check or uncheck the check boxes for all selected items, press the space bar

   NOTE: *You may associate multiple precincts with each polling place, and associate a precinct with multiple polling places.*
5. You may click the **Notes** tab to view or enter any notes for that polling place, if desired.
6. Click the **Save** button to close the Precincts tab and return to the list of polling places.
7. Repeat steps 3-6 for each polling place and click **Save** when finished.

entering contest data

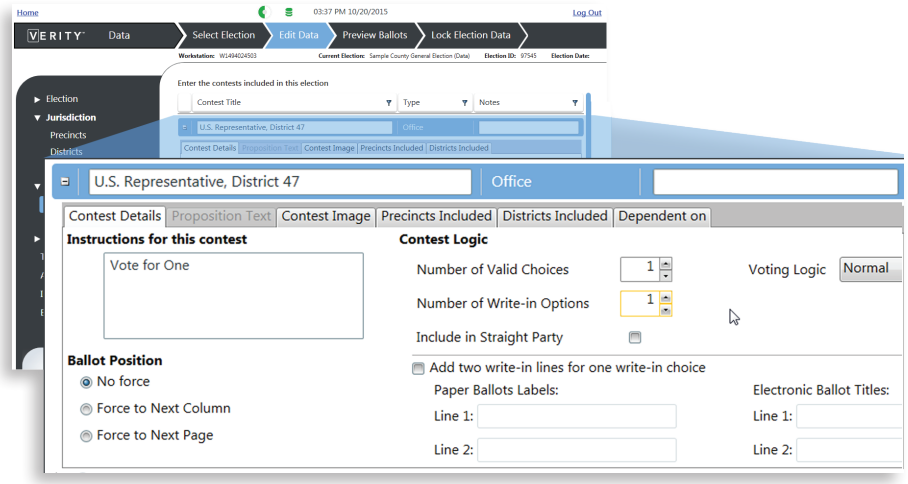
entering contests (contest titles)

In the Titles menu, you will enter contests for your election, including offices and propositions.



1. Select the **Edit Data** tab.
2. Under the **Contests** menu, select **Titles**.
3. Add a contest. There are three types of contests:
   - Click the **Add Office** button to add a contest for an Office.
   - Click the **Add Proposition** button to add a Proposition contest.
   - The **Add Party Selector** button adds a party selection contest. This type of contest is not used in the State of California.
4. Enter the **Contest Title** for each contest in the left-hand column. The contest type you chose in step 3 is shown in the second column.
5. (*Primary Elections only*) Under the **Party Name** column, associate the contest with a party by choosing the party name from the drop-down menu.
6. Enter Notes for each contest in the right-hand column, if desired.
7. Click the **Save** button.
8. Click a contest. The selected contest will be highlighted in blue, and a series of tabs will appear below it.

entering and editing election data, *continued*



9. Under the **Contest Details** tab, enter the instructions for that contest (for example, 'Vote for One').

10. Make additional contest settings in the Contest Details tab:

A) Edit the **Ballot Position:** You may select whether the contest shall be forced to the next column of the ballot, or to the next page.

B) Set the **Number of Valid Choices**: This number represents the number of valid choices a voter may make for that contest. In a 'Vote for One' contest, the number should be 1.

C) Set the **Number of Write-in Options** (Office contests only). This number represents the number of write-in lines that will appear on the ballot for that contest.

- For certain jurisdictions, you may also specify whether to include two separate write-in lines for a single choice (e.g., a separate line for President and Vice-President), and define custom labels for each line that only apply to this contest.

D) Set the **Voting Logic** (Office contests only). Available options are: Normal, Cumulative, Fractional Cumulative, and Ranked Choice.

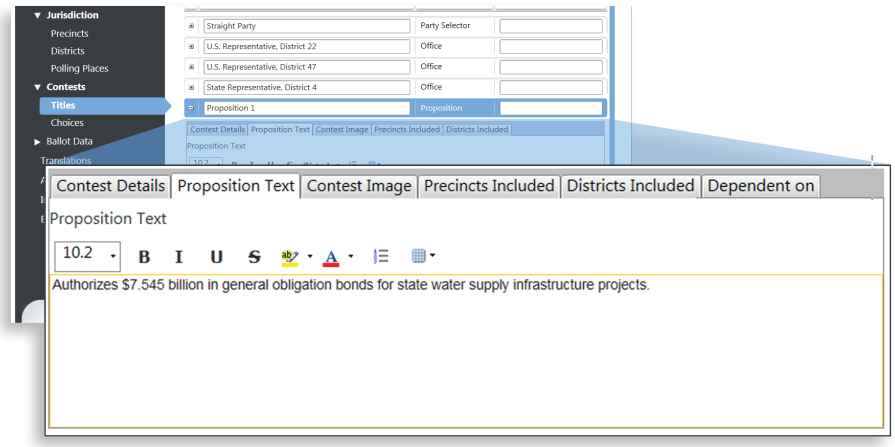
- If using Cumulative voting, the Number of Valid Choices must be greater than 2.
- If using Ranked Choice voting, there will not be an option to set the number of valid choices.

E) *(Closed Primary Elections only)* If required, check the box next to **Allow non-partisan voting on this contest**. This option is available if Nonpartisan Ballots is enabled in Election Rules (page 103); checking this box creates crossover ballot styles.

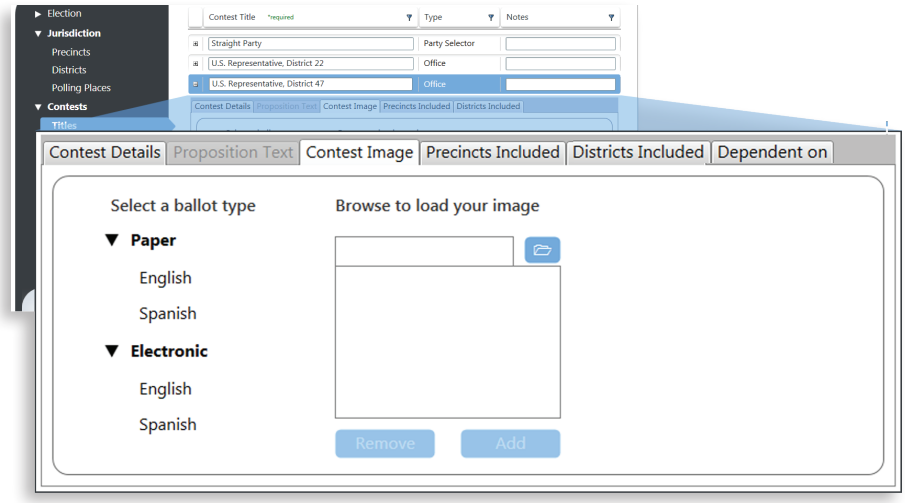
F) Check the box next to **Include in Rotation** [Office contests only; not available if using Cumulative/Ranked Choice voting, or if Rotation was not enabled under Election Rules (page 103).]

G) Touch Writer Duo is not used in California, so the short contest title may be left blank.

entering and editing election data, *continued*

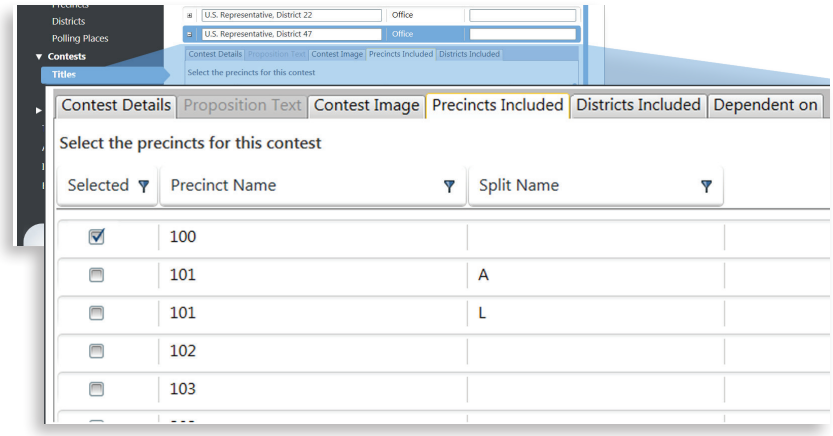


11. If you are editing a Proposition contest, the **Proposition Text** tab will be available. Under this tab, enter the text of the proposition. You may use the text formatting buttons (bold, italics, underline, strike-through, etc.), if desired.



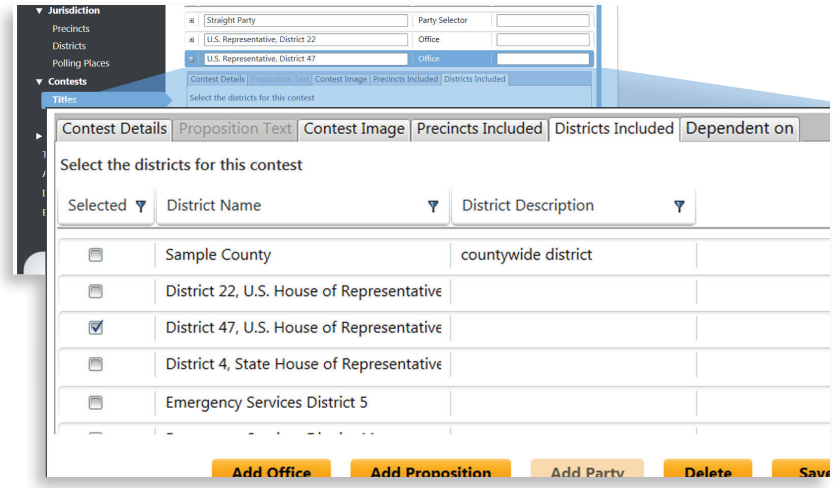
12. Under the **Contest Image** tab, you may upload an image. You may upload a separate contest image for each Language and/or format (Paper or Electronic). Select the ballot type/language on the left, click the folder to browse to the image you wish to upload (from USB media), then click **Add**.

entering and editing election data, *continued*



13. Under the **Precincts Included** tab, you may associate precincts to the contest. Check the box next to a precinct to associate the precinct with that contest. If you have defined districts, and associated your precincts with those districts, you may skip this step and assign your districts to each contest.

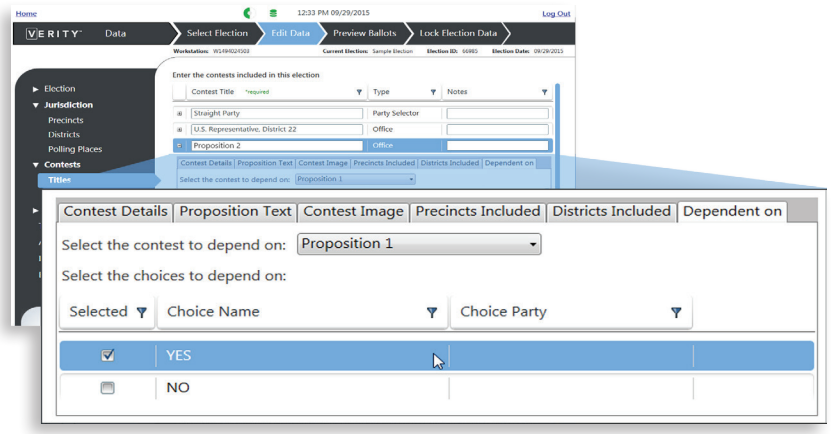
NOTE: *You may associate multiple precincts with each contest.*



14. Under the **Districts Included** tab, you may associate the appropriate districts to the contest. Check the box next to a district to associate the district with that contest. If you aren't using districts, or if you've already associated all your precincts and contests in the previous step, you may skip this step.

NOTE: *You may associate multiple districts and precincts with each contest.*

entering and editing election data, *continued*



15. Under the **Dependent on** tab, you can make the current contest dependent on a previously entered contest. For the purposes of explanation, the contest that depends on another contest is called the "dependent" contest. The contest that triggers the dependent contest is called the "determining" contest: For more information on dependent contests, see page 114.

    A) Click the drop-down menu to choose which contest will be the determining contest.

    B) For the determining contest, select which option(s), when selected, will trigger the dependency.

! IMPORTANT: In order to assign dependency, you must first enter choices for the determining contest (see page 115).

16. Click the **Save** button to save your progress and return to the list of contests.

multiselect functionality in Verity

- Use SHIFT+click to select multiple adjacent items
- Use CTRL+click to select multiple non-adjacent items
- To check or uncheck the check boxes for all selected items, press the space bar

how dependent contests work

For the purposes of this explanation, the contest that depends on another contest is called the "dependent" contest. The contest that triggers the dependent contest is called the "determining" contest:

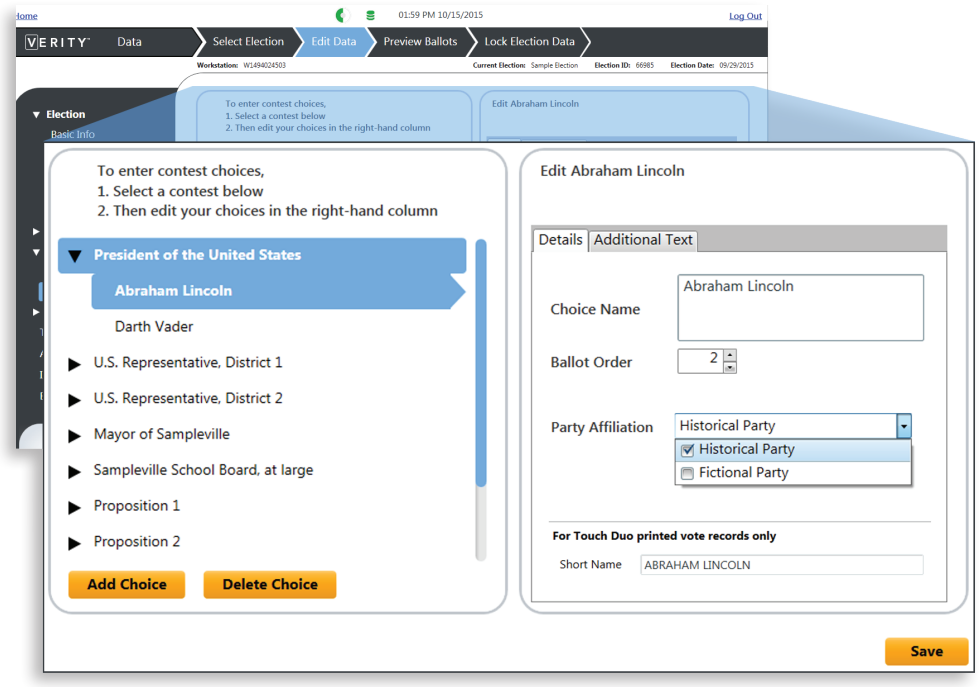
- Verity allows you to select *which* choice or choices made in the determining contest will activate the dependent contest. You can select one or more choices.
- On Touch Writer, the dependent contest will not appear on the voter's ballot unless the voter has made the proper choice (or choices) in the determining contest.
- On paper ballots, both the determining contest and dependent contest will appear; Verity will record any selections made in dependent contests, where the voter did not also make the proper selection(s) in the determining contest, as "Invalid". Invalid selections will not be counted (see also page 374).

The following is an example of a determining contest (Contest 1) with a dependent contest (Contest 2). In this example, Contest 1 asks the voter to choose whether a politician should be recalled from office (YES), or not (NO). Contest 2 asks the voter to choose a successor to the recalled politician.

- In Contest 1, if the voter chooses YES:
  - Any selections made in Contest 2 are recorded.
  - If the voter makes no selections in Contest 2, their choice in Contest 1 is still recorded.
- In Contest 1, if the voter chooses NO:
  - On Touch Writer, Contest 2 is skipped.
  - On a paper ballot, any selections made in Contest 2 will be recorded as "Invalid".

entering contest choices

In the Choices menu, you will enter the choices (options) that voters will have for each contest that you created. You will enter choices for Office and Proposition contests.



1. Select the **Edit Data** tab.
2. Under the **Contests** menu, select **Choices**.

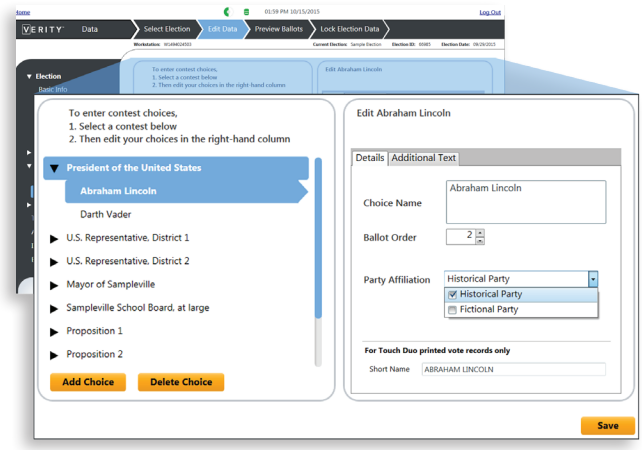
The choices menu consists of two panes:

A) You will add new choices or select existing choices to edit in the left-hand pane.

B) You will enter or edit choice data for the choice you have selected in the Edit pane on the right-hand side of the screen.

entering and editing election data, *continued*

3. Enter choice data for Office contests. If you do not have any Office contests, skip to step 4.



A) A list of contests appears in the left pane. To add an Office choice, click the Office contest and then click **Add Choice**, or select an existing choice to edit that choice.

B) In the Edit pane, enter the **Choice Name** under the Details tab.

C) Set the **Ballot Order** for the choice. This is the order the choice will appear on the ballot. If you are using Rotation, this is the base order.

D) If applicable, set the **Party Affiliation** for the choice. For non-partisan contests/ candidates, you will not select a party.

E) Click the **Additional Text** tab to add additional lines of text associated with the choice (designation, etc.).

F) The Touch Duo is not used in CA, so the short choice name may be left blank.

G) Click **Save** on the bottom right.

H) Click **Add Choice** on the bottom left to add another choice to the contest.

4. Enter choice data for Proposition contests. If you do not have any Proposition contests, skip to step 5.

A) A list of contests appears in the left-hand pane. To add a Proposition choice, click the black arrow next to the Proposition contest and then click **Add Choice**, or select an existing choice to edit that choice.

B) In the Edit pane, enter the **Choice Name** under the Details tab. For Proposition Contests, choices are typically YES, NO, FOR, AGAINST, etc.

C) Set the **Ballot Order**. This is the base order the choices will appear on the ballot.

D) If applicable, set the **Party Affiliation** for the contest (*Primary Elections only*).

E) Click **Save** on the bottom right.

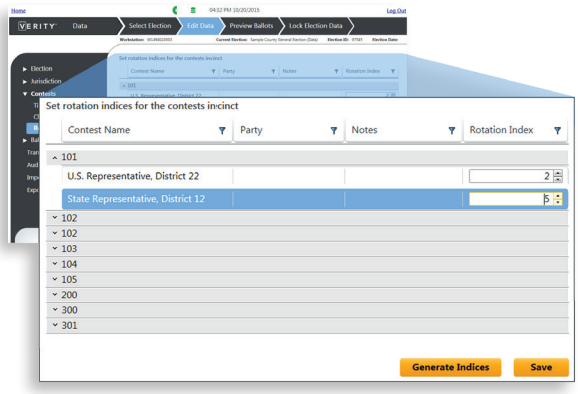
F) Click **Add Choice** on the bottom left to add another choice to the contest.

5. Click the **Save** button.

setting ballot rotation

Ballot rotation is used to vary the order of choices within contests on the ballot, by precinct or precinct-split (the rotation level is set under the Rules menu; see page 103). Although the Rotation menu allows you to manually set rotation indices, you will instead generate your rotation indices using a rotation index calculator, and then import the finished rotation index using Verity's Import functionality (see page 134). The contest precinct/split rotation import file format can be found in Appendix A, on page 500.

If you are using a rotation index calculator to generate the indices, you do not need to manually input data in the Rotation menu. Simply import the resulting file using Verity's Import functionality.



! IMPORTANT: Clicking the "**Generate Indices**" button will clear any imported rotation settings—do not click this button when working with a live election.

To import calculated indices, you must first create the rotation index using your rotation index calculator, and save to removable USB media. (The format must match the format of the contest precinct/split rotation file, described on page 500.) Then, in Verity Data:

1. Under the Edit Data tab, select the **Import** menu.
2. Select **Contest Precinct Split Rotation** from the list.
3. Click **Import**.
4. Browse to locate the file on your external USB drive, then click **OK**.
5. Choose **Replace** to replace any existing data.
6. A confirmation message will appear; click the **x** to close the window.

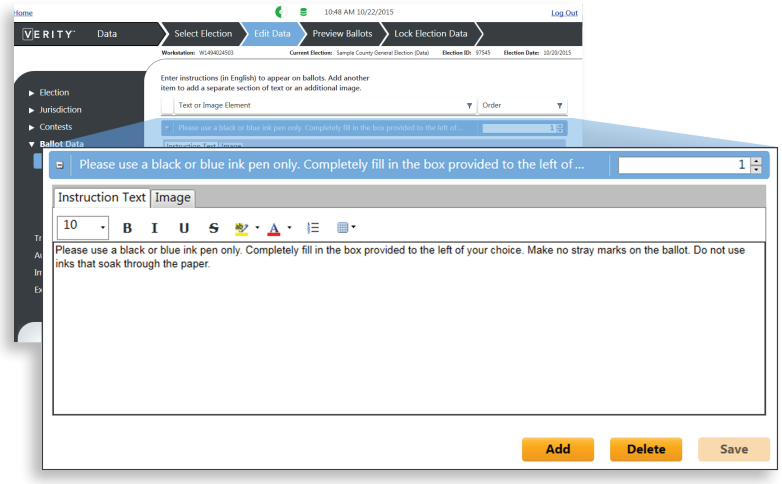
entering and editing election data, *continued*

entering ballot data

In addition to contests, you will also need to enter data for other elements on the ballot. This may include ballot instructions, additional text, the ballot header, and/or the ballot stub. You will also need set the order for all ballot elements, including contests.

entering paper ballot instructions

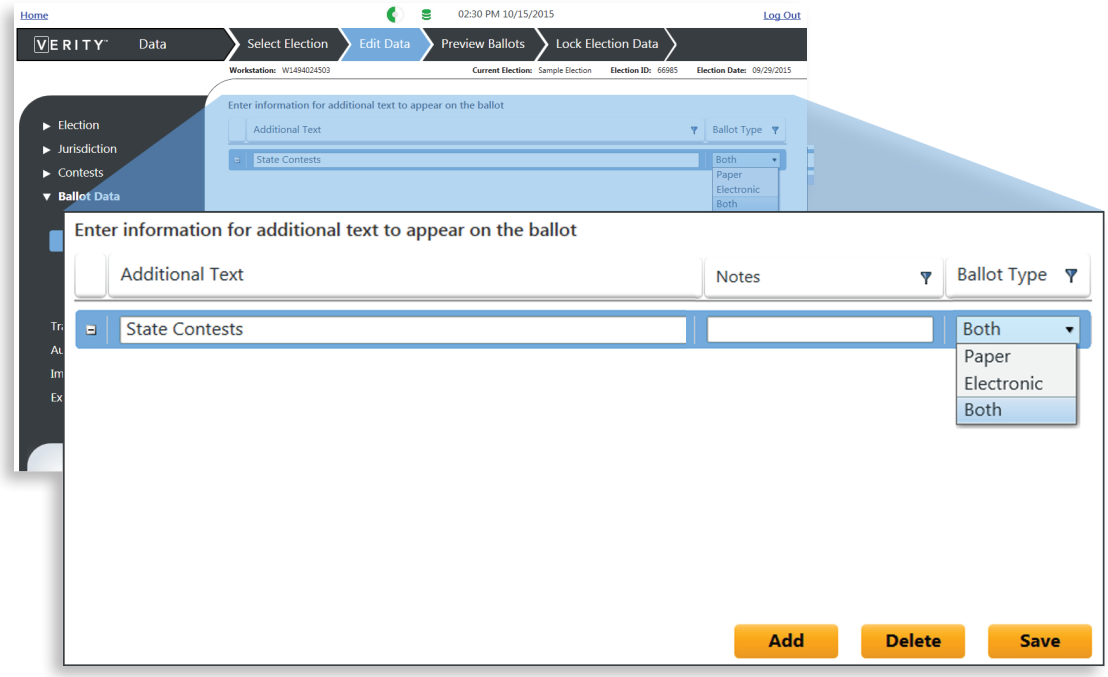
The Ballot Instruction menu allows you to enter ballot instruction text and images for paper ballots.



1. Select the **Edit Data** tab.
2. Under the **Ballot Data** menu, select **Ballot Instruction**.
3. Click **Add** to add a ballot instruction.
4. Click the **+** to expand the ballot instruction and enter your instruction text. You may change the font size, and use the rich text formatting options for bold, italic, underline, and strike-through text. You may also change the text highlight color and text color, as well as add numbered lists and tables.
5. Click the **Image** tab to upload an image to a ballot instruction. Select the ballot type on the left, click the folder icon to browse to the image you wish to upload (from USB media), then click **Add**.
6. To add additional instruction elements or images, click the **Add** button.
7. Click the **Save** button.

entering additional text

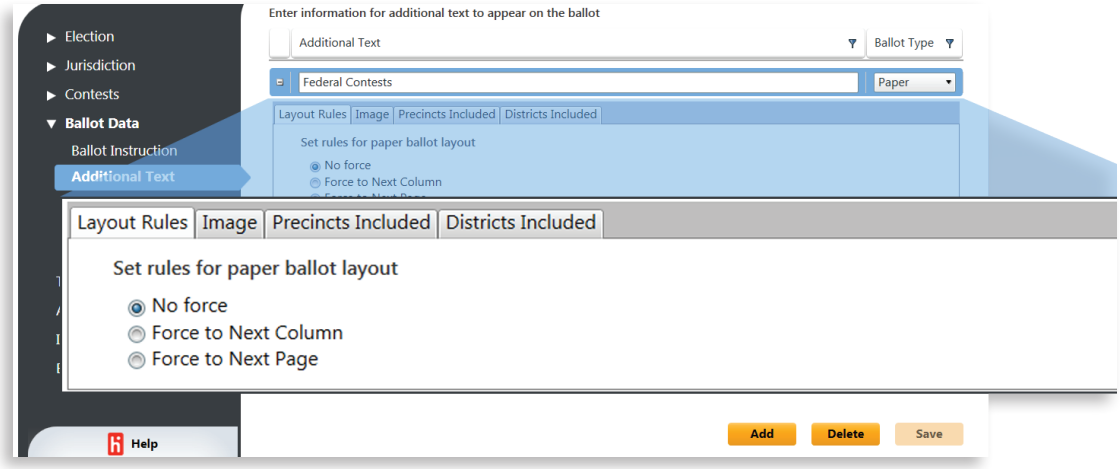
Using the Additional Text menu, you can add additional text elements to the ballot (such as sub-headers).



1. Select the **Edit Data** tab.
2. Under the **Ballot Data** menu, select **Additional Text**.
3. Click **Add** to add an additional text element.
4. Under the **Additional Text** column, type the text you would like to appear.
5. Under the **Notes** column, add notes for the Additional Text element, if desired.
6. Under the **Ballot Type** column, choose whether the additional text should appear on paper ballots, electronic ballots, or both.
7. *(Primary Elections only)* Under the Party Association column, choose which partisan ballot styles will include the element (including crossover ballots, if applicable).
8. Click the **+** to expand the additional text element window and make additional settings.

entering and editing election data, *continued*

There are four tabs of additional settings available for each Additional Text element:



A) Under the **Layout Rules** tab, you may choose whether to force the additional text element to a new column or new page on the ballot (see also page 151).

B) Under the **Image** tab, you can upload an image for the additional text element. Select the ballot type on the left, click the folder icon to browse to the image you wish to upload (from USB media), then click **Add**.

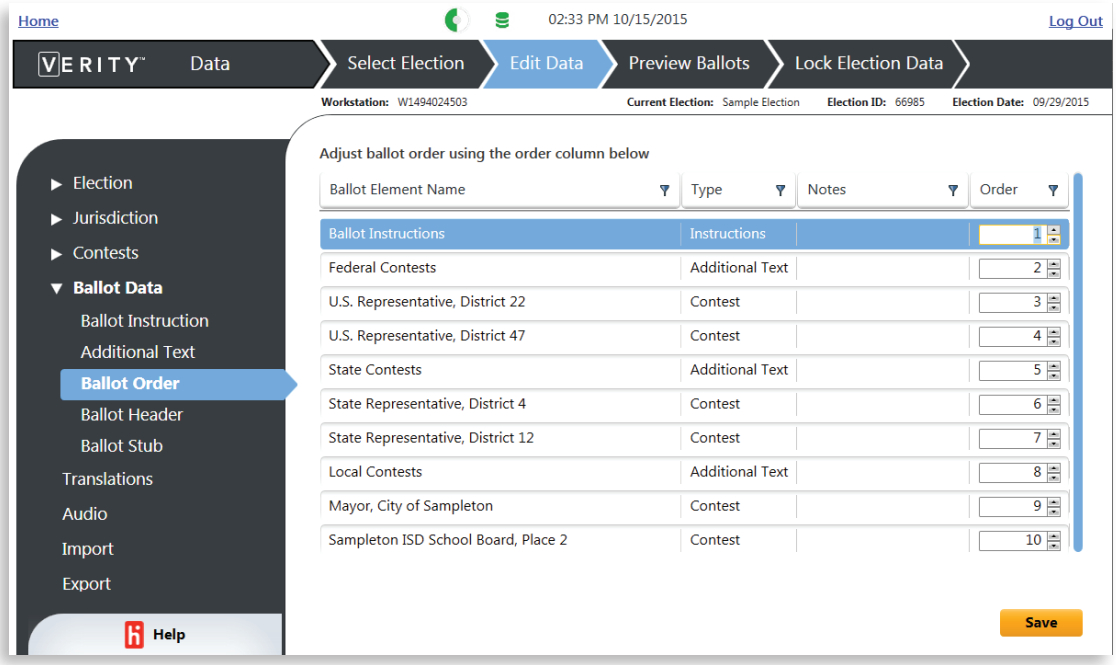
C) Under the **Precincts Included** tab, you can set which precinct(s) will include the additional text (you can skip this step if you are associating the text with Districts).

D) Under the **Districts Included** tab, you can set which district(s) will include the additional text.

8. Click the **Save** button.

setting ballot order

In the Ballot Order menu, you will set the final ballot order for all ballot instructions, contests, and additional text elements.



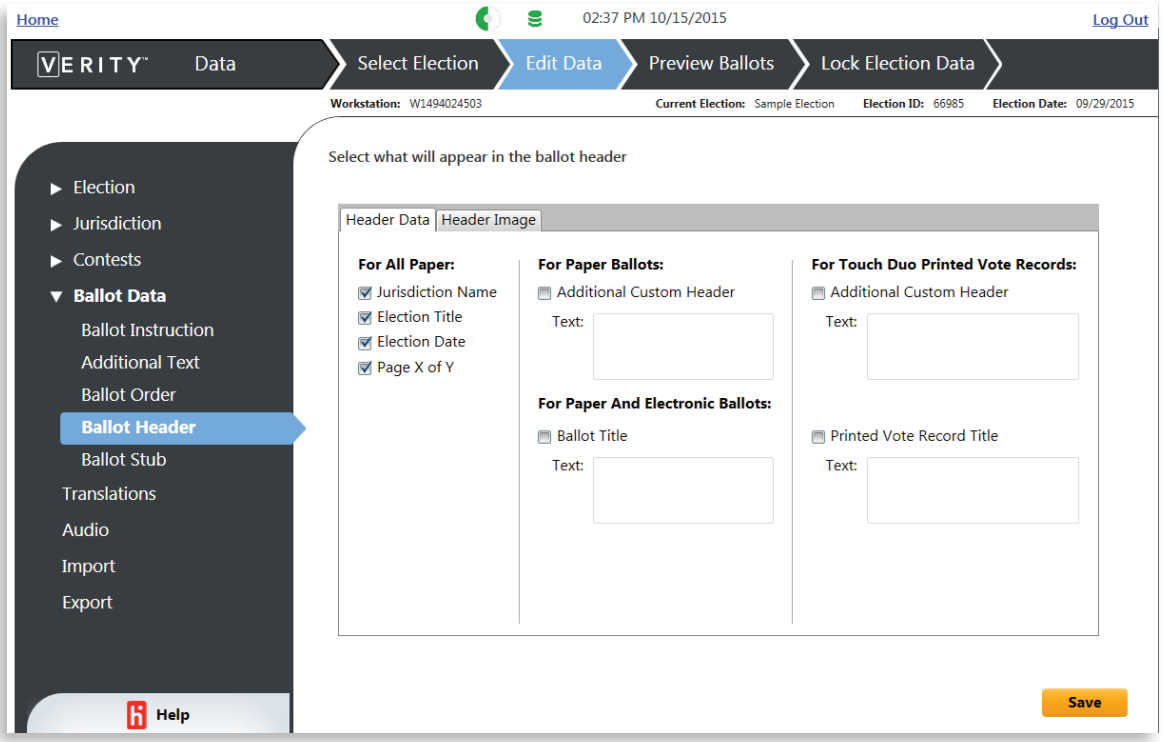
1. Select the **Edit Data** tab.
2. Under the **Ballot Data** menu, select **Ballot Order**. A list of all ballot elements will appear. The Name, Type, and Notes are shown for each ballot element.

   NOTE: *If you are working on a Primary Election, the Party Name will also be shown.*
3. In the **Notes** column, any notes entered for the ballot element will be displayed.
4. Under the **Order** column on the far right, you can adjust the order for each ballot element.
5. Once you have set the ballot order, click the **Save** button.

entering and editing election data, *continued*

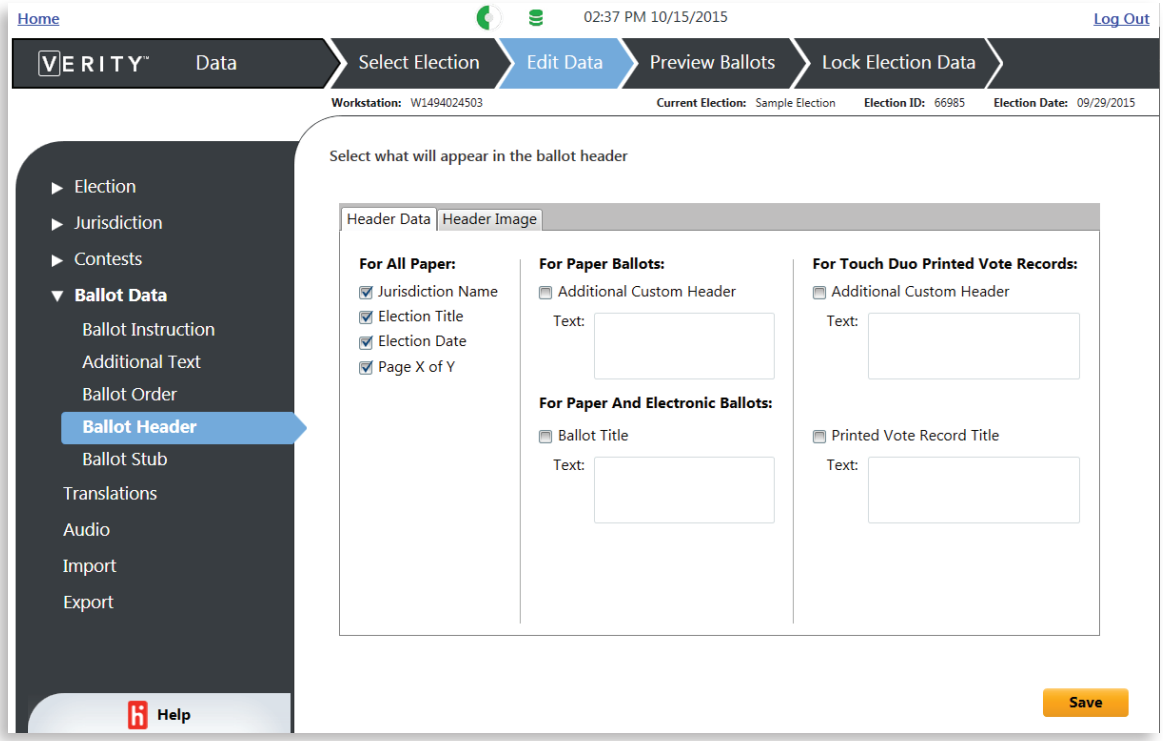
entering ballot header information

The ballot header appears across the top of the ballot. The ballot header will be the same for all ballots, with the exception of the Precinct name. You can choose what elements appear on your ballot header, as well as upload images for use in the ballot header.



1. Select the **Edit Data** tab.
2. Under the **Ballot Data** menu, select **Ballot Header**.
3. Check the box next to each element you would like to include in the ballot header. The available elements are:
   - **Jurisdiction Name** (*Defined under Election>Basic Info*)
   - **Election Title** (*Defined under Election>Basic Info*)
   - **Election Date** (*Defined under Election>Basic Info*)
   - **Page X of Y**

entering and editing election data, *continued*



4. In the middle column, you can enter custom text for:
   - Additional custom header for paper ballots
   - Custom ballot title for paper and electronic ballots
   - Partisan titles (Closed Primary Elections only) - You can define a Partisan Ballot title for each party for display on paper ballots.

   NOTE: *Items in the far right-hand column pertain to the Touch Duo device, and are not applicable to California.*

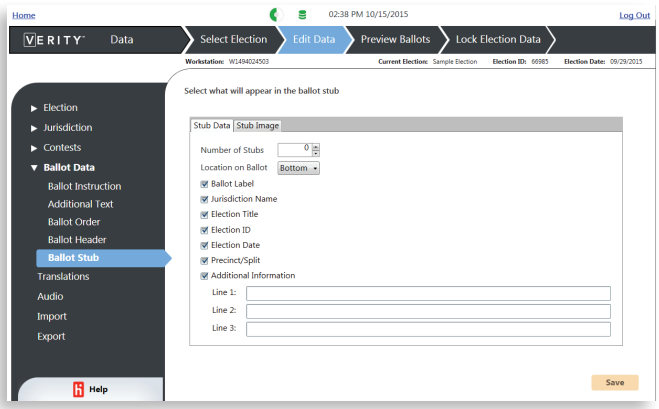
5. Click the **Header Image** tab to upload an election-specific graphic (provided by the State) to use in your ballot header. Select the ballot type/language on the left, click the folder icon to browse to the image you wish to upload (from USB media), then click **Add**.
6. Click the **Save** button.

entering and editing election data, *continued*

entering ballot stub information

If your jurisdiction uses ballot stubs, you will use the Ballot Stub menu to set the number and location of the ballot stub as well as the elements appearing on the ballot stub.

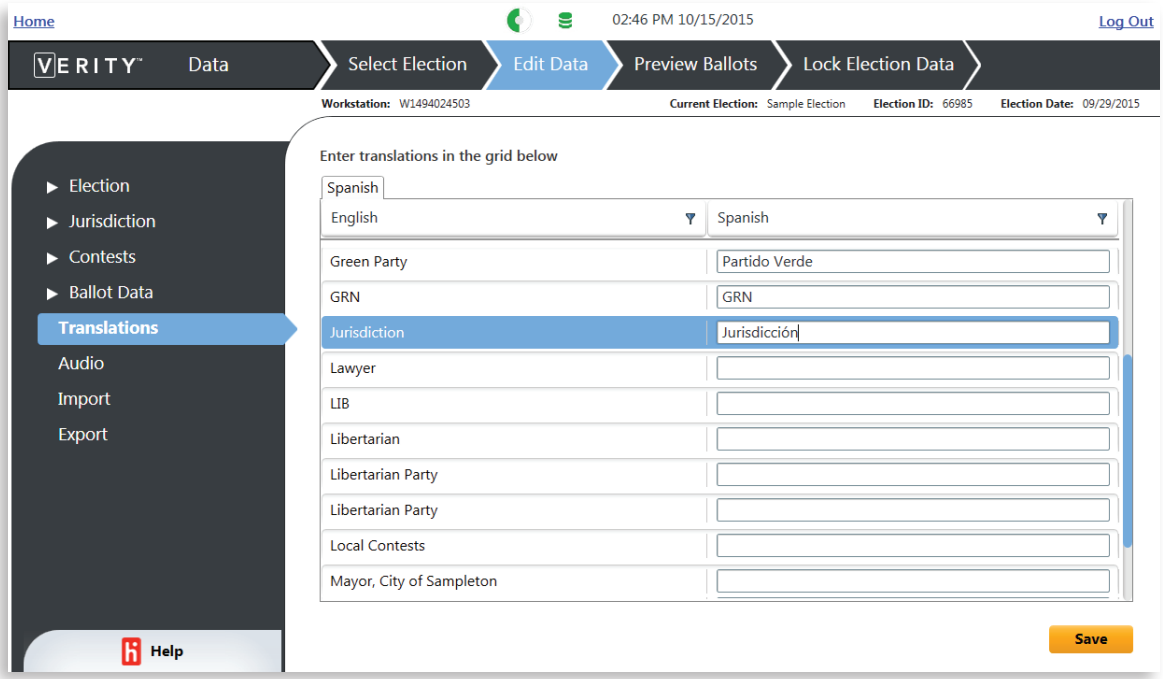
NOTE: *The Verity Print and Touch Writer do not print ballot stubs.*



1. Select the **Edit Data** tab.
2. Under the **Ballot Data** menu, select **Ballot Stubs**.
3. Set the number of ballot stub(s).
4. Set whether the ballot stub(s) will be on the ballot top or bottom.
5. Check the box next to each element you would like to include on the ballot stub(s). The available elements are:
   - **Ballot Title** *(Defined on the ballot header)*
   - **Jurisdiction Name** *(Defined under Election>Basic Info)*
   - **Election Title** *(Defined under Election>Basic Info)*
   - **Election ID** *(This is the election ID assigned by Verity)*
   - **Election Date** *(Defined under Election>Basic Info)*
   - **Precinct/Split**
   - **Additional Information** *(Checking this box will allow you to enter up to 4 lines of additional information to appear in the ballot stub)*
6. Click the **Stub Image** tab to upload an image for your ballot stub. Select the ballot type/language on the left, click the folder icon to browse to the image (on USB media), and then click **Add**.
7. Click the **Save** button.

entering ballot translations

In the Translations menu, you can enter language translations for each text element in your ballot (such as instructions, contests, and other ballot elements). It is recommended that you thoroughly proof your English-language text before you begin entering your language translations. If you need to translate text in languages that use a non-Latin alphabet (e.g. Hindi), or to handle translated text supplied by third-party sources, you will use the Import feature to import your translated text. Use of the Import feature for translations is discussed beginning on page 136.



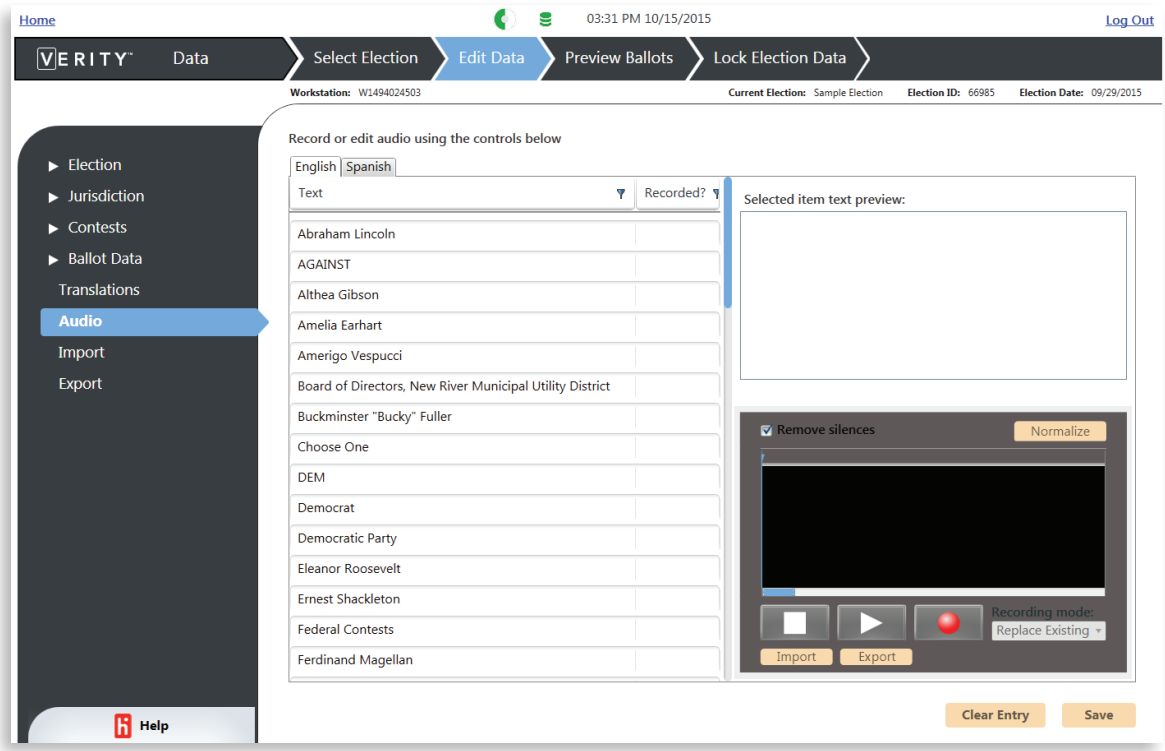
1. Select the **Edit Data** tab.
2. Select the **Translations** menu. A separate tab is provided for each language (other than English). One each tab, a list of all English text elements that must be translated will appear in the left-hand column.
3. Type the language translation for each element in the corresponding space in the right-hand column.
   - For ballot instructions or proposition text, you may edit the rich text formatting as well.
4. Click the **Save** button.

entering and editing election data, *continued*

recording ballot audio

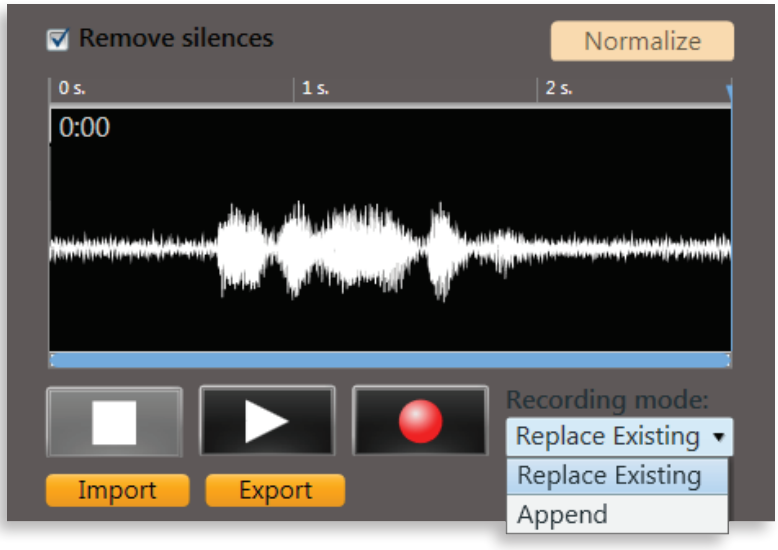
Use the Audio menu to record and edit audio for use with the Verity Touch Writer accessible voting device and optional Verity Reader paper ballot review device.

NOTE: *You must have a working microphone connected to your workstation to record audio.*



1. Select the **Edit Data** tab.
2. Select the **Audio** menu.
3. Select the tab for the language you would like to record. Verity displays list of text strings, and includes the recording status of each.
4. Click an item in the list on the left to record audio for that item.

   NOTE: *If you are using multiple languages on your ballot, there will be a tab for each language. Be sure to record audio for each language.*



5. In the recording window on the bottom right, click the **Record** button (red circle) to begin recording.
   - **A)** Check the box next to **Remove silences** to have Verity Data automatically detect and remove silences at the beginning and ending of the recording.
   - **B)** You may change the recording mode to either **Replace Existing**, to create a new recording, or **Append**, to add your recorded audio to the end of a previously recorded entry.
   - **C)** Click the **Import** button to import an individual recorded audio file from an external source saved on a USB drive. Audio file specifications are noted below:
     - 8 or 16 bits per sample
     - sample rate between 11.025 KHz and 22.050 KHz
     - less than 6 minutes long
     - WMA format

   NOTE: *You may also import audio files in bulk; see page 137.*

   - **D)** Click the **Export** button to export a recorded audio file from Data to an external USB drive.
6. Click the **Stop** button (white square) to end your recording. You may click the **Play** button (white triangle) to listen to your recording.
7. Click the **Normalize** button to standardize the volume level of the recording.
8. Click the **Save** button.

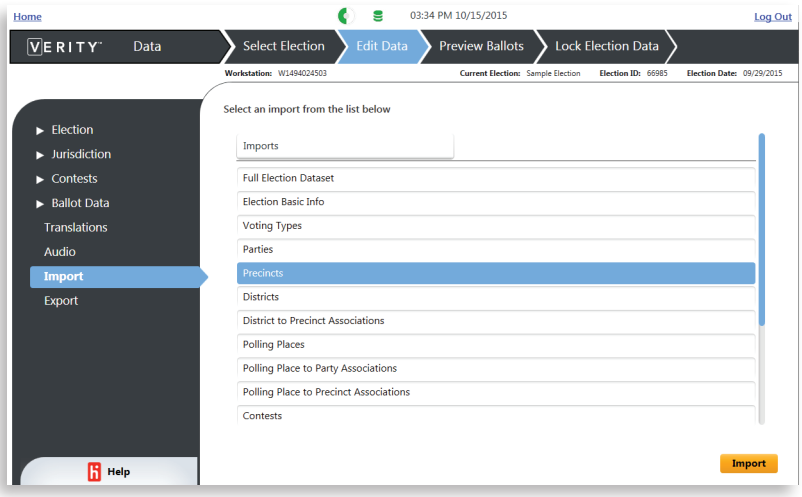
importing ballot data

Use the Import menu to import election data from an external source saved on a removable USB drive (for information on security considerations when using USB drives, see page 479). Any election data files must be in the correct format in order for you to import them into Verity Data; details on the proper importing procedure and formatting of import files is found on the following pages. The following data may be imported into Verity Data:

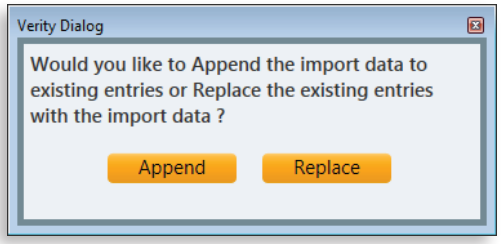
- Election Basic Info
- Voting Types
- Parties
- Precincts
- Districts
- District to Precinct/Splits Associations
- Polling Places
- Polling Place to Precinct Associations
- Polling Place to Party Associations (Closed Primary elections only)
- Contests
- Contest to Precinct Associations
- Contest to District Associations
- Contest to Party Associations (Open and Closed Primary elections only)
- Contest Precinct Split Rotation
- Choices
- Choice-Additional Text Elements Associations
- Choice to Party Associations
- Ballot Instructions
- Additional Texts
- Additional Text to Precinct Associations
- Additional Text to District Associations
- Additional Text to Party Associations (Closed Primary elections only)
- Ballot Order
- Translations
- Audio

basic import instructions

The basic procedure for importing data in Verity Data is described below:



1. Select the **Edit Data** tab.
2. Select the **Import** menu. A list of all available imports will appear.
3. Select the type of data file you would like to import.
4. Click **Import**.
5. Browse to locate the file on your external USB drive, then click **OK**.



6. Choose **Append** to add the data you are importing to the existing data; choose **Replace** to replace the existing data using the file you are importing. (In most cases, you will select 'Replace').

   NOTE: *If you are importing a Full Election Dataset, you may only Replace, not Append.*

7. A message will appear to confirm that the data has been imported. Click the red **x** to close the window.

organizing your import files

To ensure that the import process remains organized, it is recommended that you set up your import file folder structure beforehand, so that it may be easily copied to a USB drive for transfer to the Verity Data workstation.

1. Create an Imports folder. This is the folder where you will save each of your import files. You may include the date or election name in the folder name, if desired.
2. Within the Imports folder, create three sub-folders, named as follows (note that this exact naming is required by the system):
   - Images
   - RTFs
   - Audios
3. As you work, save finished import files (.csv or .txt) into the Imports folder; save images, rich text, and audio files into the corresponding sub-folder.

basic rules of CSV file creation

The import functionality in Verity Data allows you to import all your data for a particular election. In order for Data to read these import files, they must be correctly formatted. General rules for formatting your import files are provided below.

import file format

Verity Data supports the import of CSV (comma-separated value) files only. These files may be created using any text editing or spreadsheet software; the file extension must be either .csv or .txt. An example of an import file is found on page 133.

NOTE: *File formats for images, rich text files, translations, and audio are discussed beginning on page 134.*

individual import file specifications

Specifications for individual import file types are found in Appendix A, page 494.

header rows

Header rows do not contain election data. To ensure that Verity Data does not read a header row as actual election data, type a hash symbol (#) immediately before the first word of the header row. Alternately, you may remove header rows before saving your import files.

unused fields

CSV files use commas to separate individual fields. If there are blank fields, they must be included. Blank fields are represented by two successive commas. (i.e. ",,")

line breaks

To include a line break, insert \n to force a new line.

Typed: "This is an example\nof a line break"

Appears as: "This is an example
of a line break"

commas and double quotes

The CSV format uses commas and double quotes to separate individual fields and to enclose strings of characters, respectively. Therefore, you must use care if you intend to include a comma or double quotes within the displayed text. Two examples of commas and quotes in displayed text are noted below:

John Smith, Esq.

John "Smitty" Smith

To include a comma or double quote in the displayed text, enclose the entire text string of that field in double quotes.

NOTE: *Most spreadsheet editing software will automatically add additional double quotes to the outside of a string that contains commas or double quotes when you save the file as .csv. Therefore, if you use a spreadsheet editor to assemble your import files, you should edit/proof the CSV files in a text-based editor before importing the file into Verity Data.*

importing ballot data, *continued*

Examples of correctly formatted text using commas and double quotes, as they would appear in a text editor, are shown below.

Incorrect	Correct
John Smith, Esq.	"John Smith, Esq."
John "Smitty" Smith	"John "Smitty" Smith"

assigning external IDs and data dependencies

For Voting Types, Parties, Precincts/Splits, Districts, Polling Places, Contests, Choices, Choice-Additional Text Elements, Ballot Instructions, and Additional Texts, you may assign an external ID # in the first field of each row. Other import files, called 'associations' files, reference these IDs and make associations between them. For example, the District to Precinct/Split Associations import file references and associates the District IDs (assigned in the Districts import file) and the Precinct/Split IDs (assigned in the Precincts/Splits import file). Verity Data validates all of these dependencies before trying to import a file. If importing files one at a time, you should import files in the following order (otherwise, Data may not be able to import the files):

- Election Basic Info
- Voting Types
- Parties
- Precincts
- Districts
- District to Precinct Associations
- Polling Places
- Polling Place to Party Associations *(Closed Primaries only)*
- Polling Place to Precinct Associations
- Contests
- Contest to Precinct Associations
- Contest to District Associations
- Contest to Party Associations *(Open and Closed Primaries only)*
- Choices
- Choice-Additional Text Elements Associations
- Choice to Party Associations
- Contest Precinct Split Rotations
- Ballot Instructions
- Additional Texts
- Additional Texts to Party Association *(Closed Primaries only)*
- Additional Text to Precinct Association
- Additional Text to District Association
- Ballot Order

import file examples

Below is an example of a Districts import file:

Specifications:

Field No.	Field Name	Data Type (character limit)	Description
1	ID #	unique number	ID number assigned
2	district name	free text (40)	district name as it will appear on the ballot
3	district notes	free text (500)	for display in the application only; does not appear on the ballot
4	sequence #	number	order in which the districts appear in the list; sequence numbers should be unique, contiguous, and start at 1

Example in table/spreadsheet format:

1	District 2, U.S. House of Representatives	District 2, U.S. House	1
2	Emergency Services District 12	ESD 12	3
3	Sampleton Independent School District	Sampleton ISD	2

Example in text format:

1,"District 2, U.S. House of Representatives","District 2, U.S. House",1

2,Emergency Services District 12,ESD 12,3

3,Sampleton Independent School District,Sampleton ISD,2

importing ballot data, *continued*

Below is an example of a District to Precinct/Split Associations file:

Specifications:

Field No.	Field Name	Data Type (character limit)	Description
1	district ID #	unique number	defined in the Districts import
2	precinct/split ID #	unique number	defined in the Precinct/splits import

Example in table/spreadsheet format:

1	1
1	2
1	3
1	4
2	2
3	4

Example in text format:

1,1
1,2
1,3
1,4
2,2
3,4

importing a Full Election Dataset

The Full Election Dataset import comprises all the import file types listed on page 128, with the exception of Audio and Translations. When importing a Full Election Dataset, all files must be present within the Imports folder on the USB drive (though they may be empty of actual data). When importing a Full Election Dataset, you may only Replace the existing data (you may not choose Append).

importing individual files

You can Replace or Append individual import files. However, using the import feature to replace data for a single item (e.g., Parties) will cause you to lose any associations related to that item that you have already made. Therefore, it is recommended that you import (or re-import) any related associations imports in the same session.

importing images

You may use the import functionality in Verity Data to import images for political parties, contests, paper ballot instructions, and additional text elements. The following image file formats are accepted in Verity Data: .bmp, .jpg, .gif, .png. The following steps outline the process for importing images with Verity Data:

1. Include the name of the image file in the appropriate field within the import file, including the file extension (e.g. partyimage1.jpg).
2. Copy the image files into the Images folder within the imports root directory on your USB drive (see page 130).
3. Bring the USB drive to the Data workstation and insert it into an available USB port.
4. Follow the import instructions given on page 129. Verity will identify any image or rich text files referenced in the import file(s), and browse to the Images folder on the USB drive to locate and import the corresponding files.

importing rich text files

When importing RTF files, please note that:

- The following English characters are supported in Verity:

  0123456789
  ABCDEFGHIJKLMNOPQRSTUVWXYZ
  abcdefghijklmnopqrstuvwxyz
  !"#$%&'()*+,-./
  :;<>=?@ [\]^_`{|}~ ¢ § °
  ¡Áá¿ÉéÍíÓóÚúÜü Ññ «»
  Tab, Line feed, Space, Delete
- Text bullets are not supported, however you may place bullets as images within the rich text file

The following steps outline the process for importing rich text files with Verity Data:

1. Include the name of the RTF file in the appropriate field within the import file, including the file extension (e.g. BallotInstructions.rtf).
2. Copy the RTF file into the RTFs folder within the imports root directory on your USB drive (see page 130).
3. Bring the USB drive to the Data workstation and insert it into an available USB port.
4. Follow the import instructions given on page 129. Verity will identify any RTF files referenced in the import file(s), and browse to the RTFs folder on the USB drive to locate and import the corresponding files.

importing ballot data, *continued*

importing translations

For languages that use a Latin alphabet (Spanish, Tagalog, Ilocano), you may choose to import translations (rather than type them directly in the Translations menu of the Edit Data tab). For languages that use a non-Latin alphabet (e.g. Hindi), translations must be imported. An example of a typical translation's XML element is shown below; the original (English) text is shown in **GREEN**. The translated text that must be entered (Spanish) is shown in **RED**.

```
<Translation Id="ac5f3cb4-8112-4a83-abf1-9bc535a362b4">
    <Source>Sample County</Source>
    <Target>Condado de Sample</Target>
</Translation>
```

If the XML for a translation refers to a rich text file (in the case of proposition text, for example), then the file name takes the place of the text to be translated. In this case, you would create a translated Spanish rich text file, copy the Spanish RTF file into the RTFs folder within the imports folder, and enter the file name of the Spanish RTF file in the Translation XML.

```
<Translation Id="a55c8ea9-246b-466d-871d-53b341220c90">
    <Source>Proposition1-ENGLISH.rtf</Source>
    <Target>Proposition1-SPANISH.rtf</Target>
</Translation>
```

The following steps outline a basic workflow for importing Translations in Data:

1. Enter or import your election data (contests, choices, etc.)
2. Export the Translations XML using Data's Export functionality (see page 138).
3. Using an XML editor, add the translations to the XML file. Save the XML file within your Imports folder (folder organization is discussed on page 130).
4. If necessary, translate any rich text (.rtf) files and copy the translated versions to the RTFs folder. Update the XML file to include the filenames of the translated versions where appropriate.
5. Bring the USB drive to the Data workstation and insert it into an available USB port.
6. Follow the import instructions given on page 129. Verity will identify any RTF files referenced in the Translations XML, and search the RTFs folder on the USB drive to locate and import the corresponding files.

importing audio

You may choose to bulk-import audio files (rather than record or import each file individually in the Audio menu of the Edit Data tab). An example of a typical Audio XML element exported for recording is shown below; the language is shown in **BLUE**, and the text to be recorded in **GREEN**. The file name of the associated audio file is shown in **RED**.

```
<Audios>
    <Language>English</Language>
    <Audio Id=" ac5f3cb4-8112-4a83-abf1-9bc535a362b4" FileName="SampleCounty.wma">
    <Text>Sample County</Text>
</Audio>
```

The following steps outline a basic workflow for importing Audio in Verity Data:

1. Enter or import your election data (contests, choices, etc.)
2. Export the Audio XML using Verity Data's Export functionality (see page 138).
3. Record each audio file, using the XML file as a reference. Enter the filenames of the audio files, including the file extension, in the corresponding locations within the XML file. Save the XML file within your Imports folder (folder organization is discussed on page 130).

   Required Audio file specifications are noted below:

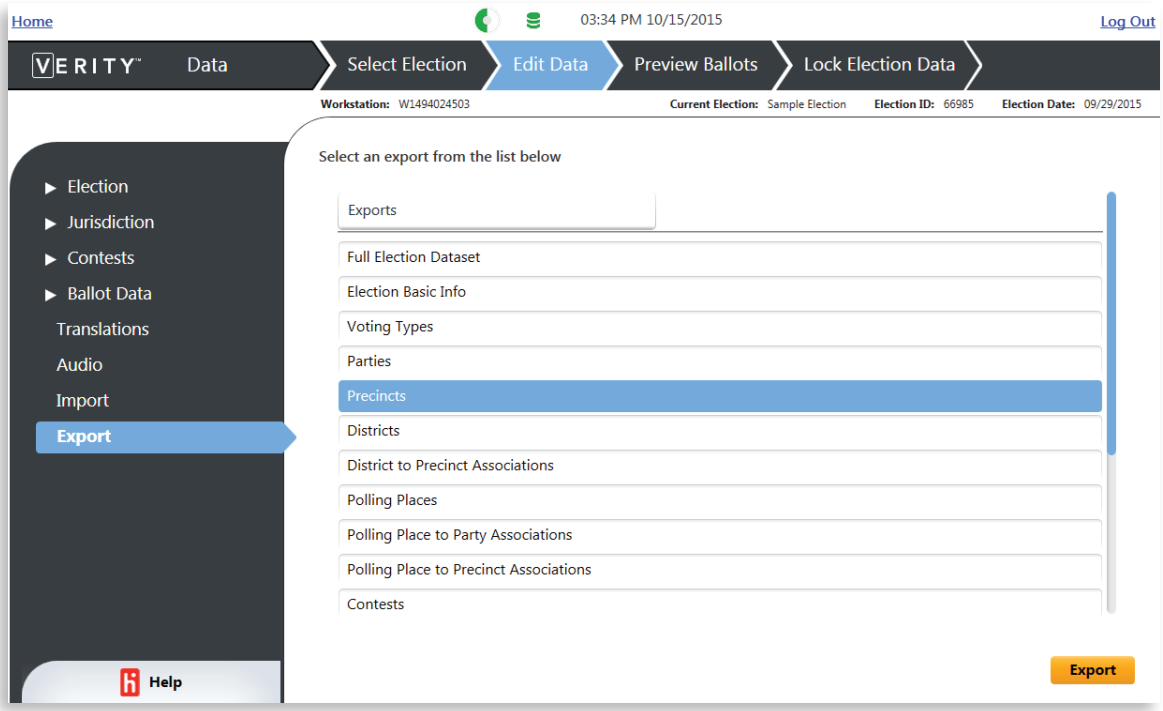
   - 8 or 16 bits per sample
   - sample rate between 11.025 KHz and 22.050 KHz
   - less than 6 minutes long
   - WMA format
4. Copy the audio files to the Audios folder within your Imports folder.
5. Copy the Imports folder to the USB drive. Bring the USB drive to the Data workstation and insert it into an available USB port.
6. Follow the import instructions given on page 129. Verity will identify the Audio files referenced in the Audio XML, and search the Audios folder on the USB drive to locate and import the corresponding files.

exporting ballot data

Use the Export menu to export election data from Verity Data to a removable USB drive. The following data may be exported from Verity Data:

- Full Election Dataset
- Election Basic Info
- Voting Types
- Parties
- Precincts
- Districts
- District to Precinct Associations
- Polling Places
- Polling Place to Party Associations (Closed Primary Elections Only)
- Polling Place to Precinct Associations
- Contests
- Contest to Precinct Associations
- Contest to District Associations
- Contest to Party Associations (Closed Primary Elections Only)
- Choices
- Choice/Additional Text Element Associations
- Choice to Party Associations
- Contest Precinct Split Rotations
- Ballot Instructions
- Additional Texts
- Additional Text to Party Associations (Closed Primary Elections Only)
- Additional Text to Precinct Associations
- Additional Text to District Associations
- Ballot Order
- Translations
- Audio
- Print Queue file template for Pre-Marked Deck (see page 221)

exporting ballot data, *continued*



To export ballot data:

1. Select the **Edit Data** tab.
2. Select the **Export** menu. A list of all available exports will appear.
3. Select the type of data file you would like to export.
4. Click **Export**.
5. Browse to the location on your external USB drive where you would like to save the data, then click **OK**.
6. A message will appear to confirm that the data has been exported. Click **OK**.

the *print queue file template for pre-marked deck* export

This export, available in Verity Data, may be used in conjunction with the print queue functionality in Verity Build to create pre-marked ballots, for use with Logic and Accuracy or other testing. For more information, see page 221.

previewing ballots

NOTE: *Verity Data produces only previews of what ballots will look like—Data does not produce scannable ballots (e.g., with barcodes). Actual, scannable ballots are produced in Verity Build, or using Verity Print, after the election has been accepted in Build.*

Under the Preview Ballots tab, you will choose paper ballot templates, validate the election data, preview ballot layout, and print reports for proofing ballot content. The following menus are available in the Preview Ballots tab:

Select Template: Choose page size and templates for paper ballots.

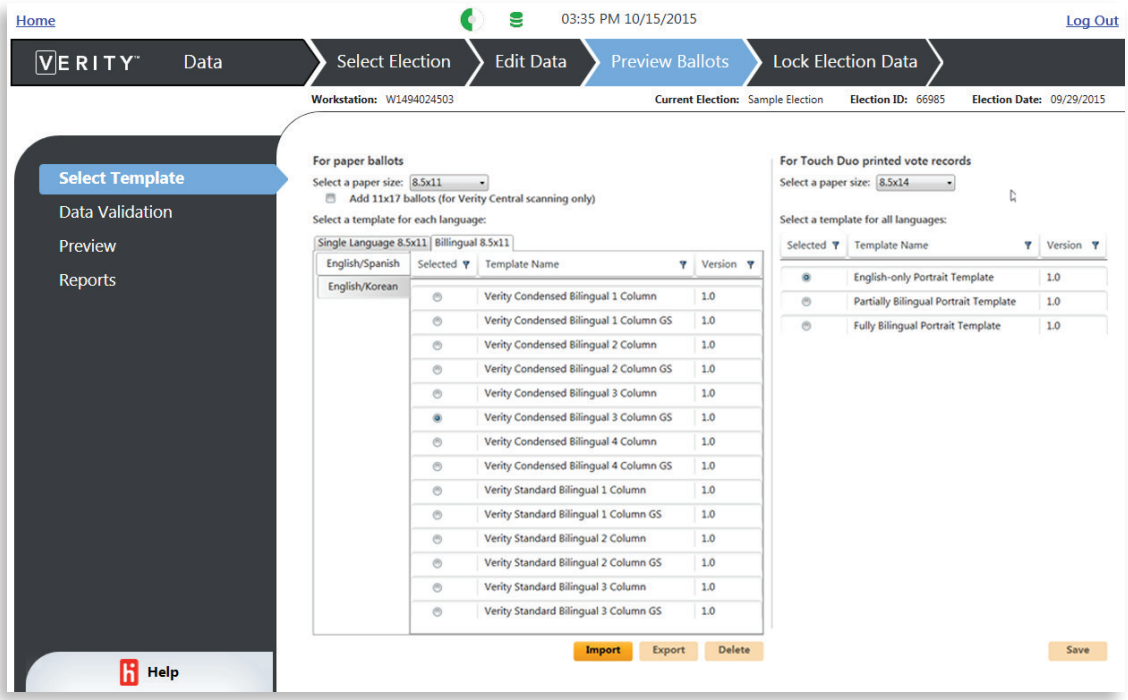
Data Validation: Validate election data and check for errors.

Preview: Preview ballot layout for paper and electronic ballots.

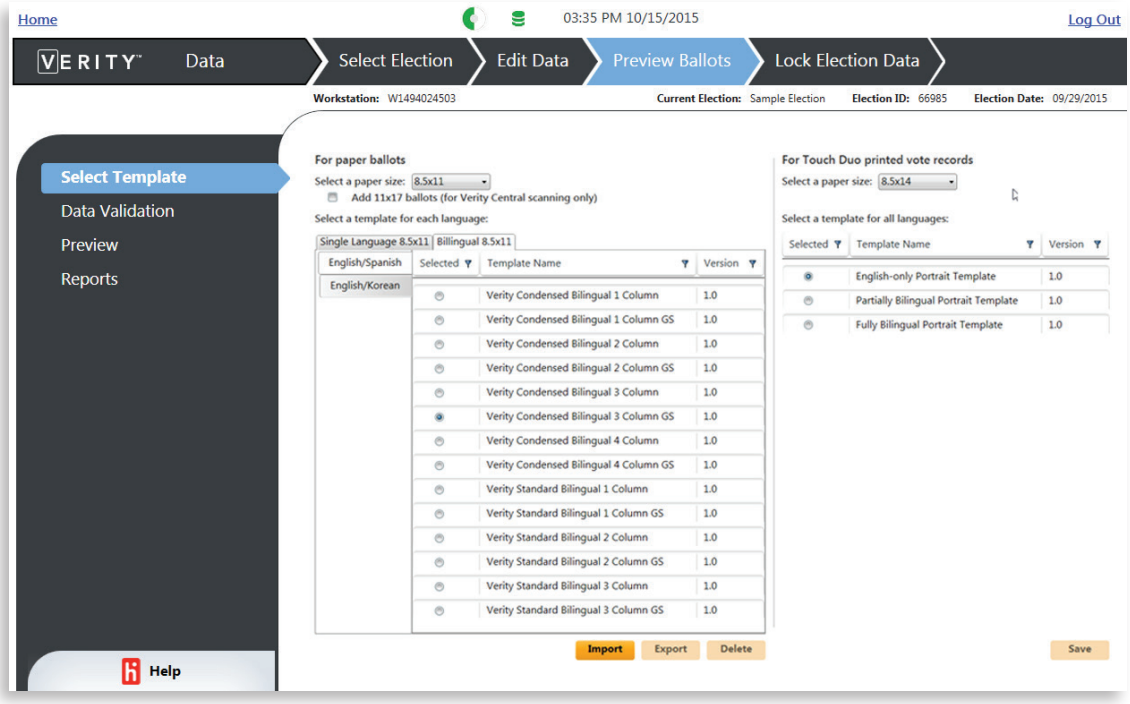
Reports: Print and export reports for ballot proofing.

selecting ballot templates

In the Select Template menu, you will select the ballot templates. You will select the page size for paper ballots, as well as the specific templates for each language. To import additional templates, see the Ballot Template Library on page 94.



previewing ballots, *continued*



selecting ballot page size & template

1. Select the **Preview Ballots** tab.
2. Select the **Select Template** menu.
3. Select a paper size. Available paper sizes are:
   - 8.5" x 11"
   - 8.5" x 14"
   - 8.5" x 17"
   - 8.5" x 20"
   - 11" x 17"

   NOTE: *The paper size does not include any ballot stub(s).*
4. Check the box next to **Add 11x17 ballots (for Verity Central scanning only)**, if needed. This option allows you to print 11x17 ballots from Verity Build and select a different sized template for Verity Print and Touch Writer.
5. Click the Single Language/Bilingual tabs, and then the language sub-tab to choose templates for each language or language combination.
6. Touch Duo is not used in California, so the right-hand column of template settings may be ignored.
7. Click the **Save** button.

previewing ballots, *continued*

importing, exporting, and deleting templates

You can import, export and delete templates from the Select Template menu

- To import a template from removable USB media, click the **Import** button. Templates imported through the Select Template menu will be available only for the current election (to make the template available for all elections, use the import functionality in the Ballot Template Library menu (page 94)
- To export a template to removable USB media, you can select a template from the list, and then click the **Export** button.
- To delete a template, select a template from the list and then click the **Delete** button. Note that this only deletes the template from the Select Template menu.

ballot page size and Verity Touch Writer and Verity Print

If your jurisdiction uses Verity Touch Writer or Verity Print, consider the following:

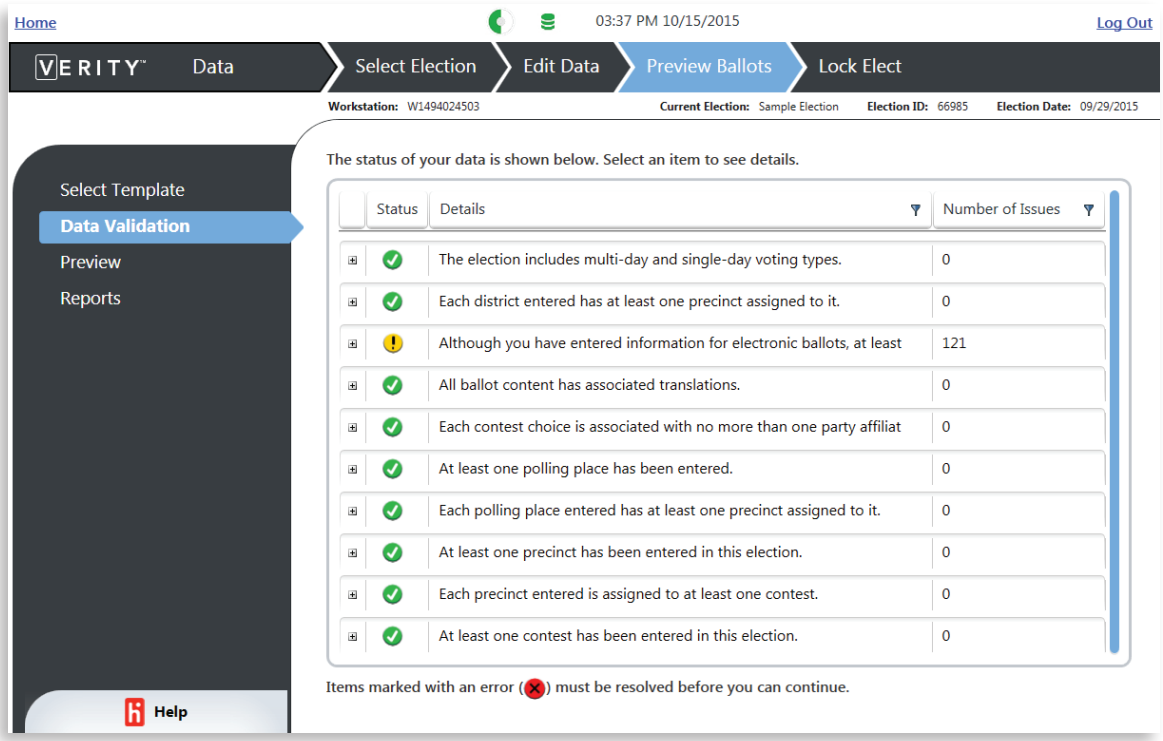
- The Verity Touch Writer/Print ballot printer is able to print on 8.5" x 11", 8.5" x 14", 8.5 x 17" and 8.5" x 20" paper.
- The Verity Touch Writer/Print ballot printer is not designed for use with 11" x 17" ballots.
- The Verity Touch Writer/Print ballot printer does not print ballot stubs.

about ballot templates

- Using standard templates or templates with fewer columns will allow ballot text to take up more space on the page.
- Using condensed templates or templates with more columns will help fit more ballot data on a single page.
- Using grayscale (GS) templates will save on printing costs and avoid variation between paper ballots printed from Verity Build and ballots printed from the Verity Touch Writer/Print. (Verity Touch Writer/Print prints only in grayscale.)

validating ballot data

The Data Validation menu provides an automatic validation of all your election data. If a particular item requires correction, Verity Data will provide details regarding any changes that must be made.



1. Select the **Preview Ballots** tab.
2. Select the **Data Validation** menu.
3. Click the Start Validation button.
4. Inspect the status of each item.
   - **A)** Items with a green check mark (✓) have passed validation. No further action is needed to proceed.
   - **B)** Items with a yellow warning indicator (!) should be investigated, but you may proceed without correcting these items.
   - **C)** Items with a red error indicator (✕) must be resolved before you may proceed.
5. Click the **+** next to an item to view details regarding any warnings or error. A link will be provided to take you back to the screen where changes may be made.

previewing ballots, *continued*

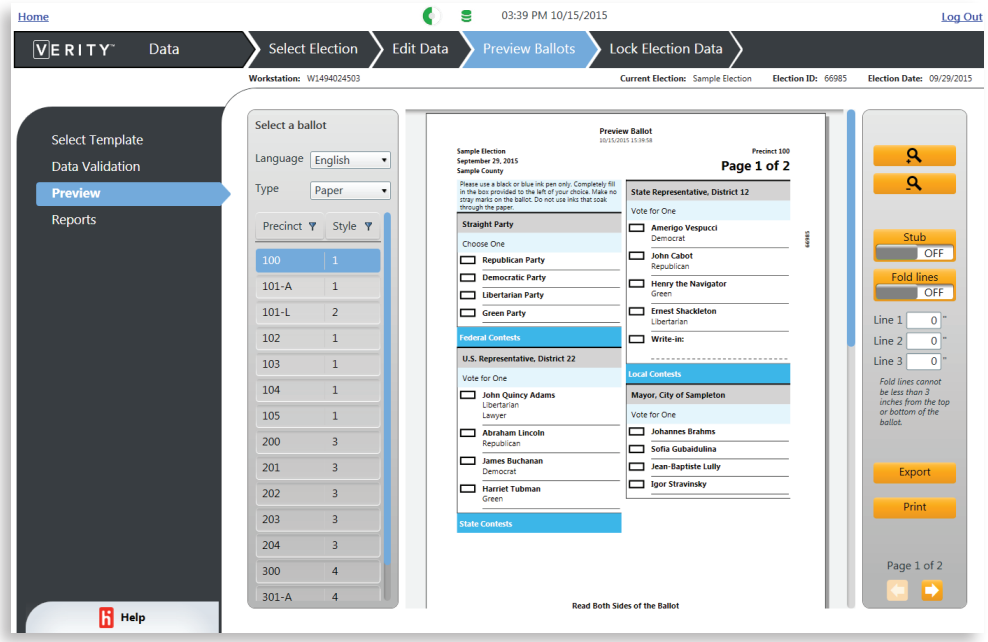
previewing ballots

In the Preview menu, you can view an accurate preview image of each ballot. You can print or export ballot previews to proof ballot layout and content (see page 151). The ballot preview window contains three sections:

A) The select a ballot panel

B) The ballot preview image

C) The ballot preview toolbar



selecting a ballot

1. In the select a ballot panel, select the language that you want to proof (if applicable).

   NOTE: *In Closed Primary Elections, you may also select ballots by Party.*

2. Select the ballot type to proof (paper or electronic).
3. *(If applicable)* Select the ballot size (available if multiple template sizes were chosen; see page 141).
4. Select the precinct or ballot style to proof. You should proof at least one ballot of each ballot style, in all languages and ballot types.
5. Click the filter icon (▼) in a column header to filter by category.

the ballot preview window

The ballot preview window displays the current page of the ballot according to the language, ballot type, and ballot style you have selected.

- The blue sliders allow you to adjust the view when zoomed in.
- To adjust ballot layout, you can force contests and additional text elements to the next column or page (see pages 109 and 119).

the ballot preview toolbar

A) Use the magnifying glass buttons to examine the ballot in greater detail.

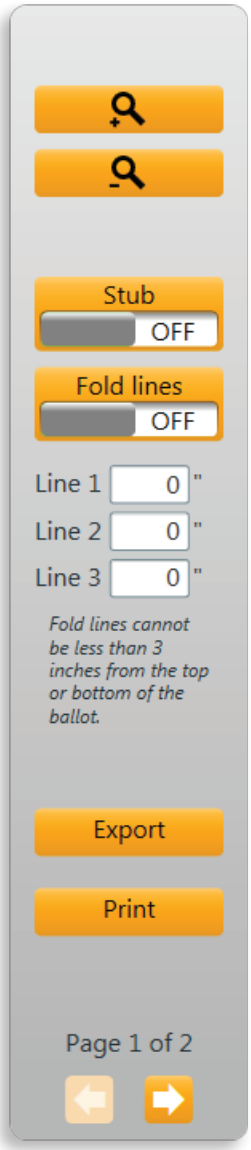
B) The stub slider allows you to see the ballot stub.

C) The fold lines slider allows you to see where fold lines will occur on the ballot. Best practices for fold line placement can be found on page 152. Change the fold line positioning by entering values in the boxes below.

D) Click **Export** to export the page preview image to file (PDF).

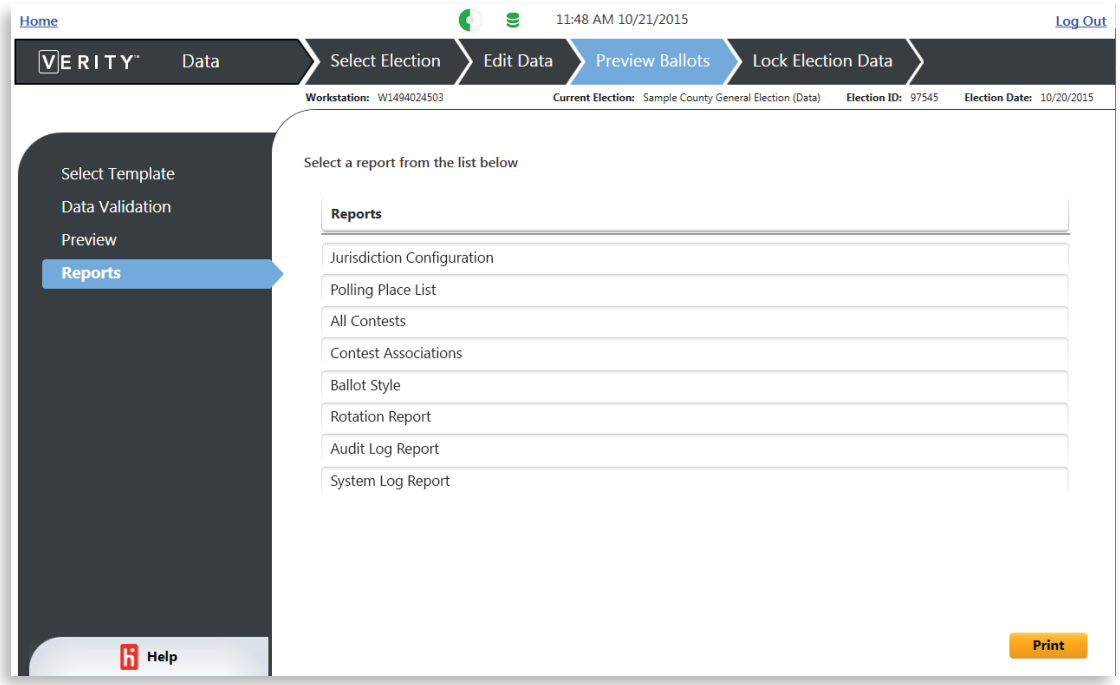
E) Click **Print** to print the page image.

F) Use the Page buttons to view each page of the ballot; be sure to proof all pages.



generating reports (Verity Data)

The Reports menu provides reports for use in proofing ballot content. It also contains Audit and System Log reports that may be printed on-demand.



1. Select the **Preview Ballots** tab.
2. Select the **Reports** menu.
3. Choose the desired report from the list.
4. Click the **Print** button to print or save the selected report.
5. If a **Report Settings** window appears, you can set the options for the report (as applicable to the specific report):
   - For the **Polling Place List**, you can select which voting type to display, and include or exclude precinct associations.
   - For the **Contest Associations** report, you can include or exclude associations for Party, Precincts and Splits, and/or Districts.
   - For **Audit Log** and **System Log** reports, you can set the start & end date/time for the report.
6. Click **Show Report** (reports with settings only).
7. To print the report to an attached printer, click the Printer icon. To export the report to PDF, click the Disk icon.

available reports: Data

The following reports are available in Data; the contents of each report are listed below. These reports cannot be deleted or edited by the user. All Data reports contain the following information in their header:

- Report Title
- Election Title
- Election Date
- Election ID
- Jurisdiction Name
- Date and time the report was generated

NOTE: *The Election Title, Date, and ID fields and the Jurisdiction Name field are not included on the System Log report.*

NOTE: *All Audit and System Log reports are automatically digitally signed. Users can select the date/time range of entries before viewing the report.*

Jurisdiction Configuration report

- Jurisdiction name
- List of precinct names
- List of precinct split names
- List of district names
- Precinct associations with districts
- Precinct split associations with districts

Polling Place List

NOTE: *Users can filter the Polling Place List by voting type, and include or exclude precinct associations.*

This report includes a list of all polling places, with the following details for each polling place:

- Polling place name
- Polling place notes
- Polling place to voting type associations
- Polling place to party associations *(if applicable)*
- Polling place associations with precincts *(optional)*
- Polling place associations with precinct splits *(optional)*

generating reports (Verity Data), *continued*

All Contests report

This report includes a list of all contests in the election. Each contest includes the following details:

- Contest title
- Contest type
- List of contest party associations
- Instruction text
- Contest notes
- Number of valid selections
- Number of write-in options
- Whether contest is included in straight party
- Whether contest is included in rotation
- A list of contest options, with the following details:
  - Option name
  - Option details
  - Option party association
- Whether contest is non-partisan
- Total count of contest that include vote-able options in this election

Contest Associations report

NOTE: *Users can include or exclude the following from this report: Party Associations, Precinct/Split Associations, District Associations.*

This report displays a list of all Contests in the election, including the following details:

- Contest title
- Contest party association
- *(optional)* The contest's associations with:
  - Precincts
  - Precinct splits
  - Districts

Ballot Style report

The Ballot Style report groups lists of precincts by shared ballot styles, and provides the total number of ballot styles, including crossover ballot styles.

Rotation report

This report contains information relating to rotation, organized into the following sections:

- List of all contests included in rotation
- Contest details:
  - Contest title
  - Contest party associations
  - Option names, in rotated order, for each precinct and precinct split associated with the contest
  - Write-in options

Version Compatibility report

The Version Compatibility report provides information useful when assessing the compatibility of ballots and vDrives produced in different election versions (for more information, see page 154). This report provides the following information:

- Current election version
- Current status of each language (open, locked, or unlocked)
- Paper ballot compatibility for each Locked and Unlocked language, listed by Precinct/Split and Party *(if applicable)*
- vDrive compatibility for each polling place/location, including:
  - version that can be read in to Count
  - versions that have current ballots

generating reports (Verity Data), *continued*

Audit Log report

NOTE: *All Audit and System Log reports are automatically digitally signed (see page 398). Users can select the date/time range of entries before viewing the report.*

The Audit Log report is a comprehensive log of all activity that has occurred in the Data application on that workstation. Each entry includes the following details:

- Date/time of event
- User logged in at time of event
- Application name and full version number
- Device serial number or workstation ID
- Event name *(in plain text)*
- Event detail data *(in plain text)*
- Election ID
- Tags

System Log report

NOTE: *All Audit and System Log reports are automatically digitally signed (see page 398). Users can select the date/time range of entries before viewing the report.*

The System Log report is a comprehensive log of all activity that has occurred on the workstation or network, that is not election-specific. Each entry includes the same details as the audit log, listed above.

NOTE: *The System Log report is not election-specific, so the Election ID field will always be "0".*

ballot proofing recommendations

Ballots are printed within Verity Build, Verity's election definition software. The printing process begins in the Create tab of Verity Build.

For instructions on printing ballots, including the process for creating ballot print queues, see page 184. For general information on ballot layout and proofing recommendations, see below.

general recommendations for proofing ballots

- Using reports available in Verity Data, proof ballot content and associations for:
  - Spelling and Content
  - Contest Details
  - Contest Choices
  - Write-in lines
  - Party information
  - Candidate details
  - Candidate rotation
  - Contest instructions
  - Contest, District, Precinct, and Polling Place associations
  - Translations
- Print or export previews and proof ballot content carefully; try reading the ballot upside-down or from bottom to top to encourage careful examination. Be sure to double-check all spelling.
- Proof ballot layout aesthetics and usability; ballots should be simple, well-spaced, and easy to understand. Use the **Force to Next Column** and/or **Force to Next Page** options (available for both contests and additional text elements) to adjust the ballot layout. See pages 109 and 119.
- Ballot content should be laid out evenly throughout the page; verify that all contests and candidate names appear without avoidable truncation or needlessly small font size.
- Review fold line and ballot stub positioning using the ballot preview toolbar; assess fold patterns for paper ballots for each ballot style.
- Review all audio after recording.
  - Listen for any mispronunciations, especially with candidate names.
  - Listen for truncated words at the beginning and ending of audio strings.
  - Listen for extreme changes in volume from string to string.
  - Confirm that all audio strings are clear, audible, and associated with the correct text.

ballot proofing recommendations, *continued*

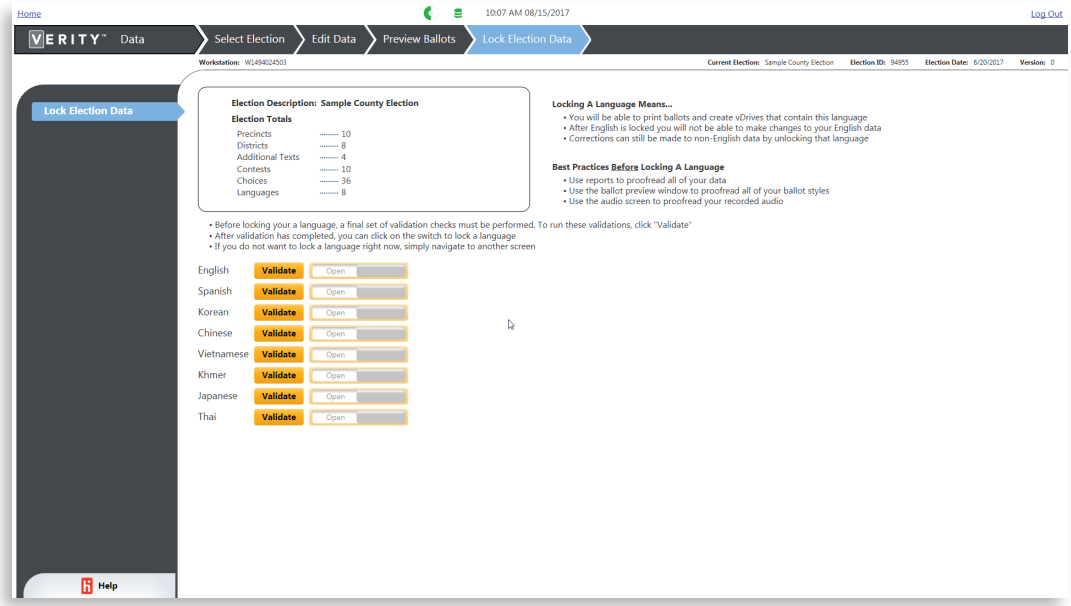
best practices for fold line placement

- Consider the placement of fold lines when laying out your paper ballots.
- Don't fold ballots through option boxes and barcodes as dirt may accumulate in the fold.
- Use the minimum number of folds required to fit the ballot into its envelope.
- Be familiar with all of your ballot styles. Some may require a different type of fold than others.
- Avoid excessive folding and creasing.
- Avoid folding against the grain of the paper.
- Avoid any folds occurring just above or below a ballot stub perforation.

locking election data

Under the Lock Election Data tab, you will perform final validation of your election data, and lock the data so that it is ready to open in Verity Build. Using the staging feature, you can lock individual language(s) only; this allows you to bring the locked language(s) to Build (to print ballots, etc.), while allowing you to continue working on data, translations, and audio for your remaining languages in Verity Data.

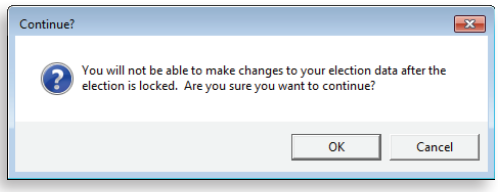
! IMPORTANT: You should archive your election before locking any data.



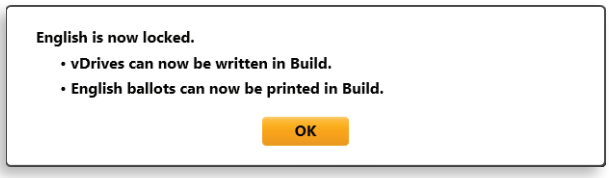
1. Select the **Lock Election Data** tab.
2. Note the details on the screen. Once you lock English data, you will be unable to make changes to that language's data; for non-English languages, you may unlock the language if you need to make changes later.
3. Click the **Validate** button next to the desired language to perform a final check of your election data for that language.
4. When you see the message 'Validation Complete', click **OK**.
5. Click the **Open/Locked** slider corresponding to the language you wish to lock.

locking election data, *continued*

6. When locking English data, you will see a warning message. Click **OK** to continue; if you are not ready to lock English data, click **Cancel**.



7. The selected language(s) are now locked; click **OK** to continue. For instructions on opening the locked election in Verity Build, see page 165.



8. Once the English language has been locked, it cannot be unlocked. To make corrections to non-English data, click the corresponding **Open/Locked** slider to unlock a previously locked language (read the best practices on the following page).

NOTE: *You do have the option of unlocking/locking English audio data; for more information, see page 156.*

about election staging and election version

When you choose to lock a language on the Lock Election Data tab, you can continue working on the remaining language(s) in Verity Data. For example, by locking the English ballots, you can make settings and print English ballots in Build, before you enter translations, record audio, and finish the proofing process for your other languages in Data.

When working with versions, note that the election version is displayed in the far right column in the election list, within the Election Management application. This number will increment with each version created:

- When you choose to lock a language, the locked election becomes election version 1.
- Each subsequent time that you lock additional languages, a new version is created, and the version number will increment.

You can use Verity Data's Version Compatibility report (see page 149) to proof your election ballots and vDrives for any potential version compatibility issues.

best practices for working with election versions

Each time you lock a language, this will create multiple versions of the same election. Different versions of the same election will share the same Election ID. *Provided you have not unlocked a language and made changes*, then:

- Ballots from each version may be scanned in the same Central task (Central election must be the latest version).
- Ballots from each version may be recorded on the same vDrive (in Central and on Scan) (vDrive must be the latest version).

If, however, you have unlocked a language to make corrections, it is important to know that:

A) Ballots printed *for that language* from any previous version may not be compatible with any vDrives created using the new version, and

B) vDrives created from any previous version may not be compatible with the latest signed export produced from the new version.

C) vDrives created from any previous version may not be compatible with ballots printed from the new version.

Therefore, it is highly recommended that you follow the best practices below:

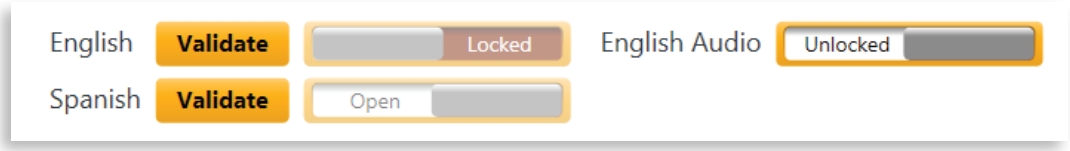
- Thoroughly proof English data before locking, and then test English ballots according to local procedures.
- To avoid unnecessary corrections, ideally you should not begin translation or audio recording of non-English languages until the English ballots have been thoroughly proofed and tested.
- Do not produce or distribute official ballots for any language until that language has been thoroughly proofed and tested.
- Do not produce or deploy Official vDrives to polling places until ALL languages have been thoroughly proofed and tested.
- Create Official vDrives from the latest election version ONLY.
- Test vDrives may be created from any version for testing purposes, but should be well-managed and clearly labeled to avoid confusion.
- Produce an updated signed export from the latest election version for use in Verity Central (scanning ballots) and Verity Count (tabulation).
- Verify compatibility of ballots and vDrives created, using Verity Data's Version Compatibility report (see page 149).

locking election data, *continued*

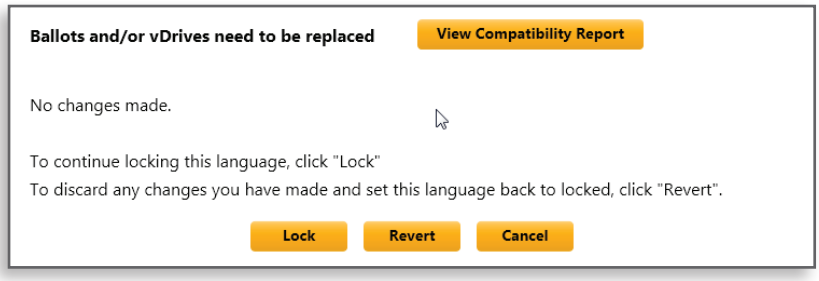
unlocking English audio data

You also have the ability to unlock English audio independently of other English-language data. This feature allows you to make changes to English audio after you have already locked English data. To unlock English audio:

1. After locking English data, an additional slider will appear to the right, labeled English Audio. Click the slider to unlock English audio.



2. Record/re-record the required audio, following the instructions on page 126 (if you are using Data's import functionality, see page 137).
3. When finished, click the slider labeled English Audio to re-lock English audio.
4. Click **View Compatibility Report**; Review the report to see which precinct's vDrives are affected by the audio change(s) you made, and thus will need to be re-written.



5. Click **Lock** to proceed with locking the revised English audio.
   - Click **Revert** to revert to the previous locked English audio and discard any audio changes made.
   - Click **Cancel** to remain on the screen without locking audio.

chapter 4

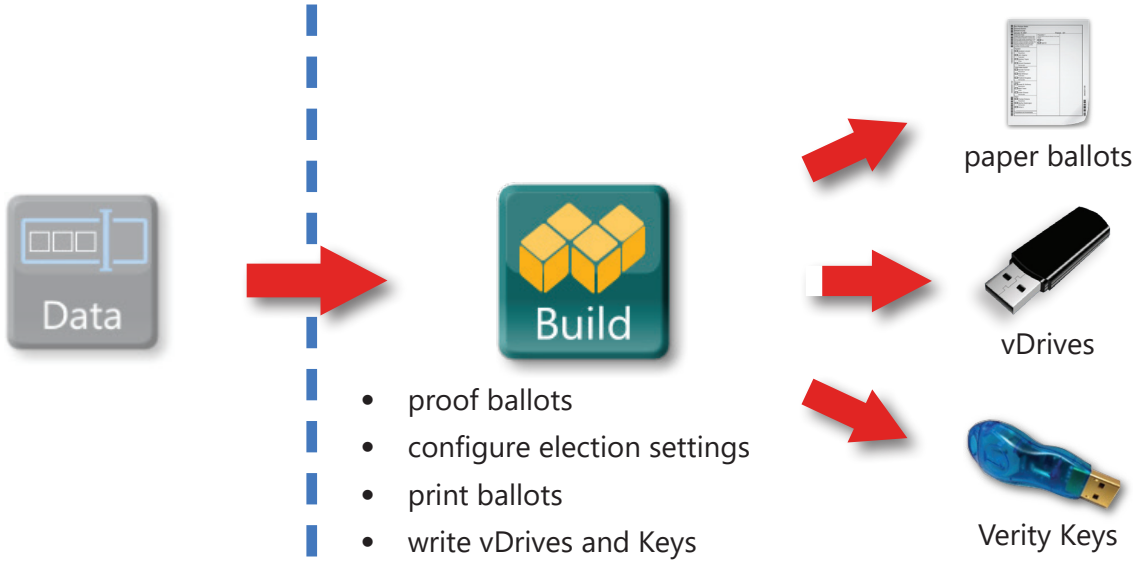
election acceptance, device settings, and testing

4

election acceptance, device settings, and testing

about Verity Build

In Verity Build, you will proof your ballot data and ballot layout, configure the settings for your election, print ballots, write vDrives, and write Verity Keys. Ballot data and layout are managed in Verity Data; once an election has been Locked in Verity Data, it is available to be opened in Verity Build.



getting started with Verity Build

about elections on the Build workstation

To open an election in Verity Build, the election must exist in the Election Management application on that workstation (the Election Management application is available only on server workstations). The election must also be in Locked for Export status (i.e. you must have locked election data in Verity Data). If you are using the staging feature in Verity Data to create multiple versions of the same election, you can only work with Locked languages in Build. For more information on staging, see page 155. If you need to transfer an election to a separate Build workstation, use the Archive and Restore procedure (see page 49).

Before creating or importing any elections, you can first set basic election preferences for Build, if desired (see page 164). These preferences will be applied as defaults to any new or imported election.

importing an election on multiple Verity Build server workstations

You may have multiple Build client workstations connected to a server workstation, in order for you to more efficiently accomplish tasks such as printing ballots or creating vDrives. However, it is also possible (though less common) to have multiple Build networks.

You should never use the Import/Export functions in Election Management to transfer an election from Verity Data onto multiple Verity Build server workstations. Doing so may result in elections (and election assets like vDrives and Keys) that share an Election ID, but have different security keys (which are generated in Build). In this case, the elections won't be compatible with one another, but they will look like they are—meaning you may end up with vDrives that won't read into Count and/or Keys that won't work with your vDrives. If you absolutely must put the same election on multiple Build server stations, you may do the following:

- **Archive** the election on your first Build server workstation.
- **Restore** the archived election onto your other Build servers.

The Archive/Restore process carries the security keys with the election, so the issue will be avoided.

getting started with Verity Build, *continued*

ballot identifiers and multiple Build servers

The State of California does not use unique identifiers on ballots. Therefore, there are no issues with printing ballots from multiple Build server workstations. However, if unique identifiers *are* being used, please note:

Even if the election is deployed to Build on multiple servers using the Archive/Restore process, there is still a danger that ballots can be created with duplicate identifiers. To avoid this scenario, you should only print ballots from a single Build network. Verity Keys and vDrives can be safely created from multiple networks.

about election status

The election status is indicated in the Election Management application, and in each Verity software component. There are three possible election statuses:

Open for Editing: The election is in the process of being created and can be edited in Verity Data.

Locked for Export: The election has been locked from further edits in Verity Data and is now ready to open in Verity Build.

Accepted: The election has been proofed in Verity Build and you can now print ballots and create vDrives and Keys. Election is now ready for export to Verity Central or Count workstations.

Verity Central and Count require a signed election export from the Build workstation (the process for creating a signed export is discussed on page 196). The act of creating a signed export on the Build workstation creates the election definition. Importing a signed export on a Central or Count workstation requires the user to insert a Verity Key for that election (created in Build) and also enter the Verity Key application password.

The staging feature (discussed on page 155) allows you to create multiple versions of the same election (the election status is independent of the election version).

opening the Build application

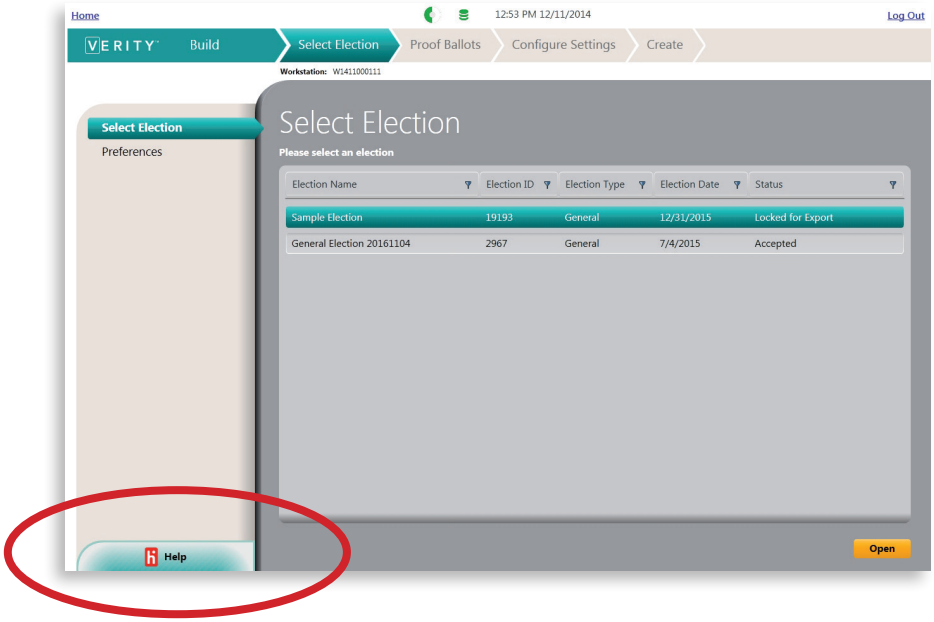
Log into the Verity workstation. On the Verity home screen, click the Build application tile to open Build.

The Build application contains four chevron-shaped tabs: Select Election, Proof Ballots, Configure Settings, and Create.

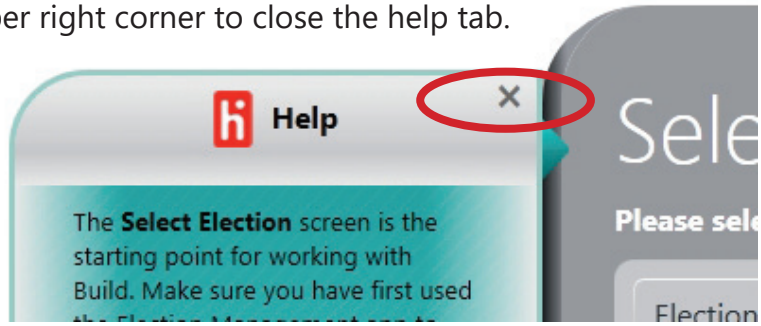
using on-screen help

Help is available on every screen of the Build application; it will contain information related to the current screen, including instructions, notes, and important information regarding the steps you must complete on that screen.

1. Click the tab labeled **Help** at the bottom left of the screen to expand the help tab.



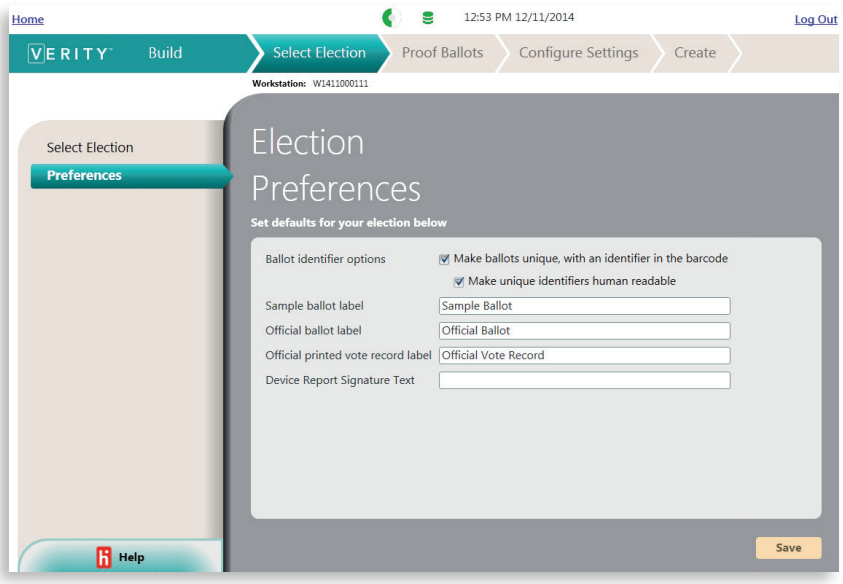
2. The help tab will display information about the current screen.
3. Click the **x** in the upper right corner to close the help tab.



getting started with Verity Build, *continued*

setting preferences

The Preferences menu allows you to set default preferences for all elections in Verity Build. You can set preferences at any time; however, preferences set here only affect future elections that do not yet exist in Election Management. The first time you open Build you should set preferences before creating/importing your first election on that workstation. You can change settings for an election you have already created/imported on the Build workstation under Configure Settings (page 175).



1. Click the **Select Election** tab.
2. Select the **Preferences** menu.
3. Unique identifiers are not used on ballots in the State of California. Uncheck the box to disable unique identifiers. For details on unique identifiers, see page 190.
4. Type your default sample ballot label and official ballot label. This label will appear in the header of the ballot.
5. Since Touch Writer Duo is not used in Califronia, the default label for printed vote records may be ignored.
6. Type the default signature label for device reports.
7. Click **Save** to save your preferences.

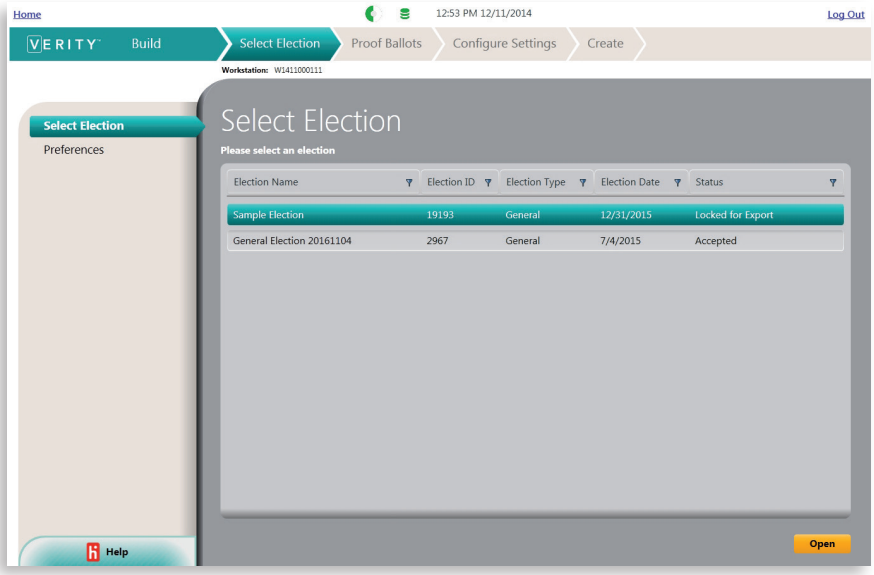
selecting and opening an election

Under the Select Election tab, you will open the election created in Verity Data (or another election source) and adjust basic preferences for elections that you have not yet imported. The following menus are available in the Elections tab:

Election: Select and open the election you need to work with.

Preferences: Set basic election preferences for Build.

selecting and opening an election



1. Select the **Select Election** menu.
2. Select the election you need to work with from the list.
3. Click **Open** in the bottom right of the screen.

preferences

The Preferences menu allows you to set default preferences for all elections in Verity Build. You can set preferences at any time, however preferences set here only affect elections that have not yet been imported in Election Management; the first time you open Build you should set preferences before importing or creating your first election on the workstation. See the previous page for instructions on setting default preferences. You can change settings for an election you have already imported on the Build workstation under the Configure Settings tab (page 175).

proofing ballots

Under the Proof Ballots tab, you will validate the election data, proof ballot layout, and print reports for proofing ballot content. Note that preliminary ballot proofing should be completed under the Preview Ballot tab in Verity Data; the ballot preview process in Verity Data is discussed beginning on page 140. In Verity Build, the following menus are available in the Preview Ballots tab:

Data Validation: Validate election data and check for errors.

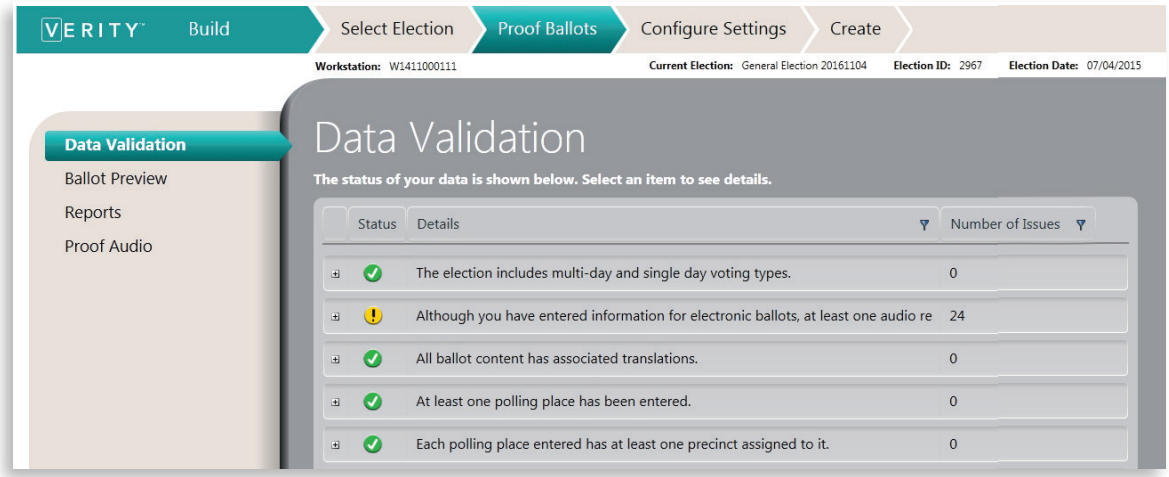
Preview: Preview ballot layout for paper and electronic ballots.

Reports: Print and export reports for ballot proofing.

Proof Audio: Listen to and proof audio recordings.

validating ballot data

The Data Validation menu alerts you of any problems found with the ballot data. If errors are found, the election must be corrected in Verity Data and then re-imported (or re-opened) in Build. Select an item from the list to view any validation issues.



1. Click Start Validation to display the validation screen.
2. Click the + symbol next to the item to view individual issues; the number of issues is indicated in the rightmost column. Note the following indicators:

- Items with a green check mark (✓) have passed validation. No further action is needed to proceed.
- Items with a yellow warning indicator (!) should be investigated, but you may proceed without correcting these items.
- Items with a red error indicator (✕) must be resolved before you may proceed.

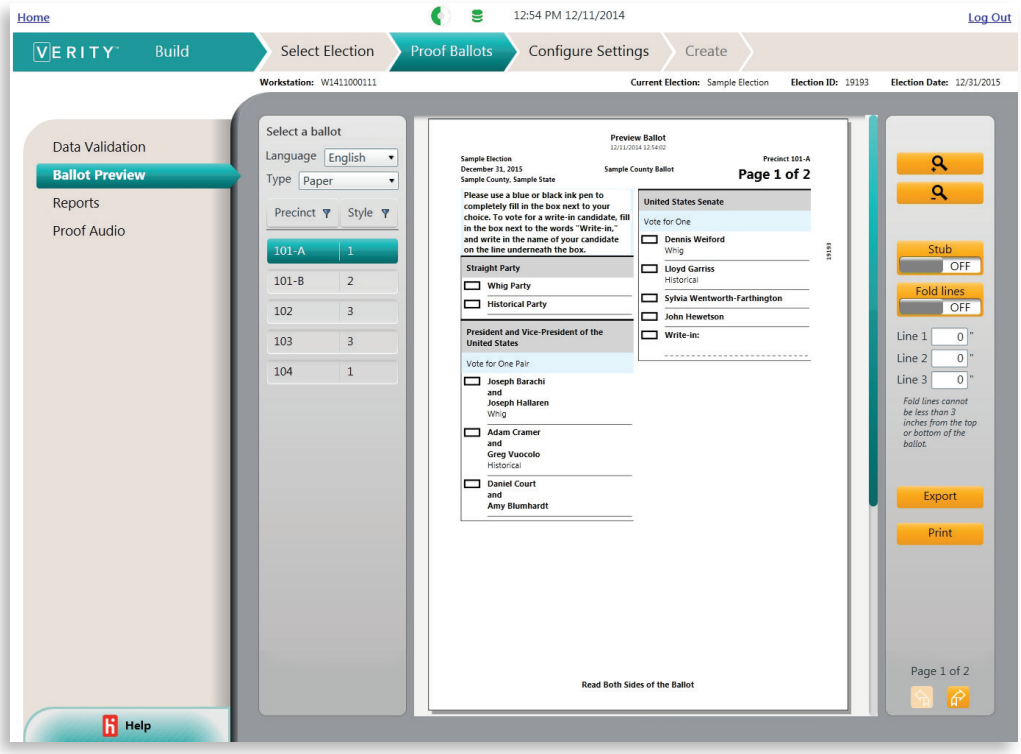
previewing ballots

In the Ballot Preview menu, you will proof each ballot style for content and layout. The ballot preview window contains three sections:

A) The select a ballot panel

B) The ballot preview image

C) The ballot preview toolbar



selecting a ballot

1. In the select a ballot panel, select the language that you want to proof *(if applicable)*.

   NOTE: *In Closed Primary Elections, you may also select ballots by Party.*

2. Select the ballot type to proof (paper or electronic).
3. Select the precinct or ballot style to proof. You should proof at least one ballot of each ballot style, in all languages and ballot types.
4. Click the filter icon (▼) in a column header to filter by category.

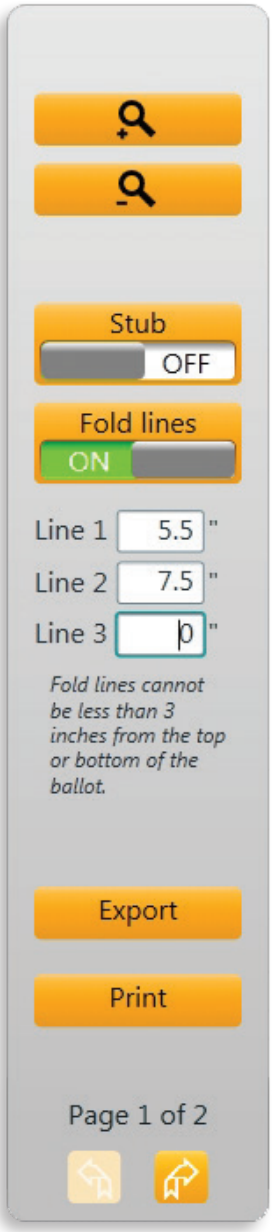
proofing ballots, *continued*

the ballot preview window

The ballot preview window displays the current page of the ballot according to the language, ballot type, and ballot style you have selected.

- The green sliders allow you to adjust the view when zoomed in.

the ballot preview toolbar ▶



A) Use the magnifying glass buttons to examine the ballot in greater detail.

B) The stub slider allows you to see the ballot stub.

C) The fold lines slider allows you to see where fold lines appear on the ballot. Best practices for fold line placement can be found on page 152. Change the fold line positioning by entering values in the boxes below.

D) Click **Export** to export the page preview image to file (PDF).

E) Click **Print** to print the page image.

F) Use the Page buttons to view each page of the ballot; be sure to proof all pages.

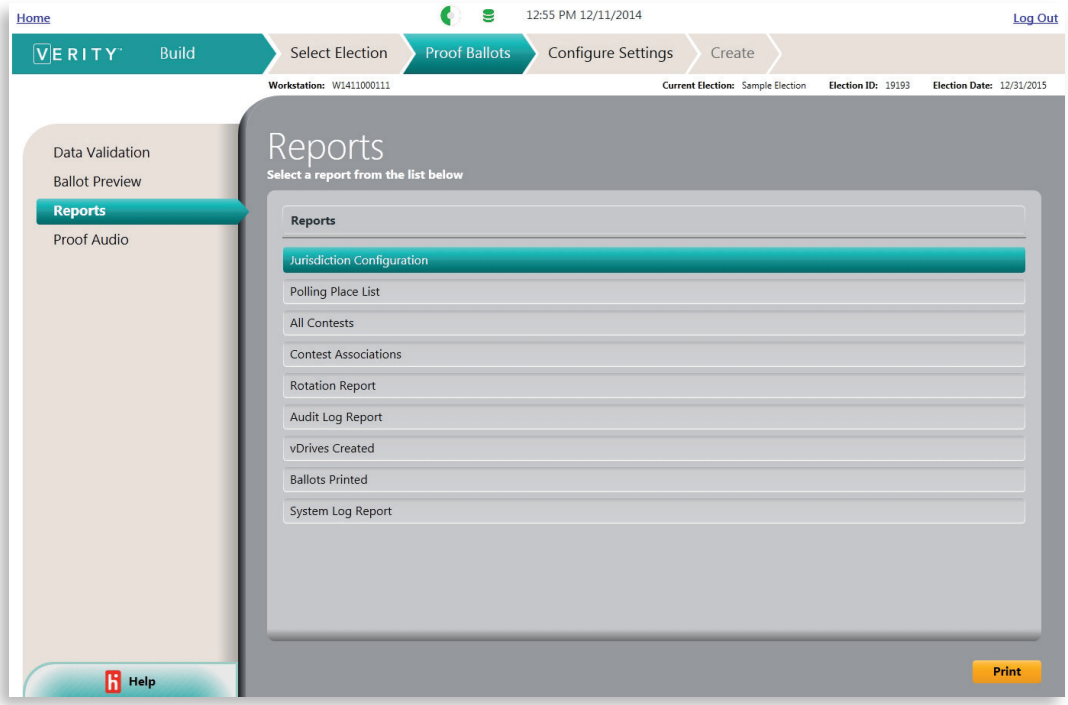
ballot proofing recommendations

Recommendations for proofing ballots can be found on page 151. Remember that ballots should be proofed in Verity Data, prior to locking data in that application. If errors are found in Verity Build, the election must be unlocked and corrected in Verity Data, locked, and then re-opened in Build. Using the staging feature in Data, you can proof and lock individual languages, and bring those languages to Build, while you continue entering translations, recording audio, and proofing your other language(s) in Data. For more information on staging, see page 155.

generating reports (Verity Build)

The Reports menu provides reports for use in proofing ballot content. It also contains Audit and System Log reports that may be printed on-demand.

NOTE: *All Audit and System Log reports are automatically digitally signed (see page 398).*



1. Select the **Preview Ballots** tab.
2. Select the **Reports** menu.
3. Choose the desired report from the list.
4. Click the **Print** button to print or save the selected report.
5. If applicable, select the **Report Settings** for the specific report, and then click **Show Report**.
6. To print the report to an attached printer, click the Printer icon. To export the report to PDF, click the Disk icon.

generating reports (Verity Build), *continued*

available reports: Build

The following reports are available in Build; the contents of each report are listed below. These reports cannot be deleted or edited by the user. All Build reports contain the following information in their header:

- Report Title
- Election Title
- Election Date
- Election ID
- Jurisdiction Name
- Date and time the report was generated

NOTE: *The Election Title, Date, and ID fields and the Jurisdiction Name field are not included on the System Log report.*

Jurisdiction Configuration report

- Jurisdiction name
- List of precinct names
- List of precinct split names
- List of district names
- Precinct associations with districts
- Precinct split associations with districts

Polling Place List

NOTE: *Users can filter the Polling Place List by voting type, and include or exclude precinct associations.*

This report includes a list of all polling places, with the following details for each polling place:

- Polling place name
- Polling place notes
- Polling place to voting type associations
- Polling place to party associations
- Polling place associations with precincts *(optional)*
- Polling place associations with precinct splits *(optional)*
- Polling place associations with districts *(optional)*

All Contests report

This report includes a list of all contests in the election. All lists in this report are sorted by the sequence number of the list items. Each contest includes the following details:

- Contest title
- Contest type
- List of contest party associations
- Instruction text
- Contest notes
- Number of valid selections
- Number of write-in options
- Whether contest is included in straight party
- Whether contest is included in rotation
- A list of contest options, with the following details:
  - Option name
  - Option details
  - Option party association
- Whether contest is non-partisan
- Total count of contest that include voteable options in this election

Contest Associations report

NOTE: *Users can include or exclude the following from this report: Party Associations, Precinct/Split Associations, District Associations.*

This report displays a list of all Contests in the election, including the following details:

- Contest title
- Contest party association
- *(optional)* The contest's associations with:
  - Precincts
  - Precinct splits
  - Districts

generating reports (Verity Build), *continued*

Rotation report

This report contains information relating to rotation, organized into the following sections:

- List of all contests included in rotation
- Contest details:
  - Contest title
  - Contest party associations
  - Option names, in rotated order, for each precinct and precinct split associated with the contest
  - Write-in options

vDrives Created report

This report includes the following details relating to vDrive and creation:

- Total number of vDrives created in this election
- Total number of Test vDrives created in this election
- Total number of Official vDrives created in this election
- List of all vDrives and Keys created in this election, with the following details:
  - Media type
  - User who created the vDrive
  - Date and time the vDrive was created

Ballot Style report

The Ballot Style report groups lists of precincts by shared ballot styles, and provides the total number of ballot styles within the election.

Ballots Printed

This report lists ballot print jobs that have been created in this election, with the following details for each print job:

- Precinct name
- Precinct split name
- Party
- Quantity of ballots printed
- Language
- Ballot type
- Starting ballot number for the print job (*if applicable, see page 190 for information on ballot numbering)*
- Ending ballot number for the print job *(if applicable)*
- Date and time of the print job
- User logged in when the ballots were printed

Audit Log report

NOTE: *All Audit and System Log reports are automatically digitally signed (see page 398). Users can select the date/time range of entries before viewing the report.*

The Audit Log report is a comprehensive log of all activity that has occurred in the Build application on that workstation. Each entry includes the following detail:

- Date/time of event
- User logged in at time of event
- Application name and full version number
- Device serial number or workstation ID
- Event name *(in plain text)*
- Event detail data *(in plain text)*
- Election ID
- Tags

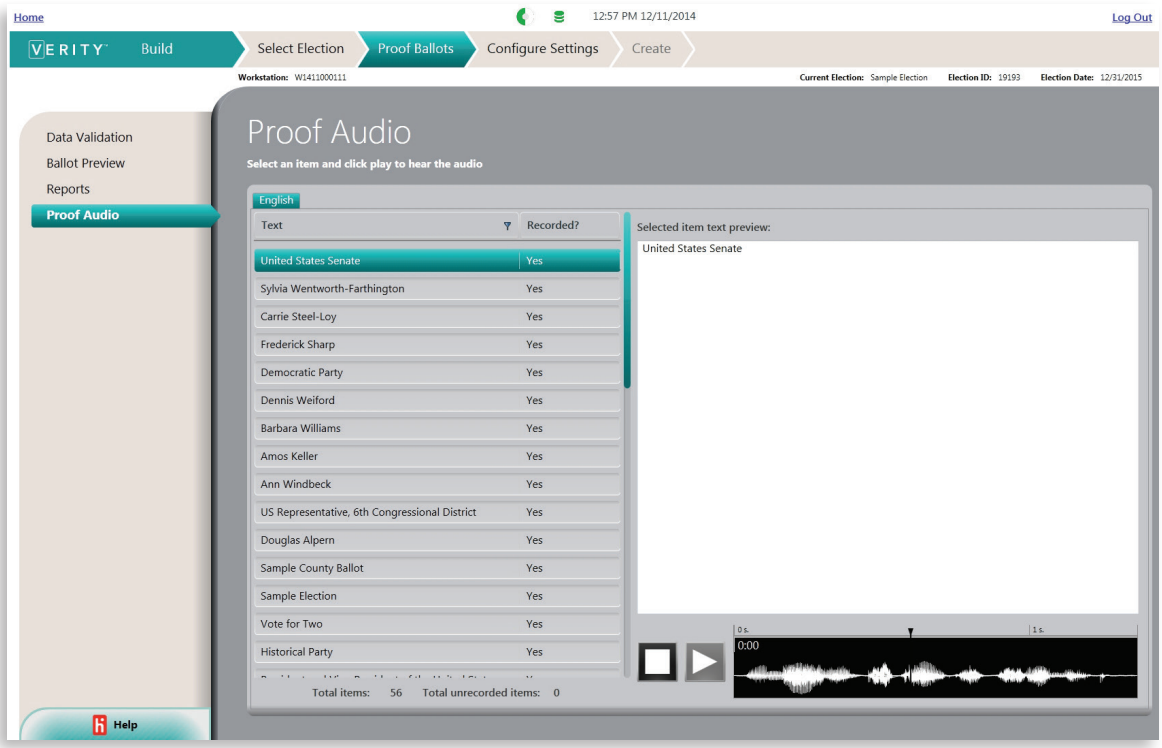
System Log report

NOTE: *All Audit and System Log reports are automatically digitally signed (see page 398). Users can select the date/time range of entries before viewing the report.*

The System Log report is a comprehensive log of all activity that has occurred on a workstation or network that is not election-specific. Each entry includes the same details as the audit log, listed above.

proofing audio

The Proof Audio menu shows a list of all ballot items. The right-hand column indicates whether an audio recording exists for that ballot item.



To proof ballot audio:

1. Select the **Proof Audio** menu.
2. Select the tab corresponding to the desired language (if applicable).
3. Select the ballot item you would like to proof.
4. Click the **Play** button (triangle) to hear the audio recorded for that item.
5. Click the **Stop** button (square) to stop playback.

configuring election settings

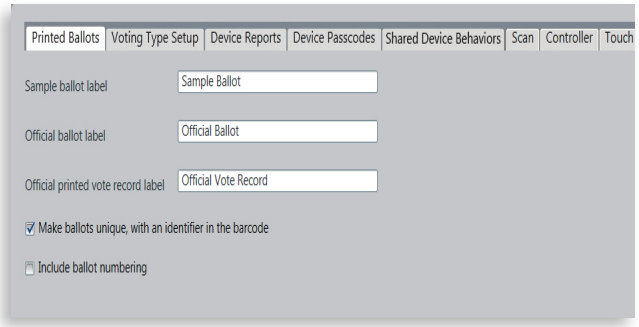
In the Configure Settings tab, you will set up your application and device options and accept the election in preparation for printing ballots and writing vDrives and Keys. The following menus are available in the Configure tab:

Election Settings: Set options for printed ballots, voting types, and devices.

Accept Election: Finalize the election data and settings.

election settings

The Election Settings menu contains several tabs which allow you to set options for printed ballots, voting types, device reports, device passcodes, and device options for Scan, Touch Writer, Print, and Reader.



printed ballots settings

Select the Printed Ballots tab to set your printed ballot settings, if you did not do so earlier.

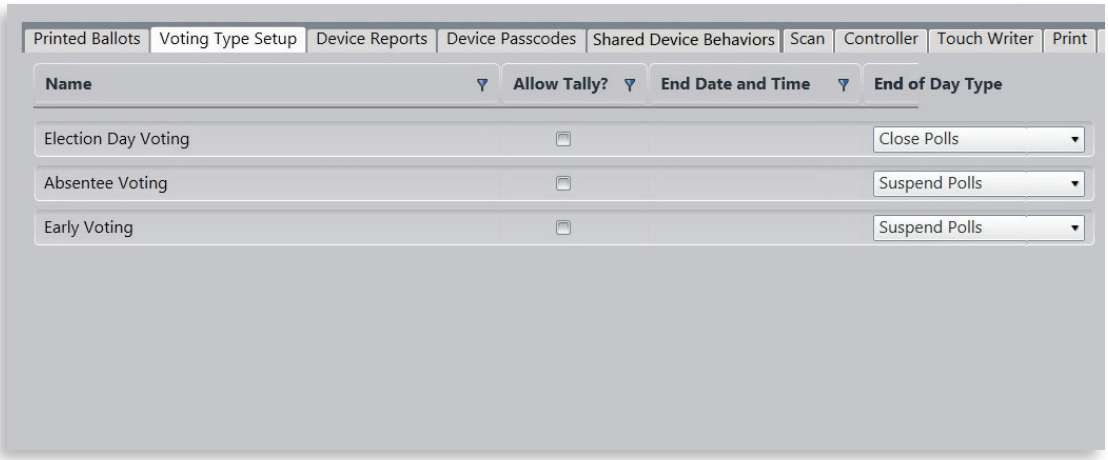
1. Edit the default Sample ballot label, if desired. This label will appear along the top of sample ballots.
2. Edit the default Official ballot label, if desired. This label will appear along the top of official ballots.
3. Since Touch Duo is not used in California, the default printed vote record label may be ignored.
4. Unique identifiers are not used on ballots in the State of California. The box next to **Make ballots unique...** should be unchecked.

   NOTE: *Unique identifiers should not be confused with ballot numbering;* *see page 190.*
5. Check the box if you want to include ballot numbering on all printed ballots.
4. If you have made changes, click **Save.**

configuring election settings, *continued*

voting type setup

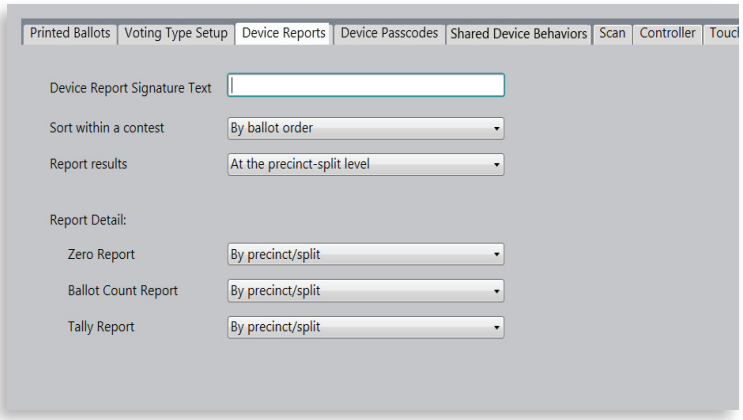
Select the **Voting Type Setup** tab to choose your options for each voting type for the election.



1. Check the box under **Allow Tally** if you would like poll workers to have the option to print a daily tally report from the voting devices, for this voting type.
2. Set the **End Date and Time** for each voting type (required).
3. Chose the **End of Day Type**—Close Polls, Suspend Polls, or Both.

   NOTE: *For example, "Both" may be used if you need to Suspend polls during a multiple-day voting event, and Close polls at the end of a multiple-day voting event.*
4. If you have made changes, click **Save**.

device reports settings



Select the **Device Reports** tab to set reporting options for devices.

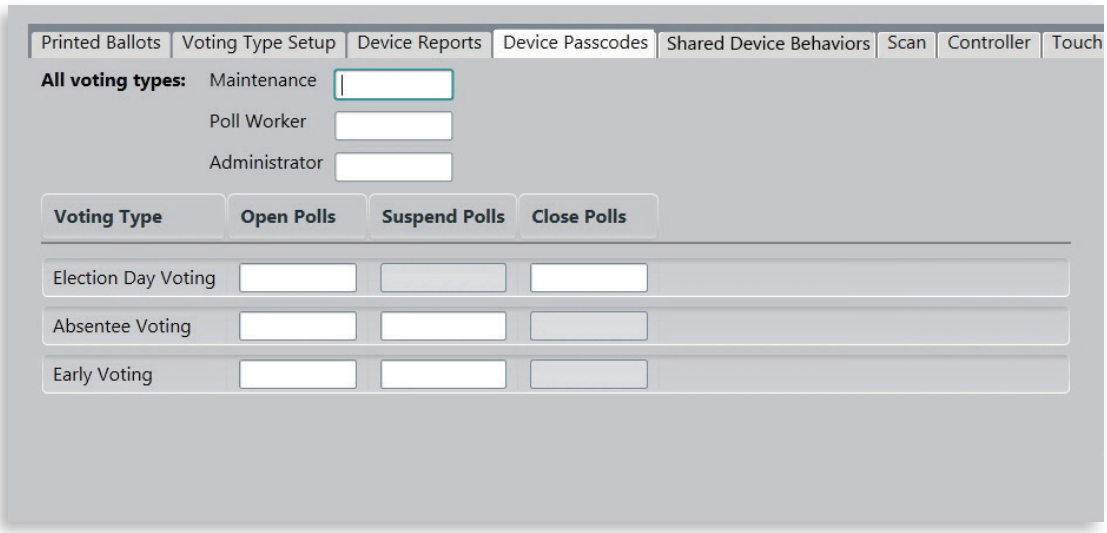
1. Type a label for signatures on device reports.
2. Choose how report results will be sorted. This determines the order in which contest choices will appear on reports. The available options are:
   - By base ballot order
   - By votes received
   - By rotated ballot order
3. Choose the reporting level for results. The available options are:
   - At the precinct level
   - At the precinct-split level
4. Choose how device report details will appear. Options can be set for the Zero report, Ballot Count report, and Tally report. The available options are:
   - **Summary:** Shows consolidated contest totals for all precinct/splits assigned to that device.
   - **By precinct/split:** Shows contest totals separated by each precinct/split assigned to that device.

   NOTE: *If you set reporting detail to "By precinct/split", a detailed report will print showing the results for all contests, by each precinct; these may take a long time to print if you have many precincts. Please keep in mind that choosing the "By precinct/split" option may lead to much longer reports when printing reports at Early Voting or Vote Center polling places, or when performing an LAT, since all precincts would be included.*
4. If you have made changes, click **Save**.

configuring election settings, *continued*

device passcodes

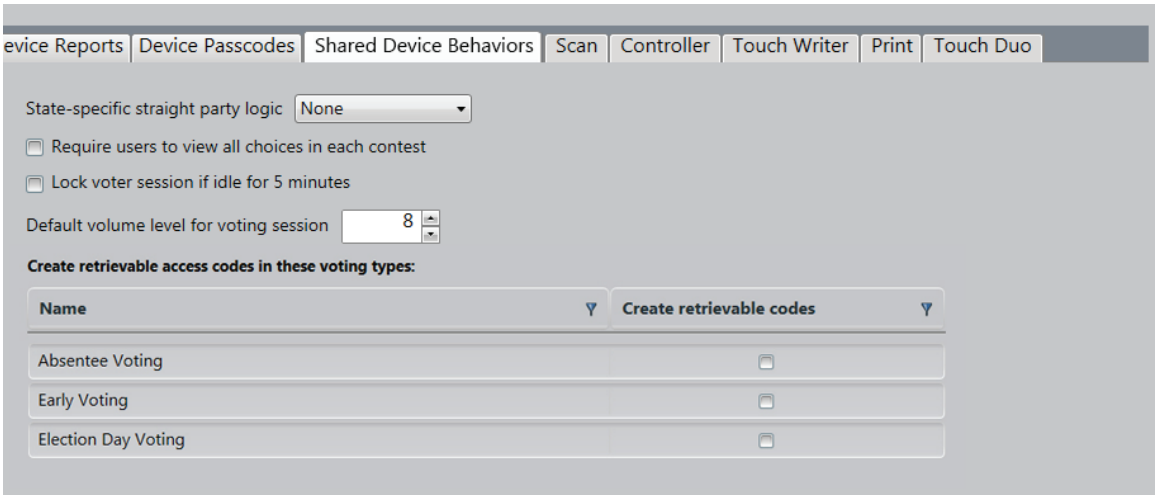
Select the **Device Passcodes** tab to set the device passcodes for election staff and poll workers. Passcodes must be 6 numbers.



1. Set passcodes for Maintenance, Poll Workers, and Administrators.
2. Set Open Polls passcodes for each voting type.
3. Set Suspend Polls and/or Close Polls passcodes for each voting type.
4. If you have made changes, click **Save**.

shared device behaviors

Select the **Shared Device Behaviors** tab to make general settings for Verity devices (including Touch Writer and Reader).

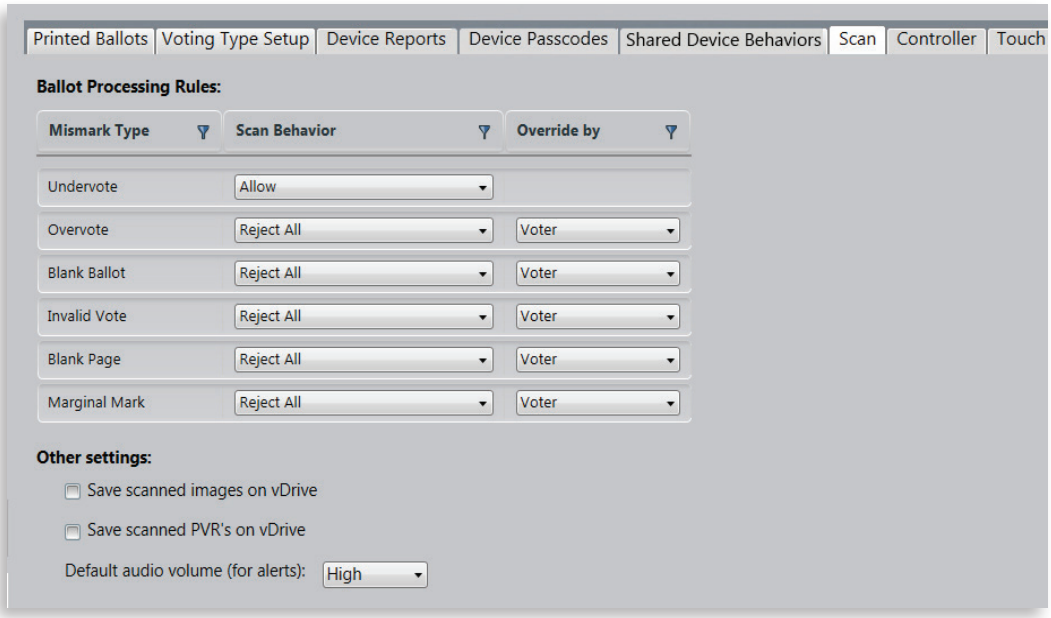


1. Set the state-specific straight party logic to None.
2. Check the box if your jurisdiction requires voters to view all choices in a contest before making a selection (applies to Touch Writer).
3. Check the box to lock voter sessions that are idle for 5 minutes (applies to Touch Writer).
4. Set the default volume level (0-20; default is 8).
5. Set Retrievable Ballot options for each voting type.
6. If you have made changes, click Save.

configuring election settings, *continued*

Verity Scan settings

Select the **Scan** tab to set device options for Verity Scan, including Verity Scan behavior when scanning ballots with voter intent issues. These settings determine if and how second-chance voting opportunities are presented to voters.



1. Choose if Scan will allow or reject undervotes, overvotes, blank ballots, blank pages, invalid votes, and marginal marks.
   - **Allow:** allows the device to accept any contests of that type (undervote, overvote, etc.).
   - **Reject All:** sets the device to prompt the voter to correct any contests of that type (undervote, overvote, etc.) before the ballot can be cast. A rejected contest can be overridden by either the voter or the poll worker (see below).
   - **Reject for some contests (undervotes only):** selecting this option allows you to reject undervotes only for specified contests.

configuring election settings, *continued*

2. Under the **Override by** column, choose whether the **Voter** or the **Poll Worker** has the ability to override rejected undervotes, overvotes, blank ballots, blank pages, invalid votes, or marginal marks. If a voter or poll worker chooses to accept a ballot as-is, any choices in undervoted or overvoted contests will not be counted. Otherwise, in the case of undervotes and blank pages/ballots, the ballot can be removed, corrected and rescanned. In the case of overvotes or marginal marks, the ballot may need to be spoiled and the voter given a new ballot, according to local rules.
3. Check the box next to **Save scanned images to vDrive** if you would like the Verity Scan to save an image of each ballot page scanned to the vDrive. This may be useful for election transparency initiatives (making ballot images available to the public after the election, for instance), and this option is required if your jurisdiction uses scanned ballot images for recount purposes. If you choose to save ballot images on Verity Scan vDrives, the filename of the ballot image (PNG format) will include the Cast Vote Record ID (CVR ID).
5. The checkbox next to **Saved scanned PVRs on vDrive** may be ignored, since California does not use the Touch Writer Duo device.
6. Set the default audio volume for alerts (e.g., when a ballot is rejected).
7. If you have made changes, click **Save**.

configuring election settings, *continued*

Verity Controller settings

Skip the **Controller** tab; this device type is not used in the State of California.

Verity Touch Writer settings

Select the **Touch Writer** tab to set device options for Verity Touch Writer.

The "**Make unique ballot identifiers human readable**" option should be unavailable, since unique identifiers should not be enabled (unique identifiers are not used in the State of California).

Verity Print settings

Select the **Print** tab to view device options for Verity Print.

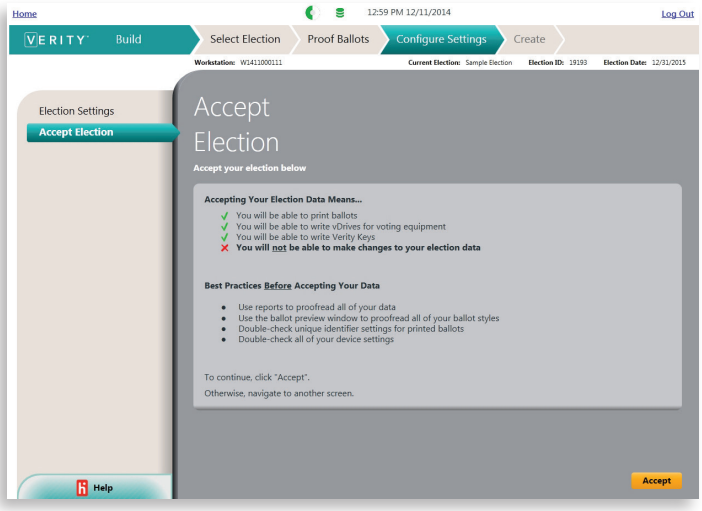
The "**Make unique ballot identifiers human readable**" checkbox should be unavailable, since unique identifiers should not be enabled (unique identifiers are not used in the State of California).

accepting the election

Accept the election ONLY if you are ready to write vDrives and Keys and print ballots. If you are not ready to accept your election, you may log out and return later, or navigate to a previous screen to make changes.

If you are ready to accept the election, select the **Accept Election** menu, and then click **Accept**.

! IMPORTANT: After accepting the election you will not be able to make changes to the Build settings for that version of the election; it is recommended that you archive the election in Election Management before selecting Accept (see page 49). For more information on staging and election versions, see page 155.



1. If issues remain with the election data, you will see a message listing the items that must be fixed before you can accept the election. Click **OK** and correct the issues.
2. If there are no issues found, you will see a progress screen while the election is validated.
3. Once validation is complete, click **OK**.
4. Click **OK** again to confirm.

printing ballots and creating election media

In the Create tab, you will print ballots, write and manage vDrives, and create and manage Verity Keys. The following menus are available in the Create tab:

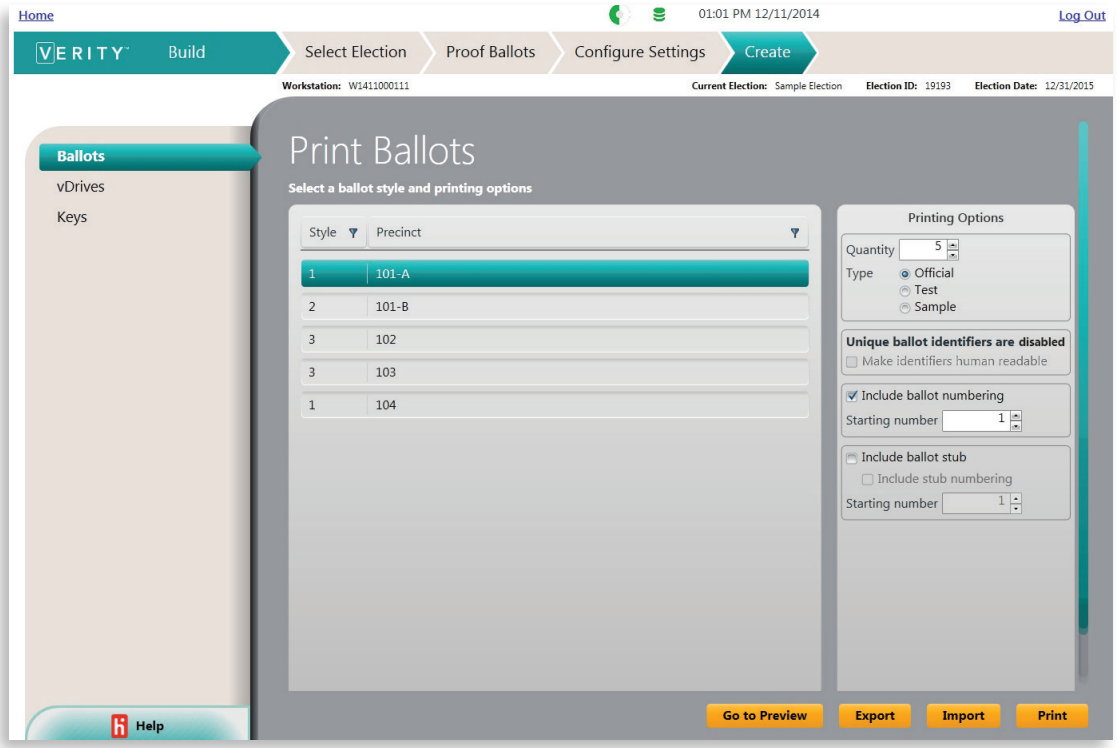
Ballots: Print ballots and/or create ballot print files.

vDrives: Write the election to vDrives for use on voting devices and/or Central scanning stations.

Keys: Write Verity Keys for the election.

printing ballots

1. Under the **Ballots** menu, select the ballot style(s) you would like to print.



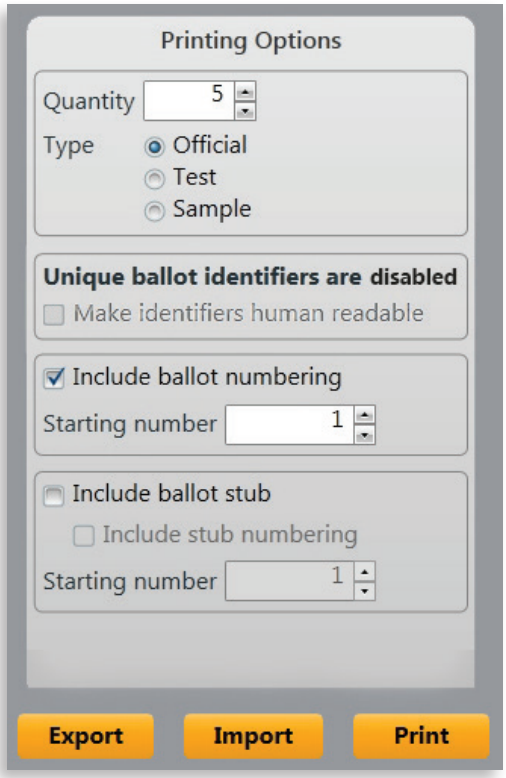
A) Ballot style is indicated in the left column; the associated precinct is in the right column.

B) You can click **Go to Preview** to go to the Ballot Preview screen (click the **Create** tab to return to the Ballots menu).

printing ballots and creating election media, *continued*

2. For each ballot style, select the Quantity and Type of ballots to be printed. Ballot Types include Official ballots, Test ballots, and Sample ballots.
   - Test ballots are typically for testing printer settings, checking ballot layout, and for use during a Logic & Accuracy Test (LAT).
   - Sample ballots are intended as samples to be distributed to the public. Sample ballots cannot be read or counted by voting devices.
   - Official ballots are for voting.

   Other Printing options include:
   - Including ballot numbering (see page 190).
   - Including ballot stubs.



3. Print the selected ballot(s).
   A) Click **Print**, *or*
   B) If you wish to export the selected ballot(s) to PDF for printing at a later time, click **Export**.
4. *(optional)* Import a print queue (see page 186 for instructions on creating a print queue file).

printing ballots and creating election media, *continued*

creating a print queue file for import

Creating a print queue is a way to automate the printing process. To create a print queue you must first create a comma-delimited text (.txt) file with ballot style(s), quantities, ballot type(s), etc. This file will also specify whether Build will automatically export the print job to PDF, or print the job immediately.

1. Create a spreadsheet with the following data (all columns required):

Column	Content
1	Precinct Name
2	Split Name (if applicable, otherwise leave blank)
3	Party Name (for closed primaries, otherwise leave blank)
4	Language
5	Quantity
6	Ballot Type - Official, Test or Sample
7	Starting ballot number
8	Print to file? (TRUE or FALSE)
9	Output File Name

Content descriptions

NOTE: *Precinct Name, Split Name, Party Name and Language all must match exactly their corresponding items in the ballot definition.*

Precinct Name: Precinct name of the ballot to print.

Precinct Split Name: Precinct split name of the ballot to print, if applicable. Must exactly match the Precinct Split name that was used in ballot definition.

Party Name: Full party name *(for closed primary elections)*.

Language: Language of the ballot to print.

Quantity: The number of ballots to print.

Ballot Type: Can be "Test", "Sample", or "Official".

Starting ballot number: Enter the starting ballot number to use when printing multiple ballots of a single precinct.

Print to File: Type TRUE if you would like to output the print jobs to PDF; type FALSE if you would like to output directly to the default printer.

Output File Name: The name of the PDF to be produced by the import file (*Note: Print to File value must be TRUE)*.

2. Once you have finished entering your data, delete the header row.
3. Save the spreadsheet you created as a comma delimited text (.CSV) file to a USB drive, then manually change the file extension from .csv to .txt

4. Insert the USB containing the .txt file into an available USB port on the Build workstation.
5. Under the Printing Options panel in Build, click **Import**.
6. Browse to the .txt file you created and click **OK**.

NOTE: *If you entered TRUE in the Print to File column of the .txt file, the ballots will be automatically saved to the USB drive. If you entered FALSE under the Print to File column, the ballots will be sent to the printer immediately.*

pre-marked ballot print queues

You can also create a print queue file for pre-marked ballots (for use in a Logic & Accuracy Test, for example). For more information, see page 221.

ballot printer certification

When printing paper ballots from Verity Build:

- Ballots can be printed on-demand and in-house.
  - Any jurisdiction that wishes to print its own ballots must be certified as a ballot finisher through the California Secretary of State's office, and must use printing and security procedures that have been approved by the state.
  - For jurisdictions using ballot numbering on your printed ballots: If your jurisdiction orders printed ballots from Hart, and also intends to print ballots from your own Build workstation, you must coordinate your additional printing with Hart Ballot Production services to plan ballot numbering for your printed ballots. For more information, please contact your Hart Ballot Production Specialist.
- Ballots can be exported to PDF, and printed by a third-party print vendor who typically uses a commercial digital document printer.
  - The California print vendor certification process is designed to standardize the various practices used by commercial print shops. If using a contract printer, be sure that they conform to the recommended guidelines.
  - California election-specific ballot tinting can be affixed by most third-party ballot printers.

! IMPORTANT: Whether ballots are printed in-house or by a third party, a periodic sampling of ballots must be checked using a Ballot QC Overlay—Overlays are used to verify that printing alignments are within the necessary tolerances so that the ballot can be scanned properly in the Verity system.

printing ballots and creating election media, *continued*

about Hart Secure Ballot Stock

NOTE: *California election-specific ballot tinting can be affixed by most third-party ballot printers.*

To promote election security, and for optimal performance of the Verity Voting System, Hart InterCivic recommends that all ballots be printed on Hart InterCivic Secure Ballot Stock.

Hart's Secure Ballot Stock was specifically designed for use with Hart's digital printing software and digital scanners. The stock includes an exclusive combination of a proprietary mill watermark, smooth high-contrast paper, and toner adhesion qualities that produce a high image quality and more successful ballot scanning.

The "Official Ballot" watermark is embedded into the paper fibers during the paper making process provides clarity that cannot be duplicated by any other method. Secure Ballot Stock is available exclusively from Hart InterCivic, and is sold only to Hart's customers or preferred printers, to prevent unauthorized ballot replication.

Security - A secure high-grade paper with a unique watermark impression, specifically formulated for the needs of professional election administrators

Integrity - Enables election administrators to demonstrate their commitment to election integrity and to protect against fraudulent reproduction or alteration of ballots

Voter Confidence - Ballots inherently display exceptional quality and security to gain the confidence and trust of the general public

Flexibility - An easy way to introduce security into print production, allowing local print partners to retain control over their own procedures

Performance - Provides superior image quality and scanning performance when used with Hart's voting systems

Election-specific features:

- Customized watermark impression for security
- Strong weight for durability
- Ultra-smooth finish for best image quality
- Optimized grain direction for folded ballots

ballot paper specifications

- Basis Weight: 28# Bond
- Finish: Smooth Xerography
- Sheffield: 100-120
- Brightness: 91-94
- Content: Virgin wood fiber, no recycled content
- Florescent level: 4%
- Moisture content: 4.5%
- Packaging: Moisture resistant ream wrap
- Trim: +/- 0.025"
- Squareness: +/- 0.0075"

Security features - Trademarked original dandy roll watermark "Official Ballot," random repeat, readable in any orientation

Sizes (inches) - 8.5" x 11"; 8.5" x 14"; 8.5" x 17"; 8.5" x 20"; 11" x 17"

Grade bond: #1 - Number one grade paper is produced with 100% cellulose fibers. The process of creating a #1 grade bond paper removes all impurities from the fibers which can affect the appearance and performance of the paper. The smoother digital and bond grade papers provide the best image quality.

Basis Weight: 28 # Bond - Paper weight is expressed in terms of basis weight, which is the weight of 500 sheets of a particular size. The 28 # is created with a thickness to allow enough flexibility without additional curl. Lower basis weight papers tend to have a smoother finish.

Finish: Smooth Xerography - The finish is the smoothness of the contour of the paper. Toner is fused to paper by a combination of heat and pressure. Smoothness levels are required to prevent image graininess and achieve acceptable toner adhesion results.

Sheffield: 100 – 120 - The smoothness of paper is determined by the Sheffield rating system. The smooth digital and bond grade papers provide the best image quality in digital printing applications.

Brightness: 91 – 94 - Brightness is a measure of the amount of light of a specific wavelength, a sheet reflects. The more light it reflects, the higher the brightness. Brightness has no bearing on the performance of the paper but does have a significant impact on image quality.

printing ballots and creating election media, *continued*

Content - The virgin wood fiber contains no recycled contents. This ensures impurities are removed from the paper which affects the smoothness, moisture content and image quality.

Florescent level: 4% - Florescent whitening agents to improve paper quality in terms of appearance. The florescent level enhances the visual appearance of the sheet and printed product. The whitening agents are essential in creating high quality white paper.

Moisture Content: 4.5% - Almost all grade of paper has some percentage of moisture. The 4.5 % moisture content is the industry average while some grades of paper have much higher moisture content. A 1% variation of 4.5% can cause problems. The physical properties of the paper undergo change as a result of variations in moisture content. The moisture content of paper can affect its printability, performance and strength. Paper with high moisture contents tend to cause problems with post-fuser curl, while papers with low moisture contents have a tendency to experience static which causes problems with feeding and post print operations.

Packaging - The moisture resistant ream wrap ensures the proper moisture level of the paper is maintained.

Trim: +/- .025" - Allowable tolerance for trimming to specific sheet sizes.

Squareness: +/- .0075" - Allowable tolerance for squareness of the sheet. A simple example of squareness is folding a paper sheet in half and having the corners meet exactly.

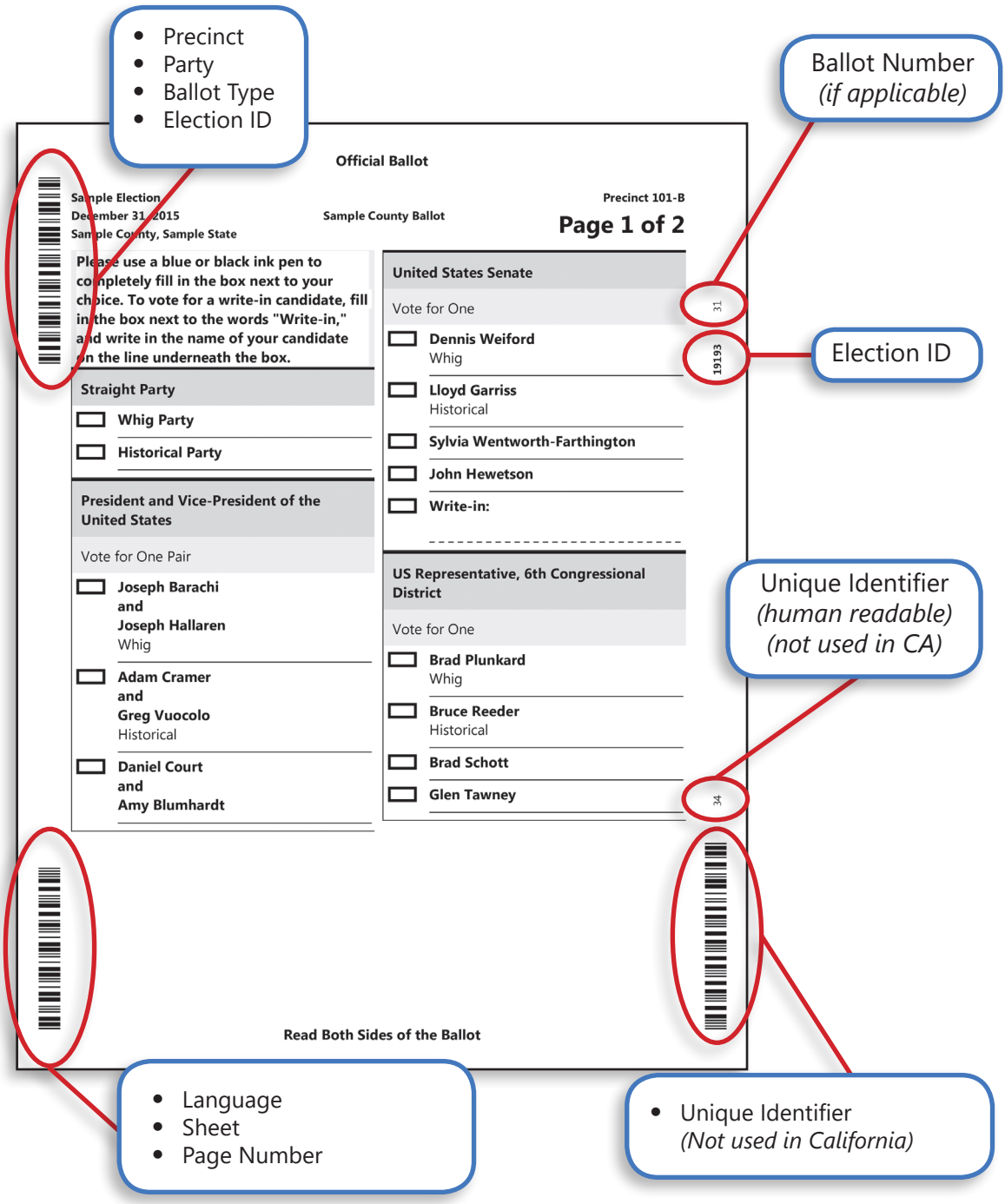
about unique identifiers and ballot numbering

Unique identifiers are not used in the State of California; the details that follow are for informational purposes only: A unique identifier is a non-serial number, used during the scanning process to detect and disallow duplicate ballots; The unique identifier is not tied in any way to an individual voter, as there is no individual voter data stored in the Verity system.

A **ballot number** is a separate, human-readable number that can be included in the margin of a printed ballot.

- Ballot numbering can be used in the inventory process for paper ballots.
- Numbering can be started or restarted at any number.
- Ballot numbers are not used during the ballot scanning process.
- Ballot numbers can be specified by the user, and need not be unique. They should not be confused with "unique identifiers," which detect and disallow duplicate ballots.

visual ballot guide: barcodes and numbering

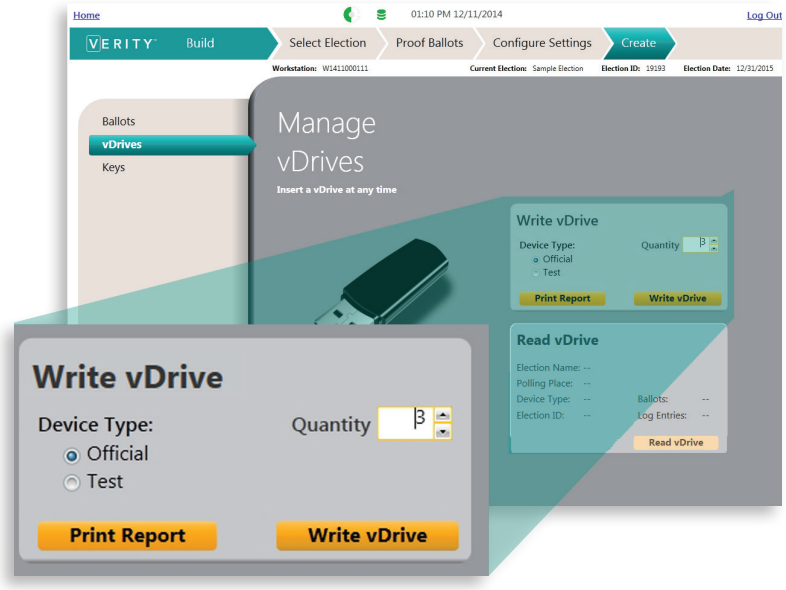


printing ballots and creating election media, *continued*

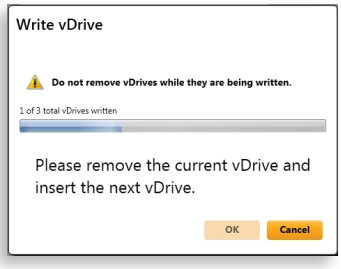
writing vDrives

Before writing vDrives, you should plan the quantity of vDrives needed, using a vDrive Worksheet (or equivalent) as a guide (see the following page). vDrives may be written individually (see below), or duplicated in bulk (page 193). Additional vDrives can be written at any time, as needed.

To write vDrives individually:



1. Choose the device type (Official or Test).
2. Choose the quantity of vDrives to be written. For help with planning vDrive quantities, see the following page.
3. Click **Write vDrive**. You can insert one vDrive to be written into an open USB port at any time.
4. When prompted, you can remove the vDrive and insert the next vDrive to be written. When all vDrives have been written, click **OK** to return to the vDrives menu.



   - To print a report of all vDrives written, click **Print Report**.
   - To read a previously written vDrive, insert the vDrive into an available USB port on the Build workstation, and then click Read vDrive. The details for the vDrive inserted will display.

planning vDrive quantities

A vDrive Worksheet, available from Hart, can assist you with planning vDrive quantities. Requirements will vary by jurisdiction, but generally speaking you will need the following at minimum:

Test vDrives

- 1 vDrive for each device (Touch Writer, Scan) used in Logic and Accuracy Testing.
- 1 vDrive for each Central scanning setup used in the LAT (minimum, see below under official mode vDrives).
- 1 vDrive per device in use at Help Desk, etc.
- 10% of total as spare Test vDrives (recommended).

Official vDrives

- 1 vDrive for each device (Scan, Touch Writer, Reader, Print) to be used in the election, for each voting type (e.g. Absentee, Early Voting, Election Day).
- 1 vDrive minimum for each Central scanning setup, per 10k CVRs. More if pulling incremental reports from Count, or as per local Central workflow (e.g. Absentee and Early Voting on separate vDrives, etc.).
- 20% of total as spare Official vDrives (recommended).

duplicating vDrives

For jurisdictions with many Verity Devices, requiring large quantities of vDrives, a single vDrive produced in Verity Build may be duplicated using a commercial USB media duplicator to accelerate the vDrive writing process. If using a Vinpower Digital USB duplicator, Hart InterCivic recommends the following procedure to duplicate vDrives (procedures for other makes and models may differ).

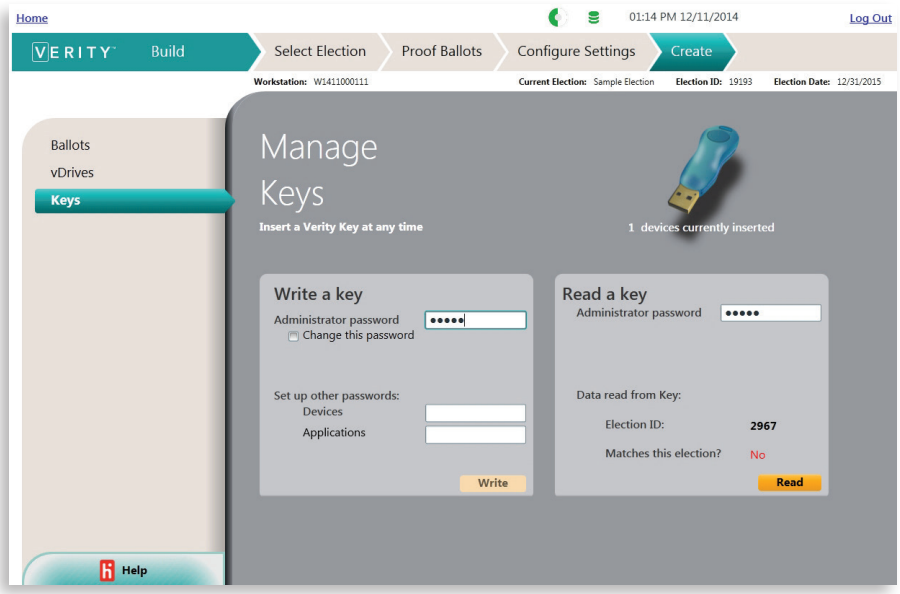
1. Power on the duplicator by pressing the Power button.
2. Press the down arrow until “Copy+Compare(SMART)” appears on the display. Press the ENT button.
3. Insert the original vDrive (the drive to be copied) into the Source port.
4. The display will now read “Target Detected:00 Please Insert Device.” Insert empty vDrives(s) (the vDrive(s) to be written) into the other non-Source ports.
5. The duplicator will automatically begin to duplicate the vDrive 30 seconds after the final vDrive is inserted or after the ENT button is pressed. Additional vDrives may not be inserted once the duplication process has started.

printing ballots and creating election media, *continued*

6. The duplicator will automatically compare the vDrives to verify that they are identical.
7. Verify on the display that there were no duplication failures.
8. All vDrives may now be removed.

creating Verity Keys

To write Verity Keys for the election:



1. Insert a Verity Key into an available USB port.
2. Under Write a key, enter the Administrator password. The Administrator password you enter the first time you write a particular Key in Build stays attached to the physical Key until changed. You can change the Administrator password by checking the box next to **Change this password**. You will be prompted to enter the current administrator password as well as the new password.

! IMPORTANT: Dot not lose or forget the administrator password, as there is no way to recover it. The administrator password is used to write and read the Key in Build; if the password is forgotten, the Key cannot be re-written or re-used ever again.

3. Enter the passwords for Devices and Applications. These passwords can be changed for each election. All are required.

   NOTE: *These are the passwords that are required when you use the Verity Key with the Verity devices (for example, to predefine the polling place) and in the other Verity applications (to read in and tabulate vDrives in Count, for example). A complete list of actions requiring the Verity Key is provided below.*

4. Click **Write**.

5. When the key has been written, you will see a success message. Click **OK** and remove the Key.

   - To read a previously written Key, insert the Key into an available USB port on the Build workstation. Under **Read a key**, type the Administrator password for the Key, and then click **Read**. The Key data will display.

actions requiring use of the Verity Key

use in Verity Build

- Verity Keys are written for the current election in Verity Build. Writing Verity Keys requires the Operator or Media Creator user to know the Verity Build administrator password. When writing the Verity Key in Build, the user will assign application and device passwords for the election. See page 194 of this guide.

use in voting devices

- Verity Key is required to predefine voting devices with the proper polling place prior to deployment. The Verity Key is removed from the device after predefining, before the device is sealed and transported to the polling place. See page 205 for predefining procedures.

use in Verity Central

- In Central, the Verity Key is required in order to import a signed election export from a Verity Build workstation. The user must know the Verity Key application password, set in Build. See page 351.
- A Verity Key is also required in order to create a Recovery vDrive in the event of a damaged or lost vDrive in Central. The user must know the Verity Key application password, set in Build. See page 381.

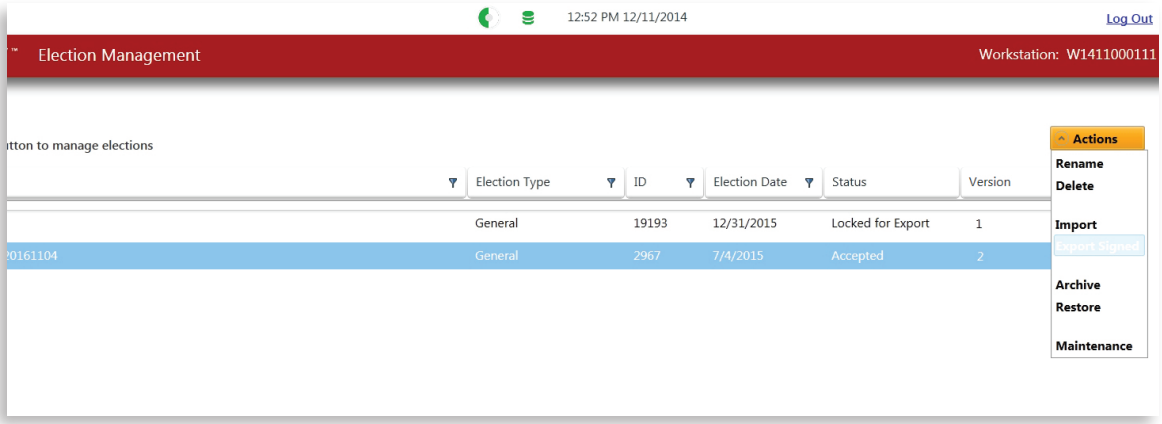
use in Verity Count

- In Count, the Verity Key is required in order to import a signed election export from a Verity Build workstation. The user must know the Verity Key application password, set in Build. See page 397.
- A Verity Key for the current election must be inserted in order to read the first vDrive for an election into Count. See page 409.

exporting an election from the Build workstation

To open the election you accepted in Build on a Verity Central or Count workstation, you first must export the election in the Election Management application on the Build workstation.

1. Insert a removable media (USB) into an available USB port on the Build workstation computer. (You will save the signed election export to the removable media so that you can transfer it to a Central or Count workstation). In order to comply with California Voting Systems standards, any removable USB media used for the transfer of signed election exports must have a hardware read-only switch. The read-only switch should be sealed with a tamper-evident seal per local procedures. For more information, see page 487.
2. Log in to the Verity Build workstation.
3. On the Verity home page, click the Manage tile.
4. In the Election Management application, select the election, and then click **Actions**.



5. Select **Export Signed** from the Actions drop-down menu (the election must be in an Accepted state for Export Signed to be enabled).
6. Browse to the location of the removable media (USB). Click **OK**.
7. Remove the removable media (USB); you will use this to transfer the signed export file to your Central and/or Count workstation(s).

preparing polling place hardware

preparing ballot printers

about ballot printers

Ballot printers are used with the Verity Touch Writer and Verity Print. 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″ (requires Tray Extension Kit)
- 8.5″ x 20″ (requires Tray Extension Kit)

Each ballot printer has the following accessories:

- Verity USB cable
- Power cord
- Tray Extension Kit for 17″/20″ ballots *(if applicable)*

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

preparing polling place hardware, *continued*

printer configuration

The Tray Extension Kit for the OKI B432 is required for printing 8.5" x 17" or 8.5" x 20" ballots. 8.5" x 14" ballots may also be printed with the Kit installed; however, 8.5." x 11" ballots may only be printed using the stock tray mechanism. When printing 17" or 20" ballots, the printer's onboard tray configuration must be set to match the paper size (for 11" and 14" ballots, no changes need to be made). Any tray configuration changes should be done before the printer is deployed to the polling place, to ensure that no paper mismatch errors will occur when a ballot is printed.

When configuring the OKI printer, the printer does not need to be connected to a Verity device. To configure the OKI printer, follow the steps below:

1. Connect the printer to AC power and power on the printer.
2. To configure Tray 1:

   A) When the LED screen on the printer displays READY TO PRINT, press the △(UP) or ▽(DOWN) arrows on the operator panel until the screen displays **MENUS**, and then press (OK)(**OK**).

   B) Press the △(UP) or ▽(DOWN) arrows the operator panel (if necessary) to display **TRAY CONFIG**, and then press (OK)(**OK**).

   C) Press the △(UP) or ▽(DOWN) arrows to display **TRAY1 CONFIG**, and then press (OK)(**OK**).

   D) With **PAPERSIZE** visible, press **OK** - the paper size will flash.

   E) Use the down arrow to change the paper size to **CUSTOM**, and then press **OK**.

   F) Press the down arrow until **Y DIMENSION** is displayed, and then press **OK** – the dimension will flash.

   G) Use the down arrow to change the paper size to either 17.0 or 20.0 inches

   H) Press (**ONLINE**) to return to READY TO PRINT.

3. Power off the printer. The printer is now configured and ready for deployment.

toner cartridges

The OKI 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.

Toner for the OKI B431d, B432dn, C831dn, and C911dn printers may be purchased directly from Hart. Regardless, only toner cartridges approved by the printer manufacturer should be used with OKI printers.

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.

Expected maximum lifespan for starter toner cartridges and standard toner cartridges are listed in the table below. All expected lifespans assume an average toner coverage of 5%. Note that expected lifespan of a toner cartridge depends on the page size as well as the amount of ink coverage on the page; other variables such as the relative heat and humidity found in the toner/printer storage location may also affect performance. Therefore, it is recommended to use these specifications as a general guideline only, and to plan to have adequate replacement toner on hand in the event that a toner cartridge runs out.

Cartridge Type	Page Size	Maximum # of Sheets (double-sided)
Starter	8.5" x 11"	800
Starter	8.5" x 14"	560
Starter	8.5" x 17"	392
Starter	8.5" x 20"	>275
Standard	8.5" x 11"	5,000
Standard	8.5" x 14"	3,500
Standard	8.5" x 17"	2,450
Standard	8.5" x 20"	1,715

preparing polling place hardware, *continued*

viewing estimated remaining life of the toner cartridge

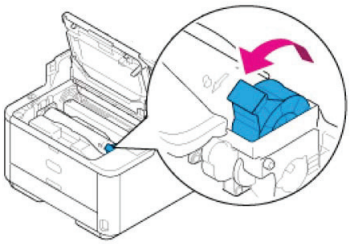
The OKI printer contains an on-board functionality to estimate the amount of toner remaining in the current toner cartridge. When estimating the remaining toner life, remember that the estimated remaining pages that may be printed is based on an average of 5% toner coverage. If you are printing with greater toner coverage, the actual remaining pages that may be printed will be less.

To view the estimated remaining toner life:

1. Under MENU on the right side of the top of the printer, press the OK button.
2. Press the down arrow to access the USAGE menu
3. Press the OK button
4. Press the down arrow to view the estimated toner remaining. The estimated toner remaining will be displayed as a percentage on the small LED screen.
5. Calculate the remaining printable pages based on the percentage given in step 4 and the cartridge type (Starter or Standard) currently installed, according to the table on the preceding page. **EXAMPLE:** 10% remaining for a Standard cartridge means that it is estimated that you may print up to 500 more double-sided 8.5" x 11" sheets (10% of 5,000 = 500), or 350 more double-sided 8.5" x 14" sheets (10% of 3,500 = 350).

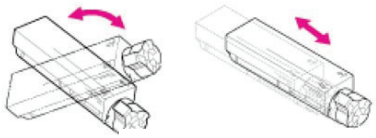
replacing a toner cartridge

1. Press the round cover open button on the left side of the top of the printer and open the top cover.
2. Rotate the blue lever of the toner cartridge in the direction of the UNLOCKED position until it stops.

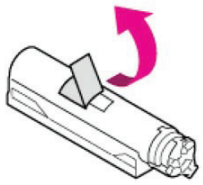


! IMPORTANT: Ensure the cartridge lever is firmly in the UNLOCKED position before attempting to remove the cartridge. Failure to do so can result in toner spillage.

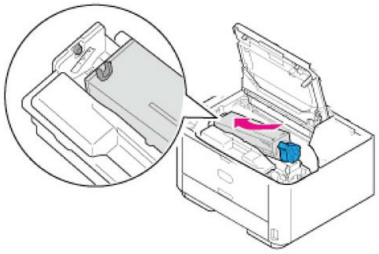
3. Remove the toner cartridge by lifting it gently. Dispose of the used cartridge in the black bag provided with the new cartridge.
4. Shake the new cartridge several times vertically and horizontally.



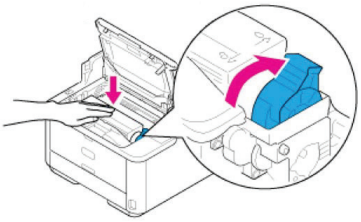
5. Holding the new cartridge level, gently remove the protective tape.



6. Insert the left end of the toner cartridge while aligning the left end with the pin on the top of the image drum, and then insert the right end.



7. Once cartridge is fully seated in the printer, rotate the blue lever of the toner cartridge in the direction of the LOCKED position until it stops.
8. Close the top cover.



storing toner

Stored toner should be kept in a cool, dry location. Excessive heat and/or humidity can cause the toner to cake within the cartridge and may result in poor toner performance and decreased toner cartridge life.

UPS devices and ballot printers

If your jurisdiction has purchased uninterruptible power supply (UPS) devices, they may be used to provide uninterrupted power to ballot printers in the event of a temporary loss of power at the polling place. The use of UPS devices with printers is intended to provide short-term continuity of service only; UPS devices are not designed to provide long-term backup power for printers. Follow the manufacturer's guidelines included with the UPS device for periodic testing of UPS devices.

preparing polling place hardware, *continued*

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
- Device serial number
- vDrive seal number

the Ballot and Seal Certificate (or equivalent)

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

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 ballots activated (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 typically filled out by the presiding official(s) at the polling place.

installing vDrives

materials needed:

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

1. The election name, polling place name, and device serial number should be recorded on the vDrive tracking log when the vDrives are installed.
2. Record the polling place ID and name and other relevant data on the Ballot and Seal Certificate.
3. Open the device case and lock the lid brace in place.

4. Unlock and unlatch the tablet from its storage location.

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

preparing polling place hardware, *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.

8. Please wait while Verity starts.

9. After startup, the device should display the startup screen with the message **No vDrive Found**. A device Power On Self Test report will print on the device's built-in thermal printer. Verify that the device passes all system test requirements, according to local jurisdictional rules.

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.

preparing polling place hardware, *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 next section).

predefining Verity devices

NOTE: *When predefining equipment for the election, you should also take the opportunity to set device clocks, if necessary. For instructions, see page 236. 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).*

The following section describes the recommended procedure for defining the polling place on each Verity 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 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.

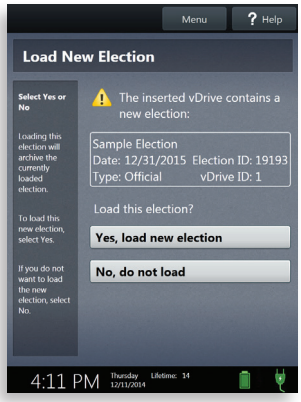
preparing polling place hardware, *continued*

predefining Verity devices

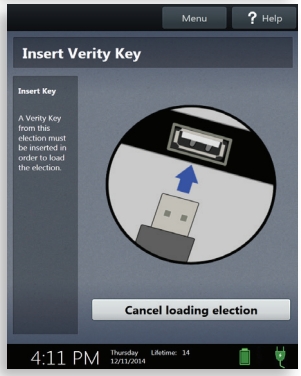
materials needed:

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

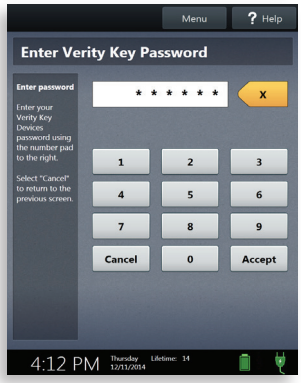
1. Once vDrive is installed (see preceding section: installing vDrives), the Load New Election screen displays. Confirm the election name and date.. Select **Yes, load new election**.



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

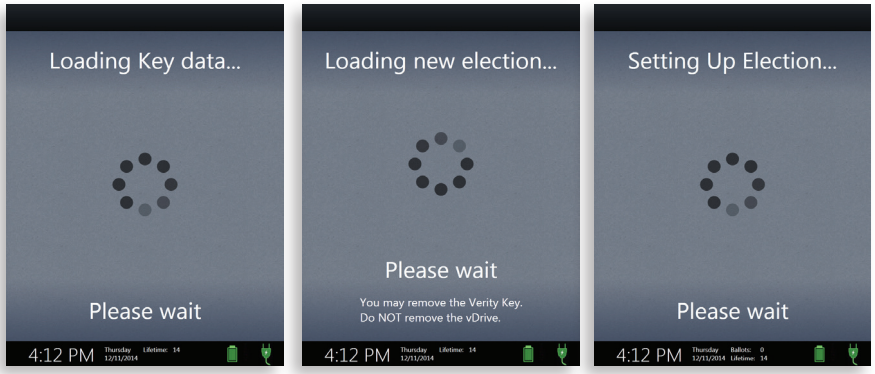


3. Enter the Verity Key password, and then select **Accept**.

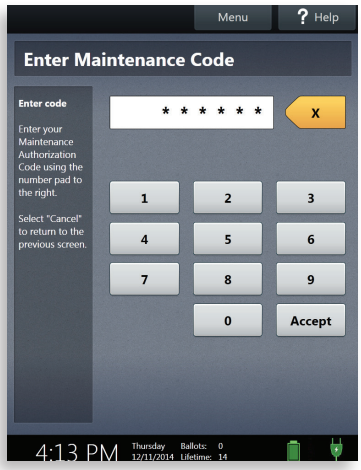


preparing polling place hardware, *continued*

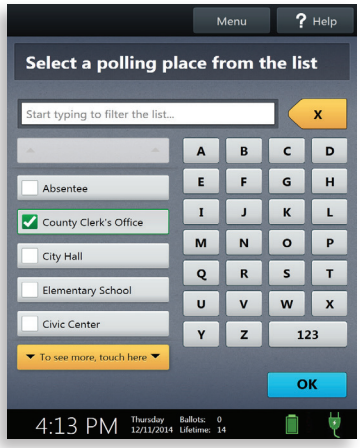
4. Wait while the screen displays **Loading Key data...**, then **Loading new election...**, then **Setting Up Election...**. Do not remove the Verity Key until after you see the message "You may remove the Verity Key" at the bottom of the screen.



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



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.



preparing polling place hardware, *continued*

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.

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.*

9. Close and lock the vDrive compartment.
10. Affix the vDrive seal to the vDrive compartment door. Record the device serial number, vDrive seal number and installer's initials on the vDrive Tracking Log and the Ballot and Seal Certificate.
11. Affix the vDrive seal to the sliding port cover on the back of the device compartment door. Record the device serial number, seal number and installer's initials on the vDrive Tracking Log and the Ballot and Seal Certificate.
12. Press the red power button to power off the device and unplug it. Return the power cord and brick to the storage compartment.
13. Unlock and restore the tablet to its storage location, and then lock and latch the tablet in place.
14. 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 a spreadsheet to easily record Polling Place assignment and device serial number for each device.

preparing spare devices

Typically, spare devices are not predefined with a polling place until they need to be deployed to a polling place. However, spare equipment should still be prepped and ready in the event it is needed. vDrives should be installed and logged for Verity Controller, Scan, Touch Writer, Reader, and Print devices. Tamper-evident seals should be installed and logged for all devices.

The quantity and type of spare equipment that should be prepared for a given election will vary; in general, a spare quantity of 10% of the total deployed for each equipment type is recommended.

checklist: recommendations for predefining Verity devices

- ☐ Set up and power on Verity devices.
- ☐ Record the polling place ID and name on the Ballot and Seal Certificate for each device, and on the vDrive Tracking log.
- ☐ Install vDrives.
- ☐ Confirm the election name and date on the screen. Select **Yes, load new election** and insert a 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, seal number(s), 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.

functionality testing

A functionality test tests the ability of the polling place equipment to work as intended; functionality tests should be completed at least once per year or before every election.

NOTE: *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 480.*

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.

In addition to the tests listed below, an optional check of each device's rechargeable system battery may be performed. For instructions, see page 219.

When testing device functionality, a flat, level work surface and access to a standard 120V AC power outlet are required.

Verity Scan functionality tests

1. Test the touch screen (page 211)
2. Test the thermal printer (page 213)
3. Test the ballot scanner (page 217)

Verity Touch Writer functionality tests

1. Test the touch screen (page 211)
2. Test the thermal printer (page 213)
3. Test the ballot printer (page 216)
4. Test the Verity Access controller (page 215)
5. Test the barcode scanner (if applicable) (page 214)

Verity Reader functionality tests

1. Test the touch screen (page 211)
2. Test the ballot scanner (page 217)
3. Test the Verity Access controller (page 215)

Verity Print functionality tests

1. Test the touch screen (page 211)
2. Test the thermal printer (page 213)
3. Test the ballot printer (page 216)
4. Test the barcode scanner (if applicable) (page 214)

functionality test procedures

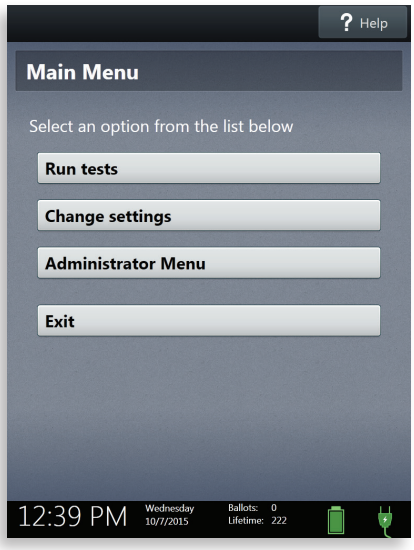
testing the touch screen

(all devices)

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

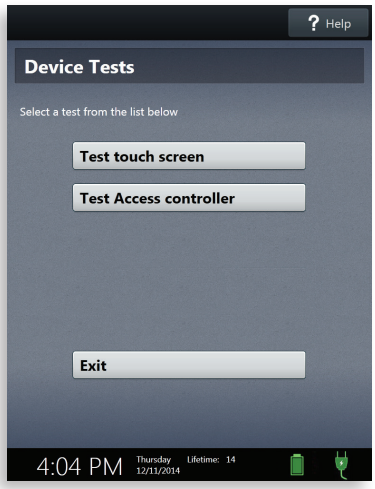
NOTE: *On Scan, Reader, and Touch Writer, if an election is loaded, press the blue Poll Worker button on the back of the device to access the Menu button.*

2. Select **Run tests**.

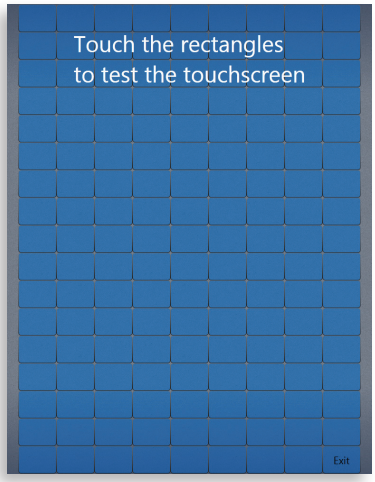


functionality testing, *continued*

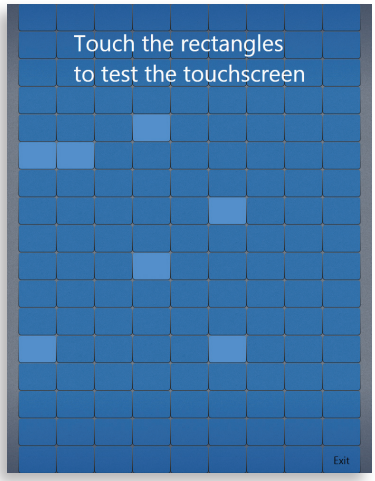
3. Select **Test touch screen**.



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



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



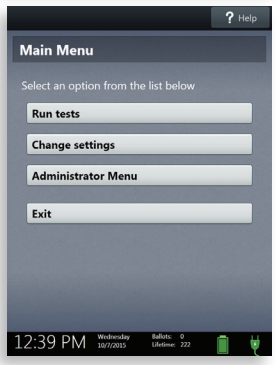
testing the thermal printer

(Verity Scan, Touch Writer, and Print)

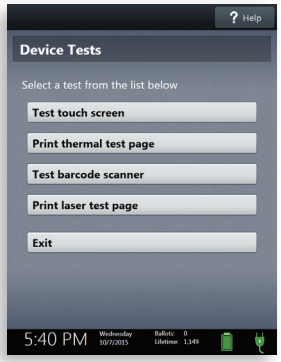
1. Confirm that the thermal printer is loaded with paper. On the device startup screen, select **Menu**.

NOTE: *On Scan and Touch Writer, if an election is loaded, press the blue Poll Worker button on the back of the device to access the Menu button.*

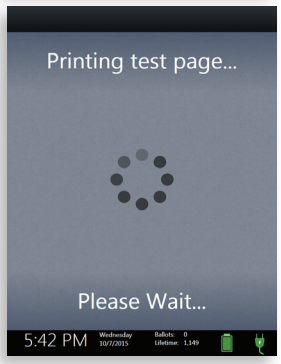
2. Select **Run tests**.



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.



functionality testing, *continued*

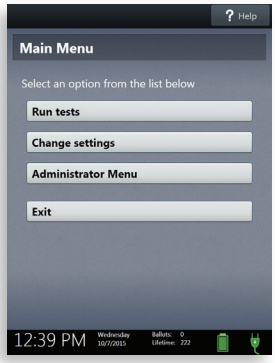
testing the barcode scanner

(Verity Touch Writer & Print)

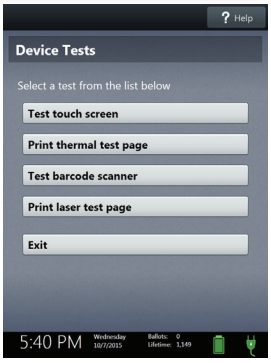
1. Confirm that the barcode scanner is connected. On the device startup screen, select **Menu**.

NOTE: *On Touch Writer, if an election is loaded, press the blue Poll Worker button on the back of the device to access the Menu button.*

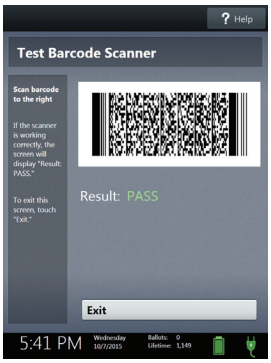
2. Select **Run tests**.



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.



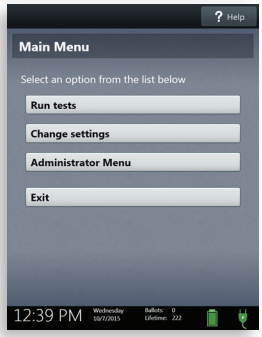
testing the Verity Access controller

(Verity Touch Writer & Reader)

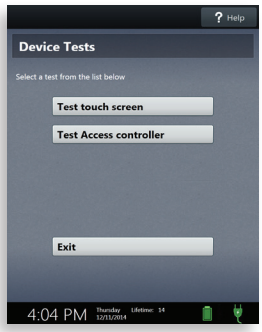
1. If testing headphones or tactile switches, connect them now. On the device startup screen, select **Menu**.

NOTE: *If an election is loaded, press the blue Poll Worker button on the back of the device to access the Menu button.*

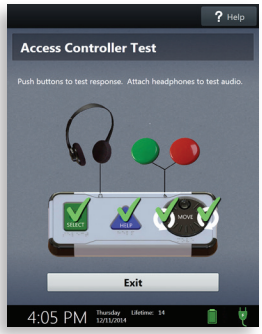
2. Select **Run tests**.



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. On the screen, testing success is indicated by a green check mark appearing over each button.
5. Repeat step 4 using headphones and/or tactile switches to test their function (these must be connected before beginning testing). Select **Exit** when done.



functionality testing, *continued*

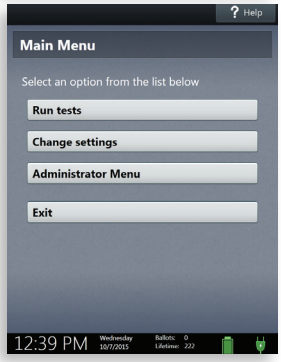
testing the ballot printer

(Verity Touch Writer & Print)

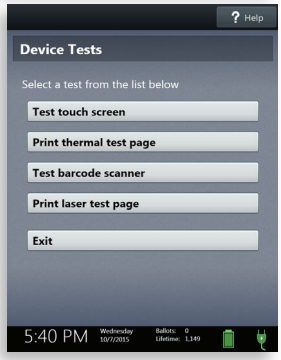
1. Confirm that the ballot printer is connected to the Print/Touch Writer and loaded with ballot paper. On the device startup screen, select **Menu**.

NOTE: *On Touch Writer, if an election is loaded, press the blue Poll Worker button on the back of the device to access the Menu button.*

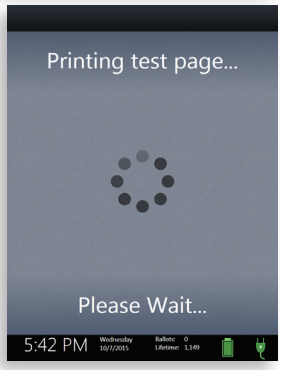
2. Select **Run tests**.



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.

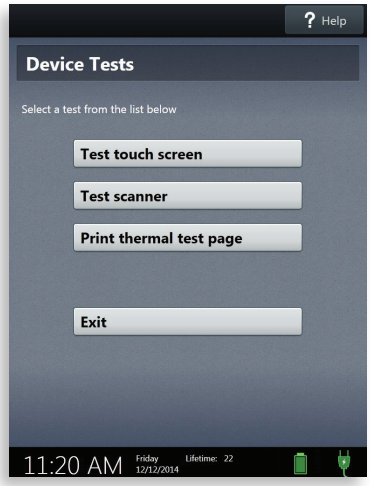


testing the ballot scanner

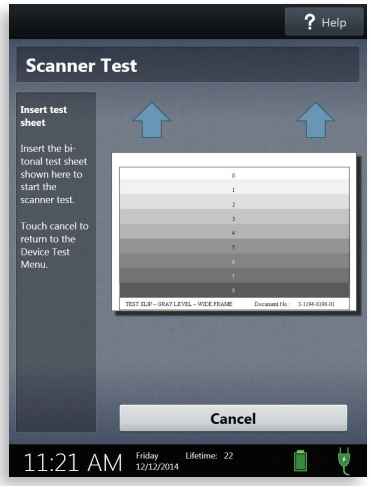
(Verity Scan & Reader)

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

1. On the device startup screen, select **Menu**. If an election is loaded, press the blue Poll Worker button on the back of the device to access the Menu button.
2. Select **Run tests**.
3. Select **Test scanner**.



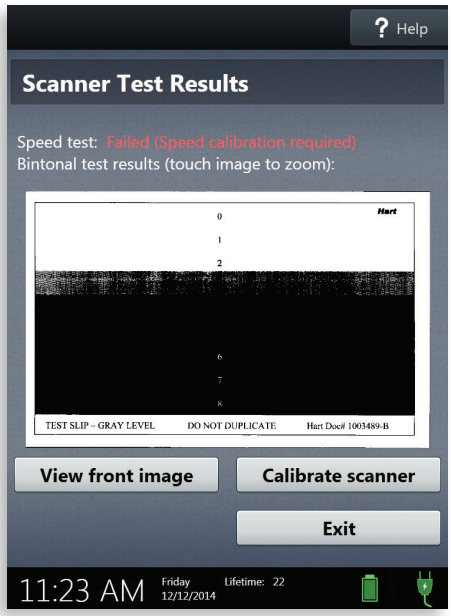
4. When the Scanner Test screen displays, insert the bitonal sheet into the scanner as shown. The device will perform a speed test.



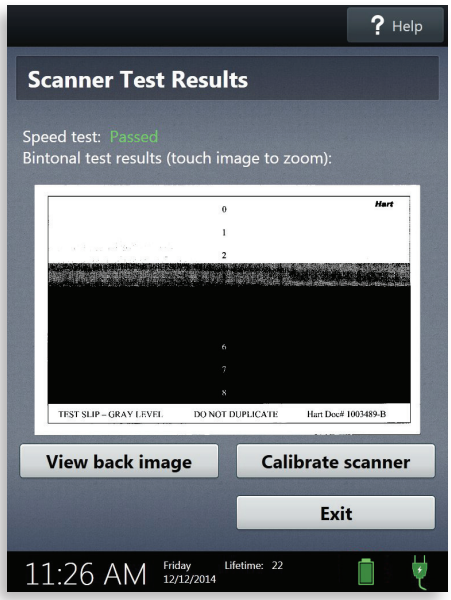
! IMPORTANT: Use only Hart-provided bitonal test sheets. Do not use photocopies.

functionality testing, *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 231), and then repeat the scanner functionality test.



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).
   - 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.



If the speed test fails, or if any of the four items above are not the case, perform calibration on the scanner (page 231), 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 a Return Materials Authorization on page 237).

testing the system battery

Performing a battery test may be included in basic functionality tests. 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 and remove the device tablet from its cradle.
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 234. Best practices for battery storage and battery charging are found on page 235.

logic and accuracy testing

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 Scan, Verity Central), as well as any software used for vote tabulation (e.g., Verity Count).

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

overview

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 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
- ☐ 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 Scan (more as needed according to your LAT plan)
- ☐ Verity Central workstation and scanner (if applicable)
- ☐ Verity Count workstation

using the Print Queue file template for Pre-Marked Deck

The test deck is a set of ballots, printed from build, and pre-marked according to local rules and procedures. While text decks can always be marked manually, the **Print Queue file template for Pre-Marked Deck** export, available in Verity Data, may be used in conjunction with the print queue functionality in Verity Build to automate the process of creating a pre-marked test deck. This procedure is outlined below:

Exporting the print queue template:

1. Insert a removable USB drive into the Verity Data/Build workstation.
2. Open the election in Verity Data, go to the **Edit Data** tab, and click on the **Export** menu on the left.
3. Scroll to the bottom and select **Print Queue file template for Pre-Marked Deck**, and then click the **Export** button.
4. Browse to the location on the removable USB drive where you would like to save the file, and then click **OK**.

Editing the marking pattern:

5. Open the print queue template in a text editor.

logic and accuracy testing, *continued*

6. Edit the marking schema to match the desired test deck. A Print Queue file for pre-marked ballots follows the same specification for a standard print queue (described on page 186), with the addition of additional columns indicating the desired marking pattern:

Column	Content
1	Precinct Name
2	Split Name (if applicable, otherwise leave blank)
3	Party Abbreviation (for closed primaries, otherwise leave blank)
4	Language
5	Paper Size
6	Quantity
7	Ballot Type - Official, Test or Sample
8	Starting ballot number
9	Print to file? (TRUE or FALSE)
10	Output File Name
11	Choice Name A: Name of the first choice on the ballot.
12	[additional column 2] Value for Choice A: value of the previous choice, either 0 (unmarked) or 1 (marked).
13	[additional column 3] Choice Name B: The next choice on the ballot.
14	[additional column 4] Value for Choice B: value of the previous choice.
etc.	etc.

Therefore, each ballot option column is followed by a column representing the marking value for the preceding ballot option: 0 for unmarked, 1 for marked.

7. Save the edited file on the removable USB drive and take it back to the Verity Data/Build workstation.

Printing the Pre-marked Test Deck

8. Insert the USB drive into the Data/Build workstation.
9. In Verity Build, go to the **Create** tab.
10. In the **Ballots** menu, click the **Import** button.
11. Browse to the location of the file on the USB media, and then click **OK**. Depending on the "print to file" setting in the print queue file, the pre-marked ballots will either print on the attached ballot printer, or you will be prompted to save the pre-marked ballots to PDF.

Additional Requirements for Pre-marked Ballot Print Queue Files

- Choice names are case-sensitive, and must exactly match the choice name in the election definition.
- Write-in options must be included.
- Every choice in each contest must be represented in the file.
- If using rotation, the choices must be in the non-rotated (base) order.

Hart-recommended LAT procedures

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-counting the Test Deck

Hand count the test deck of pre-marked paper ballots, taking overvotes and blanks into account. When creating your 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.

preparing the equipment

NOTE: *For instructions on predefining voting devices, see page 205.*

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. Follow State and local requirements to determine the quantity and type of equipment that must be included in the test..

logic and accuracy testing, *continued*

voting on the Verity Scan

NOTE: *For instructions on voting using the Verity Scan, see page 258.*

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.
4. Close polls on the voting device(s).
5. *(if required)* Print and save the device Tally report to check accuracy of the test against the expected results prior to tabulation in Count.
6. Remove the vDrive from 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 page 175).*

! 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. See page 177. For instructions on overriding the Build report settings on a device, see page 237.

processing ballots in Verity Central

NOTE: *For instructions on processing ballots using Verity Central, see page 358.*

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 Election Management application (see page 351).
3. Exit Election Management and open Verity 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.

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.

tabulation in Verity Count

NOTE: *For instructions on tabulation using Verity Count, see page 407.*

1. On the Count workstation, import the signed export file from Build using the Election Management application, if you have not already done so (see page 397).
2. Exit Election Management 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 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).

comparing results

Compare the Cumulative report from Count and the reports from 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.

device settings and 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.

Other settings may be modified on devices as needed:

- Setting device clocks.
- Changing report settings.

preventative maintenance cycles

Recommended preventative maintenance cycles for Verity voting devices are found on a label affixed to the tablet storage area on each device. Consult this label for product maintenance frequency recommendations.

NOTE: *It is recommended that you test touchscreens and scanners first to determine if calibration is needed; testing instructions are found beginning on page 210.*

maintenance procedures and settings

When performing device maintenance or adjusting settings, a flat, level work surface and access to a standard 120V AC power outlet are required. Maintenance should only be performed by properly trained support personnel or by qualified Hart staff.

cleaning tablet touch screen displays

<u>materials needed:</u>

- 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/Verity Reader scanner

<u>materials needed:</u>

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

1. Press the red power button on the back of the Verity Reader/Verity Scan to turn it off.
2. Unplug the AC power cord from the back of the Verity Reader/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.

device settings and maintenance, *continued*

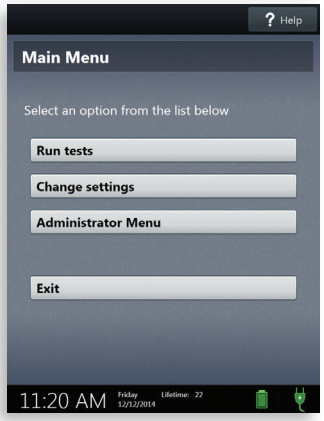
calibrating touch screens

(all devices)

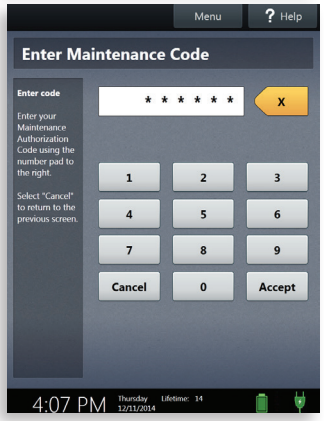
Access to touch screen calibration is located on the device itself, in the Device Settings menu. Test touch screens first to determine if calibration is necessary (see page 211). No additional supplies are needed.

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

2. Select **Change settings**.

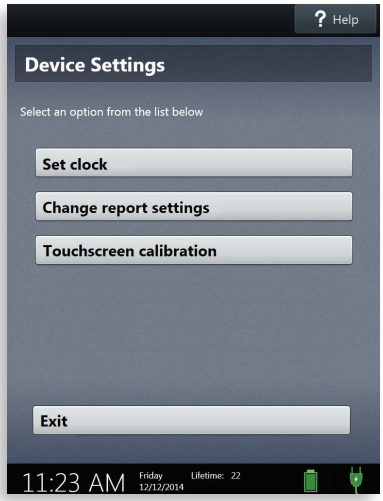


3. Enter the Maintenance Code, and then select **Accept**.

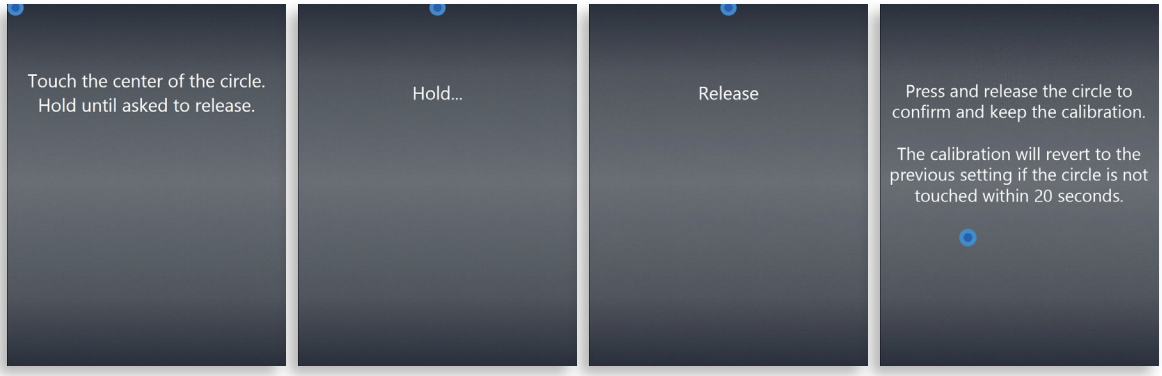


device settings and maintenance, *continued*

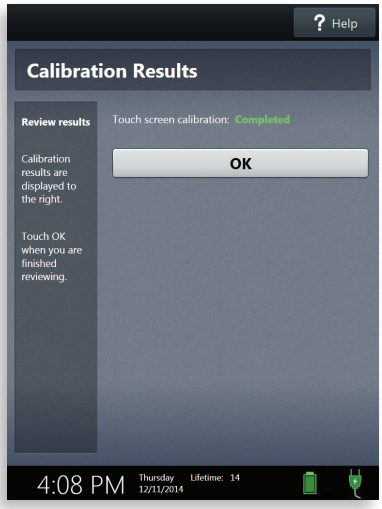
4. Select **Touchscreen calibration**. (On Scan, select Calibrate, and then select Touchscreen calibration).



5. Follow the instructions on the screen to calibrate the touch screen.



6. Select **OK** when complete.



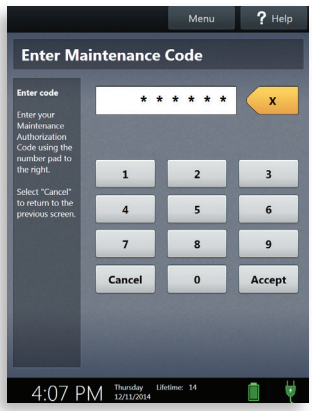
device settings and maintenance, *continued*

setting alert volume

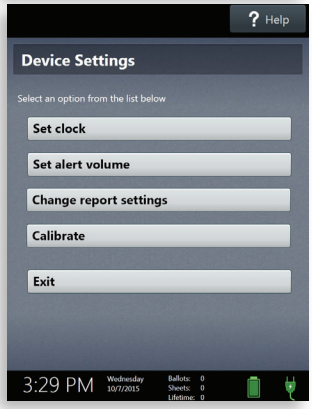
(Verity Scan only)

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

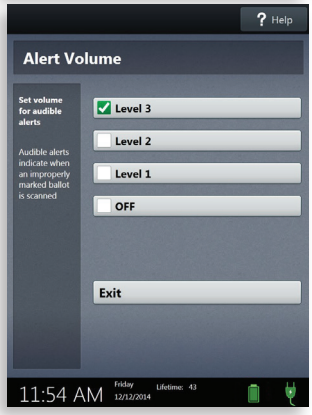
1. On the device startup screen, select **Menu**.
2. Select **Change settings**.
3. Enter the Maintenance Code, and then select **Accept**.



4. Select **Set alert volume**.



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



calibrating scanners

(Verity Scan and Verity Reader)

Access to scanner speed and contrast calibration is located on the Verity Scan/ Verity Reader itself, in the Device Settings menu. Calibration kits containing test and calibration sheets are available for purchase from Hart.

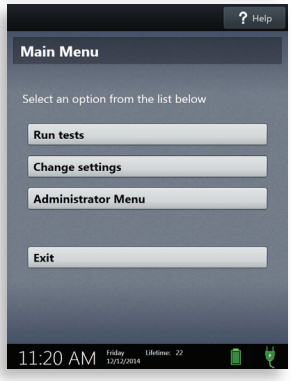
materials needed:

- Verity Scan/Verity Reader 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 237).

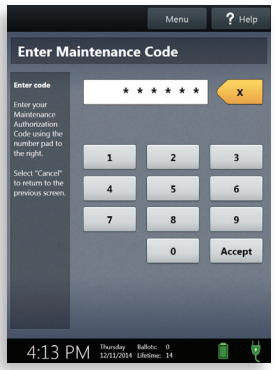
1. Follow the procedures for testing the scanner found on page 217.
2. If calibration is required: On the device startup screen, select **Menu**.

3. Select **Change settings**.



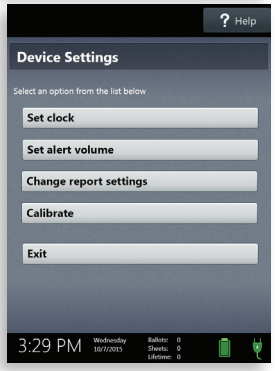
device settings and maintenance, *continued*

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

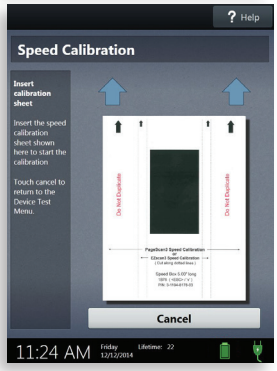


5. In the Device Settings menu, select **Calibrate**, and then select **Scanner speed calibration**.

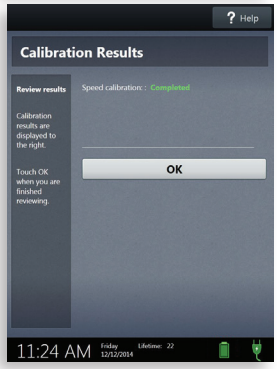
   NOTE: *You can also access scanner calibration by selecting* **Calibrate scanner** *on the Scanner Test Results screen.*



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



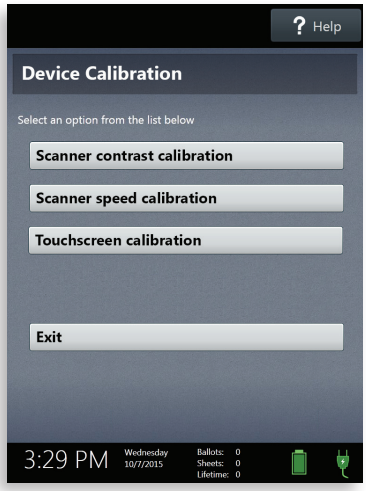
7. Select **OK**.



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

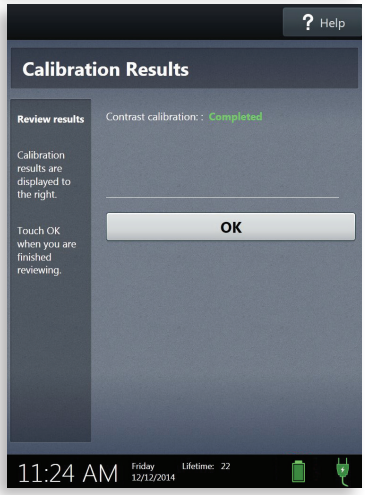
device settings and maintenance, *continued*

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



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 not use ballot paper.

10. Select **OK**.
11. Retest the scanner, following the instructions on page 217.



device settings and maintenance, *continued*

installing/replacing the system battery

<u>materials needed:</u>

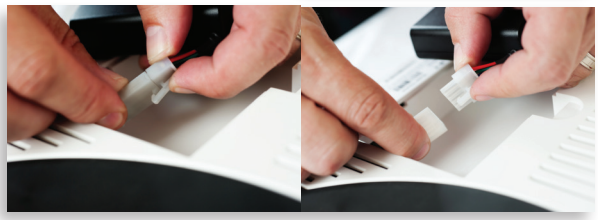
- Verity device(s)
- freshly charged system battery(s)
- battery charger(s) for old, discharged system batteries

1. Press the *<u>red</u>* power button on the back of the device to power it off.

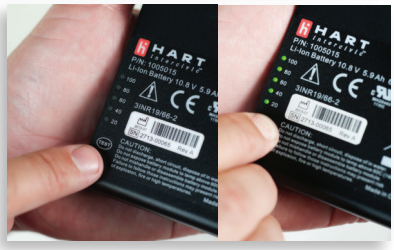
2. Unlock and remove the device tablet from its cradle.

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

4. To remove the battery, fully depress the white tab and then pull to disconnect the battery.



5. Press the button on the front left of the new battery to test the battery charge.
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 damage to the device.

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.

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; these batteries are available for purchase from Hart.

materials needed:

- Verity device(s)
- replacement tablet CMOS batteries
- #1 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 wire seal and the 4 screws that fasten the battery compartment door.

device settings and maintenance, *continued*

3. Using your fingernail or a small screwdriver,release the small clip holding the CMOS battery in place.

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

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.

! 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.

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**.
2. Select **Change settings**.
3. Enter the Maintenance code, and then select **Accept**.
4. Select **Set clock**.
5. Adjust the time as needed. Select **Exit** when done.

changing report settings

The change report settings function allows an authorized user 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 reporting is set to "Summary" in Build.

1. On the device startup screen, select **Menu**.
2. Select **Change Settings**.
3. Enter the Maintenance passcode and select **Accept**.
4. Select **Change report settings**.
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**.

Return Materials Authorization (RMA)

If an equipment issue cannot be resolved via calibration or other maintenance steps described above, follow the steps below.

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.

chapter 5

polling place procedures & support

5

polling place procedures & support

This chapter discusses procedures and recommendations for the deployment and operation of Verity devices and other hardware at the polling place, including the following:

- Identification of equipment needs
- Polling place planning, delivery, and supplies
- Verity device and hardware setup
- Opening polls
- Using Verity devices and related polling place procedures
- Procedures for voters with disabilities
- Closing polls
- Transport of ballots and equipment
- Troubleshooting and problem resolution

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 staged. 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.

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 memory space is needed. If you need to recover old election data from a voting device, see the instructions for creating a Recovery vDrive, page 341.

polling place planning

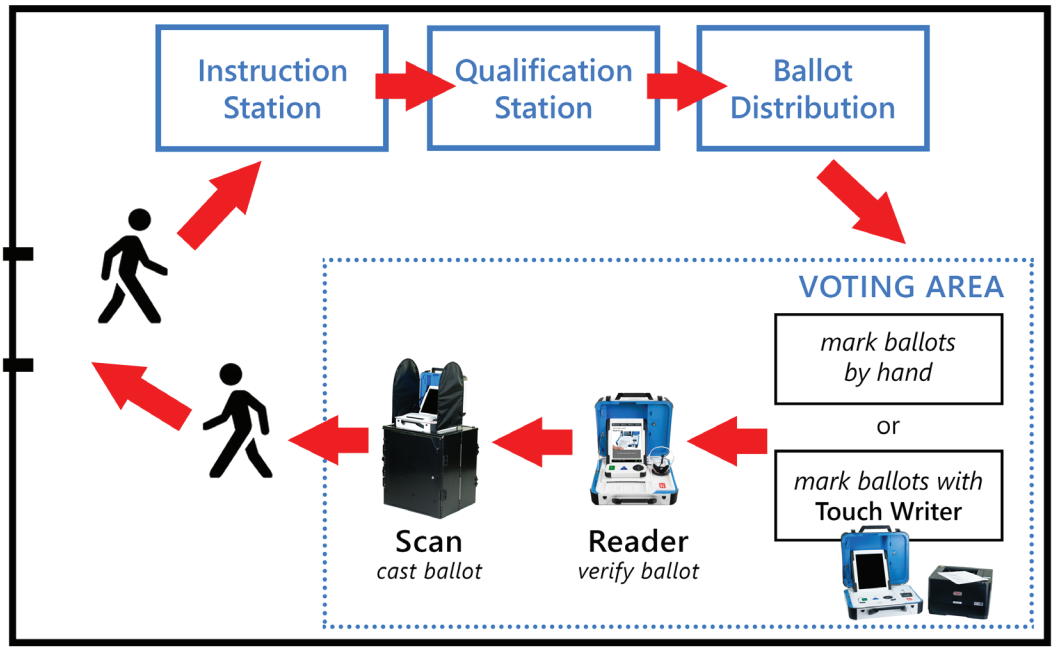
Before polls open, it is important to plan carefully to ensure a smooth experience for both voters and poll workers alike. This section describes the necessary steps to prepare the polling place for voting.

1. Check supplies (hardware, accessories, paperwork, etc.).
2. Plan the polling place layout to ensure smooth flow of voters.
3. Familiarize yourself with contingency procedures.

polling place layout

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 maintaining voter privacy, the ability of poll workers to monitor the equipment, and an efficient flow of voter traffic, .

- Never leave voting equipment unattended while polling place is open.
- Supplies should be staged for easy access by poll workers.
- Voting devices should be positioned to ensure adequate privacy for voters.



polling place supplies

Election officials should plan for appropriate quantities of all supplies based on the expected needs of each specific polling place. Prior to opening polls, polling place staff should check that they have all supplies on the checklist in the appropriate quantities. Supplies may include: polling place devices and accessories, signage, and paperwork. A sample supplies checklist is given below.

- ☐ Verity device(s)
- ☐ ballot box(es) and booth(s)
- ☐ ballot printer(s) (if applicable)
- ☐ headphones
- ☐ tactile switches
- ☐ power bricks and cords
- ☐ power strips and extension cords
- ☐ tables and chairs
- ☐ voter qualification supplies (poll book, label printer, etc.)
- ☐ paper for thermal printers
- ☐ paper/toner for ballot printer(s) (if applicable)
- ☐ polling place layout plan
- ☐ sample ballots
- ☐ instructional flyers, etc.
- ☐ logs and envelopes
- ☐ preprinted paper ballots and pens (in the event of an extended power loss)

polling place paperwork

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

- Voter instructional flyers and posters
- Procedure documentation
- Reconciliation logs
- Daily reports envelope
- Emergency ballot envelope
- Transfer logs and envelopes
- Spoiled ballot logs and envelope
- Provisional ballot paperwork and envelopes
- Voter qualification materials
- Oath of Office documentation

polling place planning, *continued*

contingency plans

Polling place staff should familiarize themselves with proper emergency procedures in case of weather-related or other disasters.

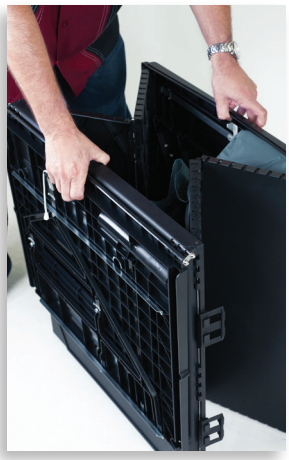
- In the case of extended power loss, poll workers should be aware of proper procedures for providing paper ballots to voters, if applicable.
- Review and follow proper chain-of-custody procedures, whether operating during periods of power loss, or during normal operations.
- Review local procedures for dealing with equipment failures and operation from battery power.
- Review local security procedures.

Verity Scan

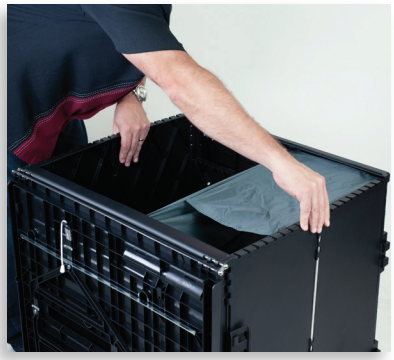
Verity Scan is a polling-place-based digital scanner for casting ballots. Scan can be used with hand-marked ballots or with those printed using the Touch Writer. Verity Scan allows the voter the opportunity to check and correct the ballot before casting. Verity Scan deposits scanned ballots into its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

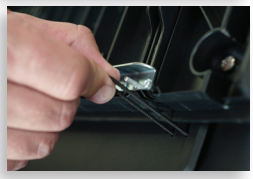
setting up the ballot box

1. Position the folded ballot box as shown.
2. Unlatch the 4 clips (2 on each side).
3. Pull open the ballot box.
4. Press the side panels outward until they are flat, being careful not to pinch your hands or fingers.



5. Lower the bottom panel but do not press down.
6. Release the lid by unhooking the 3 straps.





Verity Scan, *continued*

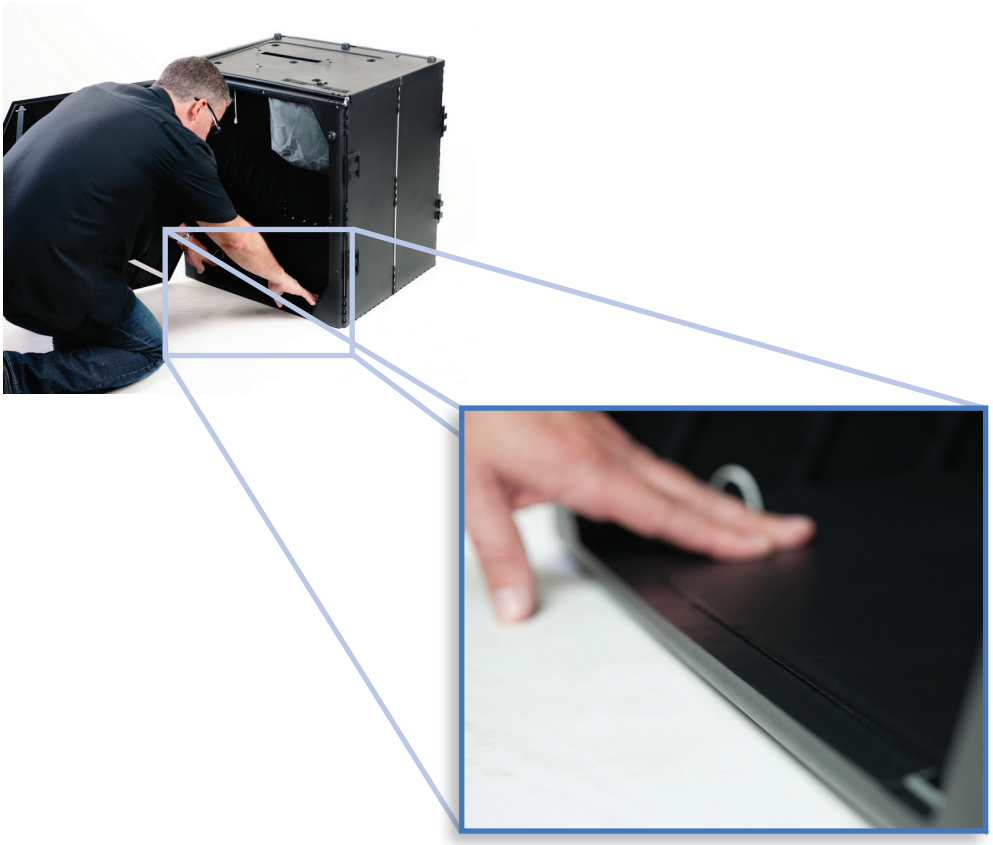
7. Pull on the string on the underside of the lid towards you to unlock the lid latch.

8. Lift the lid while gently pulling upward and outward, ensuring that the double hinge is fully extended. Lay the lid across the top of ballot box, and then press it down. Do not force it.

Verity Scan, *continued*

9. Unlock the front door with the ballot box key.

10. Press firmly on bottom panel to lock it in place.



11. When appropriate, and before voting begins, place seals on the Verity Scan ballot box, and log seal numbers on polling place documentation.

Verity Scan, *continued*

setting up Verity Scan

1. Set the Verity Scan on top of the ballot box, aligning footpads with the indentations.
2. Reach inside the ballot box and push the latch away from you to lock the lid and the Verity Scan in place.
3. Close and lock the front ballot box door.

4. Unlock the case (if locked). Open the case and remove the power brick and power cord from the storage compartment. Close the compartment and case.
5. Plug the power cord into the power brick.
6. Plug the power brick into the back of the Verity Scan (flat part up).

Verity Scan, *continued*

7. Open the Verity Scan case and push the lid brace to lock it into place.

   IMPORTANT: Never tilt a device up by the handle while cords are connected – this can damage the cord where it connects to the device, or cause damage to the device itself.

8. Unlock the tablet.
9. Open the latch.
10. Remove the tablet from the storage compartment.

11. Seat the tablet in its cradle & tilt it back.
12. Lock the tablet in place.

Verity Scan, *continued*

13. Plug the power cord into a power strip/wall outlet.

14. Verify the Verity Scan device seals, per local procedure. Attach privacy screens, if applicable.

15. Power on the Verity Scan using the *red* power button on the back of the device.

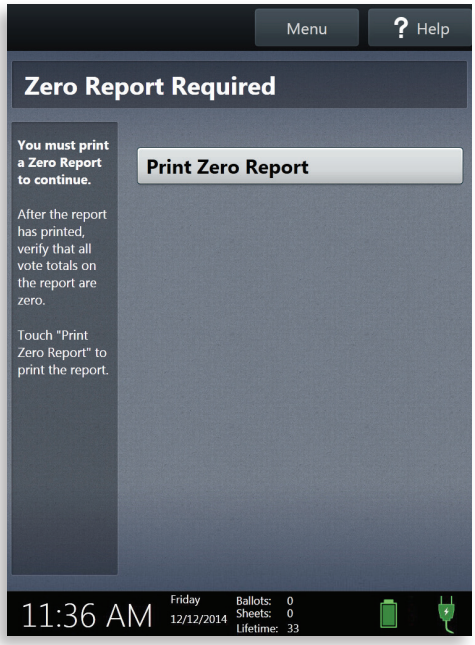
16. During the power on process, the Verity Scan will print the Power-On Self Test report on its built-in thermal printer. This report will indicate any hardware or connection issues; if any issues are noted, check connections and restart the device using the red power button.

NOTE: *Software startup for each unit may take several minutes, due to security and data integrity checks that the Verity software performs. This process is included in the design of the Verity Voting system to verify the authenticity of the software before allowing it to operate.*

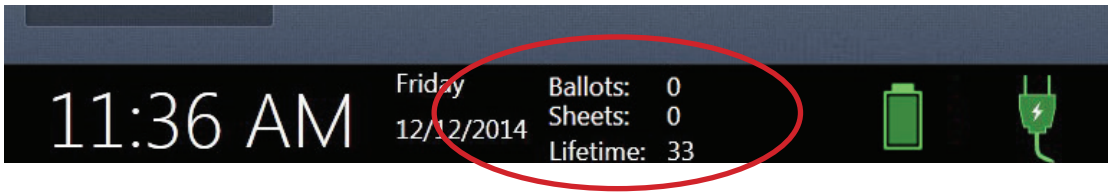
Verity Scan orientation

screen orientation

When powered up for the first time the device is used during a voting event, the Verity Scan should display the Print Zero Report screen.



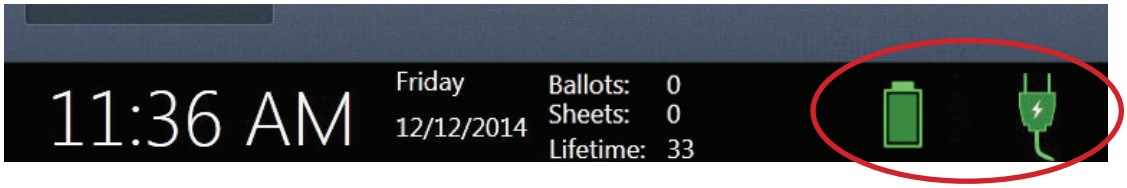
In addition to the time and date, the following information appears at the bottom of the screen:



- **Ballots:** This is the number of ballots scanned and cast on this Verity Scan, for the current election. At the start of a voting event, this number should be zero.
- **Sheets:** This is the number of ballot sheets scanned on this Verity Scan, for the current election. At the start of a voting event, this number should be zero.
- **Lifetime:** This is the number of ballots scanned and cast on this Verity Scan, for the lifetime of the device (for all elections); this number will vary.

Verity Scan, *continued*

AC and battery Power indicators



A green battery icon indicates the battery is connected; a green plug icon indicates AC power is connected. Specific battery power level can be found on the Verity Scan Power-On Self Test report.

! IMPORTANT: All devices should have access to both AC power and battery power.

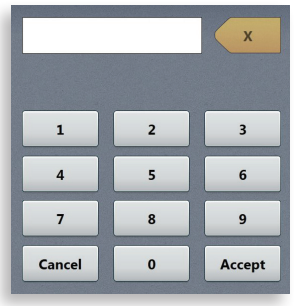
If AC power is not available, the device will automatically switch over to battery power, and the warning message to the right will display. To dismiss the message and continue operating on battery power, touch "**If the power is out, touch here to use battery**".

NOTE: *If a voting session is in progress, this message will not appear until the session is completed.*

poll worker button

The blue poll worker button is located on the back of Verity Scan. This button is used for certain actions such as accessing the close polls menu and (depending on the election settings chosen in your jurisdiction) overriding rejected ballots (pressing this button will prompt poll workers to enter the poll worker passcode).

entering passcodes



- Passcodes can be entered via the device touch screen.
- Passcodes must be 6 digits long.
- Passcodes are determined by your local election office prior to the election.
- Selecting the yellow button to the right of the passcode field will delete the last character entered. Select Cancel to return to the previous screen.
- After entering the passcode, select **Accept** to proceed.

thermal printer operation

The built-in thermal printer is used to print device reports.

1. The thermal printer is located on the right-hand side of the Verity Scan.
2. To open the paper compartment: While standing in front of the Verity Scan, pull the lever on the top of the printer cover towards you.

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.

Verity Scan, *continued*

opening polls on Verity Scan

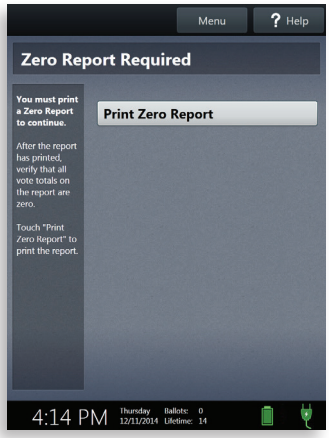
opening polls on Verity Scan

! IMPORTANT: Polls should not be opened until the time designated by your jurisdiction. However, should you inadvertently open polls before directed, do NOT close polls; simply wait for the designated time before admitting voters into the polling place.

You must open polls the first day that voting will occur on that device. For instructions on reopening polls on the second or subsequent day of multiple-day voting events, see page 256.

1. Setup and power on all devices. Confirm that you are running on AC power (see page 252).
2. Select **Print Zero Report**. This report verifies that no votes have been cast on the device for the current election. It should also be used to verify that the precinct(s) and polling place are correct. The Zero report must be printed before opening polls.

   NOTE: *If you are reopening polls during subsequent days of a multiple-day voting event, then you will not print a Zero report. See page 256.*

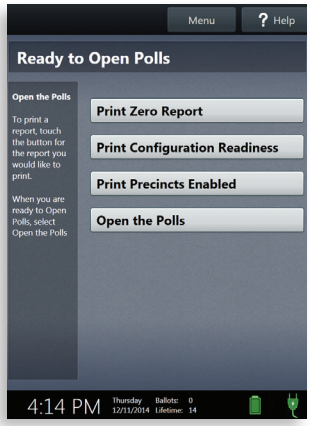


3. Wait while the Zero report prints on the Verity Scan thermal printer. File this report as per your local jurisdiction guidelines.
4. Verify the ballot count total on the Zero report and enter it in the Reconciliation Log.

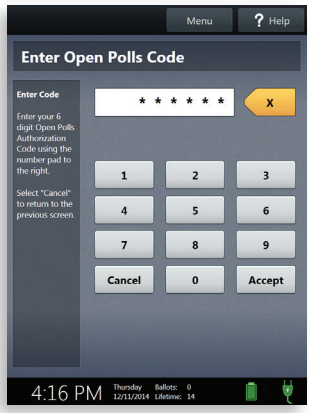
! IMPORTANT: The Zero report must be printed before opening polls. Once polls are opened, you cannot print a Zero report.

Verity Scan, *continued*

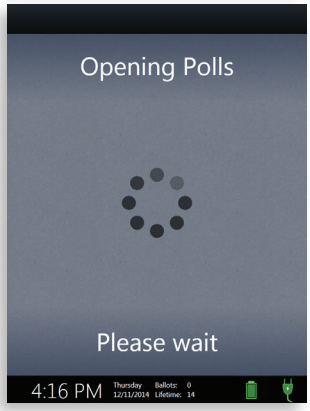
5. Verify that the polling place on the report is correct.
6. Verify that the clock in the bottom left corner of the screen displays the correct time.
   - If the ballot count, polling place, or device clock are not correct, contact your elections office.
7. Select **Open the Polls**. You can also print a Configuration Readiness report, Precincts Enabled report, or a second copy of the Zero report, if your jurisdiction requires them. A list of device reports with descriptions is found on page 325.



8. Enter the Open Polls Code, and then select **Accept**. The Open Polls report will print.



9. Wait while the Open Polls report prints.
10. File the Zero report and Open Polls report according to local guidelines.
    - When the Verity Scan screen displays Ready to use, the device is ready to scan ballots.
11. When appropriate, and before voting begins, affix seals on the Verity Scan ballot box, and log seal numbers on polling place documentation.



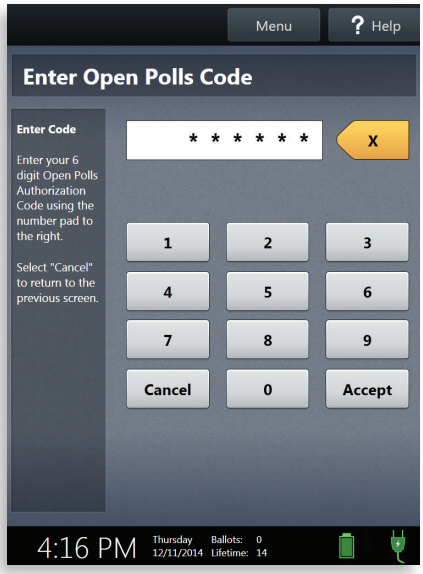
Verity Scan, *continued*

reopening polls on Verity Scan

1. To reopen polls after polls have been suspended, power on the Verity Scan.

   NOTE: *When reopening polls, you will not print a Zero report.*

2. Enter the Open Polls Code, and then select **Accept**. The Open Polls report will print.



3. Wait while the Open Polls report prints. File the Open Polls report according to local guidelines.

voting with Verity Scan

voter privacy and assisting voters

- No person other than a voter, a person assisting a voter, or a poll worker should enter the voting area.
- Voters should not be allowed to enter the voting booth area until a booth (or Verity Touch Writer booth, if using the Verity Touch Writer) is open and available for use.
- If assisting a voter, stand beside the privacy screen to maintain voter privacy. Ask appropriate questions to learn what part of the voting process the voter needs help with, e.g., 'What screen are you on?'.

! IMPORTANT: Always ask for the voter's explicit permission before seeing the ballot, screen, or touching the voter's voting device.

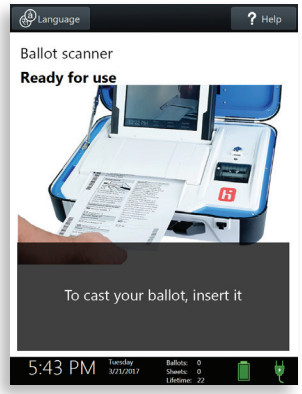
instructions for hand-marking ballots

1. Voter fills in the selection box to the left of their choices completely, using a blue or black pen.
2. When the voter has finished marking their ballot, they take the ballot to the Verity Scan device.
3. Voter inserts the voted ballot into the Verity Scan and follows the scanner screen directions to cast their ballot.

NOTE: *When voting for write-in candidates, the box to the left of the words "Write-In" must be filled completely, and the write-in candidate's name printed on the adjacent line.*

the Verity Scan Ready to use screen

Verity Scan is ready to scan when you see the Ready to use screen. ▶



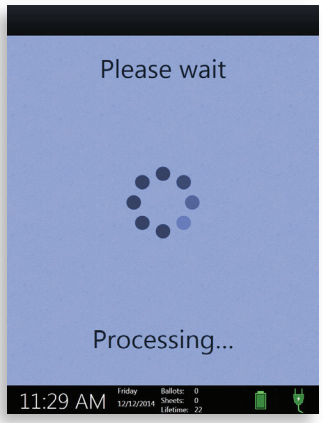
Verity Scan, *continued*

scanning marked ballots with Verity Scan

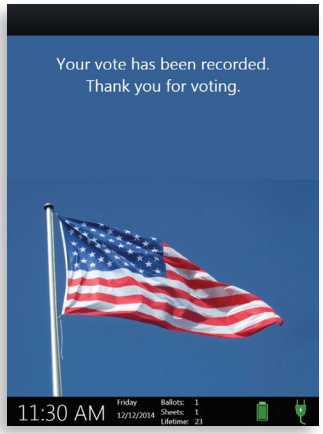
1. Voter takes the voted ballot to the Verity Scan device. If using a privacy sleeve, remove the sleeve before scanning the ballot.
2. Voter inserts the voted ballot into Verity Scan. Flashing green arrows indicate the location and direction of the scanner feed.

   NOTE: *Ballots must be fed into Verity Scan short edge first, but otherwise can be inserted in any orientation.*

3. After a ballot has been scanned, the voter waits a brief moment while the ballot is processed.

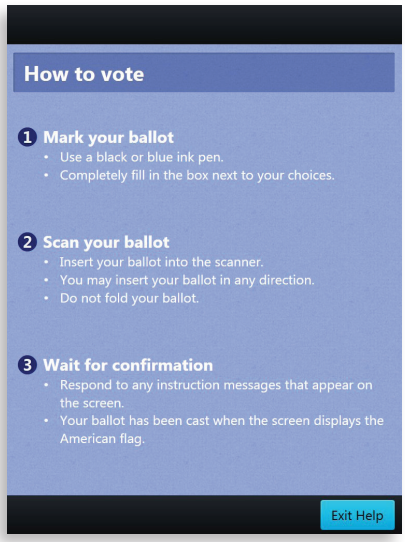


4. The voter's ballot has been cast when they see the American flag. If enabled, an audible chime will also be heard.

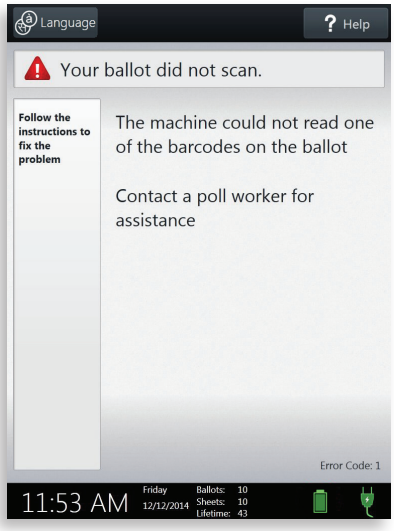


Verity Scan help and features

The Help button is located at the top right of the Verity Scan screen. This button takes the voter to a screen with help text for the voting step currently underway. Select **Exit Help** on the bottom right to return to the main screen.



If errors or other messages appear, Verity Scan may also display a language button in the upper left. Selecting the language button will allow the voter to choose from a list of available languages in which to display the messages.

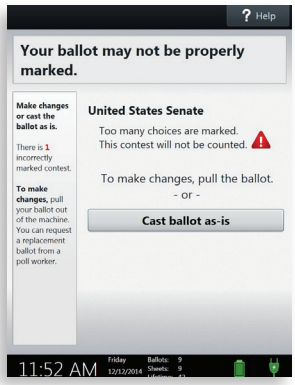


spoiling printed paper ballots

To spoil a preprinted paper ballot, follow your local procedures (for example, filling out a spoiled ballot log and envelope).

Verity Scan, *continued*

scanning overvoted ballots



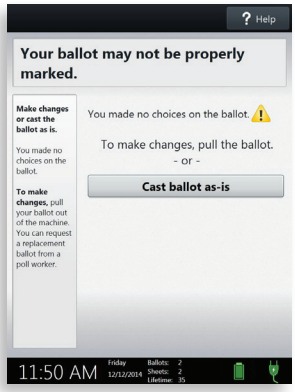
If scanning manually voted paper ballots, and the voter has overvoted (marked too many choices), Verity Scan may allow the voter to:

A) Remove their ballot and make changes (may require spoiling the ballot and issuing a new ballot), *or*

B) Cast their ballot as-is (overvoted contests will not be counted).

The options available for casting overvoted ballots will vary depending on how the election was set up (determined by your jurisdiction). In some jurisdictions, the poll worker may be required to press the poll worker button to accept an overvoted ballot as-is.

scanning undervoted ballots, blank pages/ballots, and mismarks



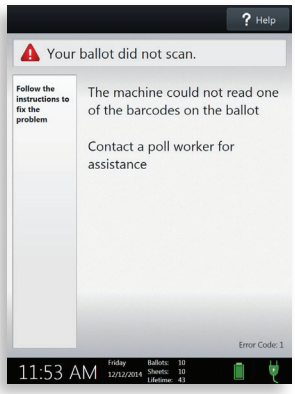
If the voter has undervoted (left a contest or contests blank) or mismarked a ballot, Verity Scan may allow the voter to:

A) Remove their ballot and make changes, *or*

B) Cast their ballot as-is

The options available for casting undervoted or blank pages or ballots will vary depending on how the election was set up (determined by your jurisdiction). In some jurisdictions, the poll worker may be required to press the poll worker button to accept a mismarked, blank or undervoted ballot as-is. In some jurisdictions, voters may not be given the opportunity to correct undervoted ballots.

scanning problems



If the ballot does not scan correctly, or if there is a paper jam, Verity Scan will display an error screen, with instructions on how to resolve the issue.

provisional ballots

- Follow your local jurisdiction's guidelines for issuing provisional ballots.
- Provisional ballots should never be scanned at the polling place using Verity Scan.
- Procedures vary from jurisdiction to jurisdiction; a typical procedure requires that provisional ballots be placed in a provisional ballot envelope, which is then placed in the emergency ballot slot.

the emergency ballot bag and emergency ballot slot

A separate, secure bag for unscanned ballots is included inside the ballot box. It is accessible through an additional locking door located on the back of the Verity Scan ballot box.

The emergency ballot slot on the top of the ballot box also feeds into this bag. This slot should remain sealed unless the Verity Scan device cannot accept ballots.

other Verity Scan features

Pressing the poll worker button on the Verity Scan will allow election staff to access additional Verity Scan features.

Run Tests, Change Settings, and Administrator menus

These three menus are described elsewhere in this guide. Availability of these menus will depend on the current state of the device. Poll workers should not access these menus unless they have been authorized to do so by election officials, and only after receiving proper training in their use.

- Features available under the Run Tests menu are described beginning on page 210.
- Features available under the Change Settings menu are discussed beginning on page 226.
- Administrator menu features are covered on pages 341 and 461.

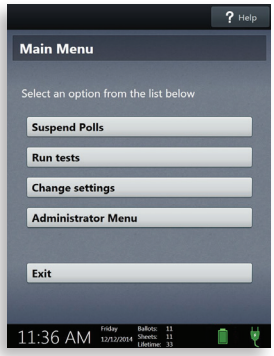
Verity Scan, *continued*

suspending and closing polls on Verity Scan

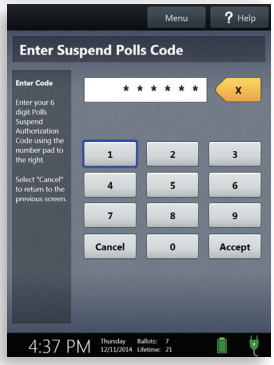
suspending polls on Verity Scan

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

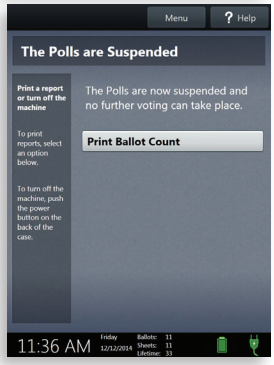
2. Select **Suspend Polls**.



3. Enter your Suspend Polls Code and select **Accept**. A Suspend Polls report will automatically print.
4. Wait while the Suspend Polls report prints.



5. The polls are now suspended. Print and file reports available on the screen as required by your jurisdiction. The available reports may vary and are configured by the election officials in your jurisdiction.



Verity Scan, *continued*

6. When you have finished printing reports, press the *red* power button on the back of the Verity Scan to power it off.

   - If applicable, wait for the Verity Scan to be completely powered down and showing a black screen before unlocking the tablet and removing it from the cradle.
   - If stowing a tablet, make sure to lock it in with the key and pull the blue latch down to secure it in place.

   NOTE: *Verity power cords are equipped with locking connectors; the connector will make a small "click" when connecting. To disconnect a power cord, grasp the cord at the base of the black connector molding where it connects to the Verity device, and slide back the sleeve. This will unlock the connection so that the cord may be removed.*

7. Follow your local jurisdiction's guidelines, including chain-of-custody procedures, when transferring voting devices, vDrives, and/or ballots to your central counting location. If you are leaving equipment in place, be sure to properly secure all equipment, preferably behind a locked door.

8. For instructions on reopening polls after the polls have been suspended, see page 256.

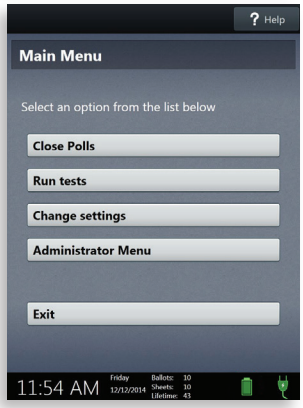
Verity Scan, *continued*

closing polls on Verity Scan

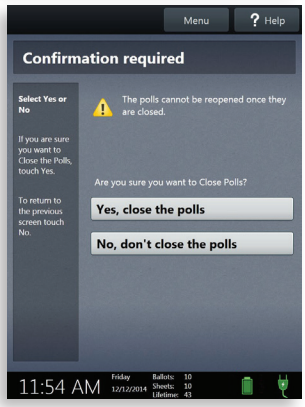
! IMPORTANT: Wait until the close polls time to close polls. Once polls are closed they cannot be reopened on that device.

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

2. Select **Close Polls.**



3. Select **Yes, close the polls**.



4. Enter your Close Polls Code and select **Accept**.

5. Wait while the Close Polls report prints.
6. The polls are now closed. Print and file available reports as required by your jurisdiction. The available reports may vary and are configured by the election officials in your jurisdiction.
   - A list of device reports with descriptions can be found on page 325.

7. Press the *red* power button on the back of the Scan to power it down.
   - Wait for the Verity Scan to be completely powered down and showing a black screen before unlocking the tablet and removing it from the cradle. If tablet is removed before powering down, a message alerting you to the issue will be displayed.
   - After stowing the tablet, make sure to lock it in with the key and pull the blue latch down to secure it in place.

   NOTE: *Verity power cords are equipped with locking connectors; the connector will make a small "click" when connecting. To disconnect a power cord, grasp the cord at the base of the black connector molding where it connects to the Verity device, and slide back the sleeve. This will unlock the connection so that the cord may be removed.*
8. Follow your local jurisdiction's guidelines, including chain-of-custody procedures, seals, etc., when transferring equipment, vDrives, and/or Ballots to a central counting location. If you are leaving equipment in place, properly secure all equipment, preferably behind a locked door.

vote reporting from Verity Scan

Vote reporting may be done using Tally reports (printed from the Scan device itself), from tabulation in Verity Count, or from a combination of the two, according to rules and procedures set forth by the jurisdiction. The availability of Tally reports on the voting devices themselves is configured in Verity Build (see page 176). Tabulation in Verity Count is discussed beginning on page 407.

Verity features for voters with disabilities

Verity includes many features to provide an efficient, satisfying, and confident voting experience for persons with disabilities. This section discusses relevant features of both Touch Writer, a ballot marking device, and Reader, an optional verification station for paper ballots. ***Although both devices include robust accessibility features, they are based on principles of universal design, and can be used by all voters in the polling place.***

about Verity Touch Writer and Verity Reader

Verity Touch Writer is an accessible ballot marking device; any voter may use Touch Writer to make their ballot selections using either the touch screen, or the Verity Access (described below). Once a voter has finished voting and reviewed their choices, they will then print a paper ballot, marked with their choices, from the attached printer. Recommendations for assisting persons with disabilities with Verity Touch Writer are found on page 291.

Verity Reader is an easy-to-use paper ballot scanning device that will tell any voter how the Verity Voting system will interpret their marked ballot. Any voter may use Reader to review their ballot selections using either the touch screen, or the Verity Access (described below). Voters may use Verity Reader to review their paper ballot selections prior to casting their ballot using Verity Scan—Verity Reader does not record the voter's choices in any way. Recommendations for assisting persons with disabilities with Verity Reader are found on page 309.

about Verity Access

Verity Access is an Audio-Tactile Interface (ATI) used with both Touch Writer and Reader, and intended for voters that cannot, or prefer not to, use the touch-screen. Verity Access includes two connection ports: the left connection port for headphones, and the right connection port for any dual-switch input device (such as tactile switches or sip-and-puff devices).

Verity Features for Voters with Disabilities, *continued*

Verity Access includes the following buttons:

Move wheel: Turning the move wheel either direction allows a voter to navigate through their ballot.

Select button: The select button functions much like the Enter button on a computer keyboard; A voter uses the select button to make selections.

Help button: Pressing the Help button activates help text and audio.

The Verity Access buttons each incorporate the following accessibility features:

- Braille labels
- Color-coding
- A unique shape for each button, and raised, with beveled edges for easier tactile identification
- Button dishes (indentations), to support users with mouth-sticks

accessibility use cases

Both Touch Writer and Reader have the same accessibility features, and these are the specific use cases that the features are intended to support:

Voters with visual impairments

- Verity Access buttons
- Screen options (text size, screen contrast)
- Headphones and audio options (audio speed and volume)

Voters with limited dexterity or mobility

- Verity Access buttons
- Tactile input switches
- Booth design (supports frontal or parallel wheelchair approach)

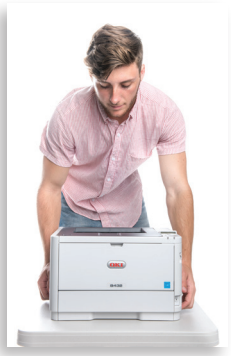
Verity Touch Writer

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 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.

setting up the ballot printer

1. Set up the ballot printer table and place the ballot printer on the table.



2. Insert the square end of the printer cable into the printer.

3. Insert the printer power cord into the printer and the other end into an outlet or UPS/battery backup.

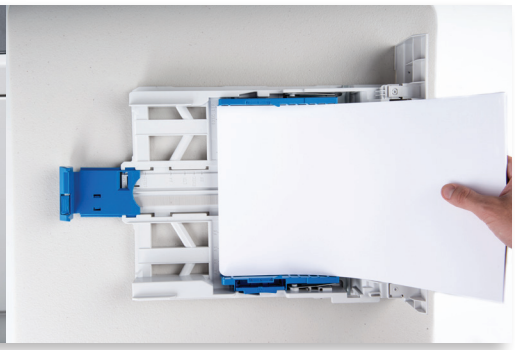
Verity Touch Writer, *continued*

4. Load the ballot printer with appropriate ballot paper:

loading ballot paper in the main tray (Tray 1)

A) Pull out the tray 1 drawer on the printer.

B) Load paper in the tray. If necessary, push the blue tab and pull the paper guide to the appropriate setting (Letter/8.5”x11”, or Legal/8.5”x14”). Paper sizes larger than 8.5”x14” require a tray extender kit (available separately).



Verity Touch Writer, *continued*

C) The tray extender kit for 17"/20" ballots includes two parts:

- The front piece installs into the MP Tray door, and is used to support the ballots as they exit the printer.
- The rear piece replaces the stock paper stop and rear tray extension cover. Once installed, the extender can support 14", 17", and 20" paper; however, the stock paper stop must be reinserted to support 11" paper.

D) Once paper has been loaded, reinsert and close the paper tray.

5. Use the switch on the side of the printer to power on the printer.

! IMPORTANT: Do not power on Verity Touch Writer until you have powered on the ballot printer and connected it to the Verity Touch Writer.

setting up the Verity Touch Writer voting booth

1. Remove booth parts from the transport bag. A complete set of booth parts includes the booth table, rear leg assembly, front leg extensions, and privacy screens.

2. Undo the bungee cords and unfold the legs from booth table. Pull on the handle and lift to lock the legs into place.

Verity Touch Writer, *continued*

3. Attach the rear leg assembly. Press the metal buttons to attach and lock it into place.

4. Attach the front leg extensions. Press the metal buttons to attach and lock it into place.

5. Turn the booth over to install the Verity Touch Writer.

setting up Verity Touch Writer

1. Set the Verity Touch Writer on top of booth, aligning footpads with the indentations (the handle on the front of the Touch Writer should face the same direction as the handle on the booth).

2. Reach under the front of the booth top and push the latch in the direction of the back of the booth to lock in place.

3. Unlock the case (if locked). Open the case and remove the power brick and power cord from the storage compartment. Close the compartment and case.

4. Plug the power cord securely into the power brick.

Verity Touch Writer, *continued*

5. Plug the power brick into the back of the Verity Touch Writer (flat part up).

6. Verify the tamper seal number sealing the printer port, and then remove the seal. Insert the flat end of the USB printer cable to the back of the Verity Touch Writer (the notch faces up).

7. Open the Verity Touch Writer case and push the lid brace to lock it into place.

   IMPORTANT: Never tilt a device up by the handle while cords are connected – this can damage the cord where it connects to the device, or cause damage to the device itself.

8. Unlock the tablet.
9. Open the latch.
10. Remove the tablet from its storage compartment.

Verity Touch Writer, *continued*

11. Seat the tablet in its cradle and tilt it back.
12. Lock the tablet in place.

13. Plug the Verity Touch Writer power cord into a power strip/wall outlet.
14. Verify the Verity Touch Writer device seals, per local procedure. Attach privacy screens to booth after voting device is installed by inserting each screen into the notches on the sides of the booth top.

15. Power on the printer by pressing the switch on the bottom right side of the printer. Power on the Verity Touch Writer using the red power button on the back of the device.

16. During the power on process, the Verity Touch Writer will print the Power-On Self Test report on its built-in thermal printer. This report will indicate any hardware or connection issues; if any issues are noted, check connections and restart the device using the red power button.

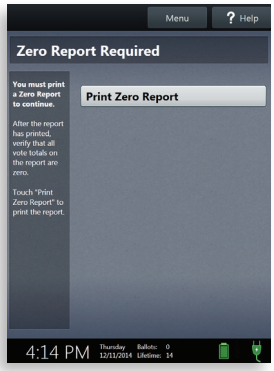
NOTE: *(if applicable) If your jurisdiction uses the AutoBallot barcode reader: Wait until the Verity Touch Writer finishes powering up and displays the Print Zero Report screen, and then connect the AutoBallot barcode reader to the USB connection located on the vDrive compartment above the report printer.*

Verity Touch Writer, *continued*

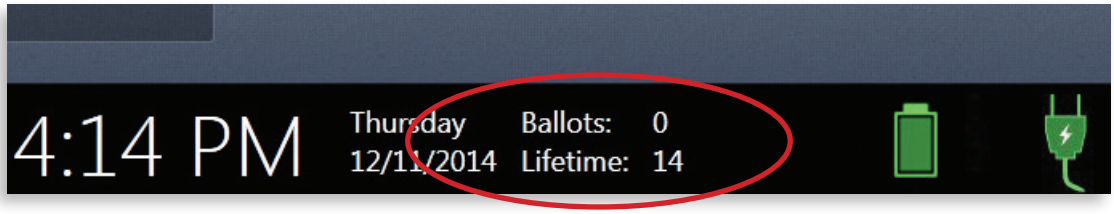
Verity Touch Writer orientation

screen orientation

When powered up for the first time the device is used during a voting event, the Verity Touch Writer should display the Print Zero Report screen.



In addition to the time and date, the following information appears at the bottom of the screen:



- **Ballots:** This is the number of ballots printed using this Verity Touch Writer, for the current election. At the start of a voting event, this number should be zero.
- **Lifetime:** The number of ballots printed using this Verity Touch Writer, for the lifetime of the device (for all elections); this number will vary.

AC and battery Power Indicators

A green battery icon indicates the battery is connected; a green plug icon indicates AC power is connected. Specific battery power level can be found on the Touch Writer Power-On Self Test report.

! IMPORTANT: All devices should have access to both AC power and battery power.

Verity Touch Writer, *continued*

If AC power is not available, the device will automatically switch over to battery power, and the warning message to the right will display. To dismiss the message and continue operating on battery power, touch "**If the power is out, touch here to use battery**".

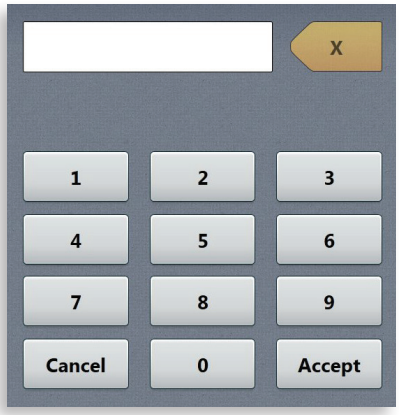
NOTE: *If a voting session is in progress, this message will not appear until the session is completed.*

poll worker button

The blue poll worker button is located on the back of Verity Touch Writer. This button may be used to access poll worker features (pressing this button will prompt poll workers to enter the poll worker passcode).

entering passcodes

- Passcodes can be entered via the device touch screen, or using the Move Wheel and Select Button on the Access device.
- Passcodes must be 6 digits.
- Passcodes are determined by your local election office prior to the election.
- Selecting the yellow button to the right of the passcode field will delete the last character entered. Select Cancel to return to the previous screen.
- After entering the passcode, select **Accept** to proceed.



Verity Touch Writer, *continued*

thermal printer operation

The built-in thermal printer is used to print device reports.

1. The thermal printer is located on the right-hand side of the Verity Touch Writer.
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.

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.

opening polls on Verity Touch Writer

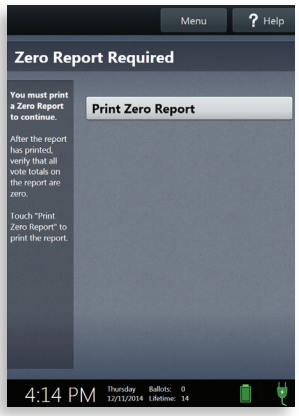
! IMPORTANT: Polls should not be opened until the time designated by your jurisdiction. However, should you inadvertently open polls before directed, do NOT close polls; simply wait for the designated time before admitting voters into the polling place.

opening polls on Verity Touch Writer

You must open polls the first day that voting will occur on that device. For instructions on reopening polls on the second or subsequent day of multiple-day voting events, see page 281.

1. Setup and power on all devices. Confirm that you are running on AC power (see page 276).
2. Select **Print Zero Report**. This report verifies that no votes have been cast on the device for the current election. It should also be used to verify that the precinct(s) and polling place are correct. The Zero report must be printed before opening polls.

   NOTE: *If you are reopening polls during subsequent days of a multiple-day voting event, then you will not print a Zero report. See page 281.*

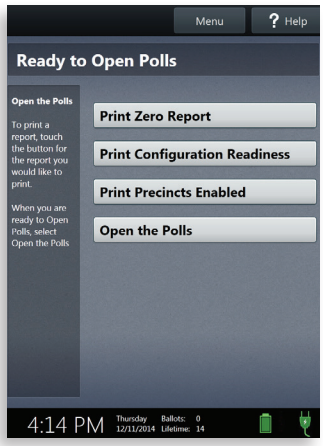


3. Wait while the Zero report prints on the Verity Touch Writer's thermal printer. File this report as per your local jurisdiction guidelines.
4. Verify the ballot count total on the Zero report and enter it in the Reconciliation Log.
5. Verify that the polling place on the report is correct.

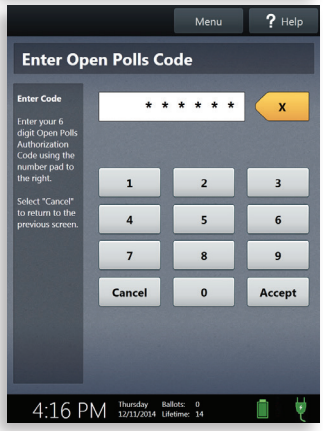
! IMPORTANT: The Zero report must be printed before opening polls. Once polls are opened, you cannot print a Zero report.

Verity Touch Writer, *continued*

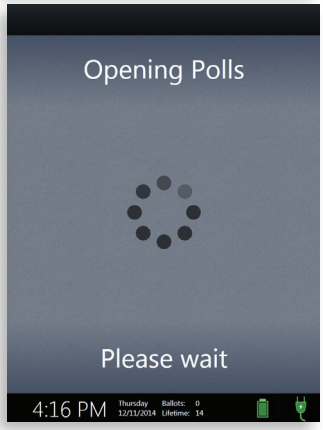
6. Verify that the device clock in the bottom left corner of the screen displays the correct time.
   - If the ballot count, polling place, or device clock are not correct, contact your election office.
7. Select **Open the Polls**. You can also print a Configuration Readiness report, Precincts Enabled report, or a second copy of the Zero report, if your jurisdiction requires them. A list of device reports with descriptions is found on page 325.



8. Enter the Open Polls Code, and then select **Accept**. The Open Polls report will print.



9. Wait while the Open Polls report prints.
10. File the Zero report and Open Polls report according to local guidelines.
    - When the Verity Touch Writer screen displays Ready for use, the device is ready for voters.

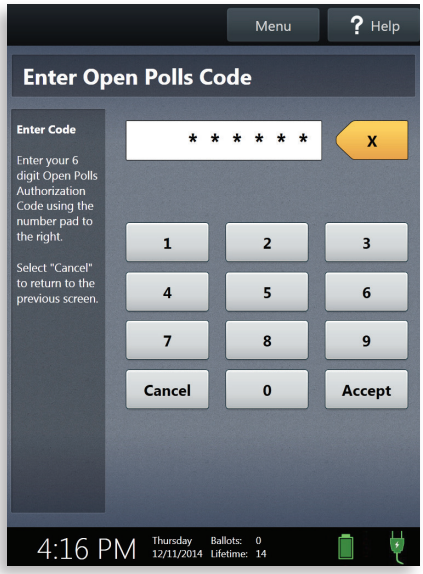


reopening polls on Verity Touch Writer

1. To reopen polls after polls have been suspended, power on the Verity Touch Writer.

   NOTE: *When reopening polls, you will not print a Zero report.*

2. Enter the Open Polls Code, and then select **Accept**. The Open Polls report will print.



3. Wait while the Open Polls report prints. File the Open Polls report according to local guidelines.

Verity Touch Writer, *continued*

voting with Verity Touch Writer

voter privacy and assisting voters

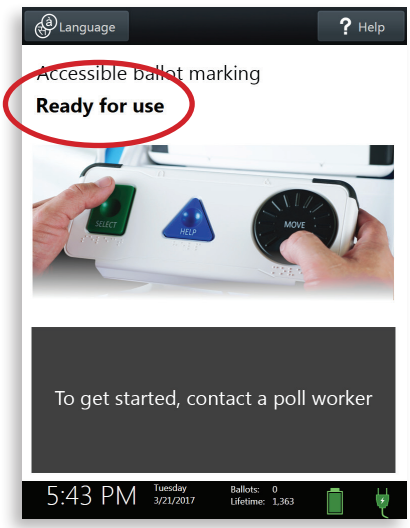
- No person other than a voter, a person assisting a voter, or a poll worker should enter the voting area.
- Voters should not be allowed to enter the voting booth area until a Touch Writer booth (or standard voting booth, if voting on a paper ballot) is open and available for use.
- If assisting a voter, stand beside the privacy screen to maintain voter privacy. Ask appropriate questions to learn what part of the voting process the voter needs help with.'.

! IMPORTANT: Always ask for the voter's explicit permission before seeing the ballot, screen, or touching the voter's voting device.

activating a ballot

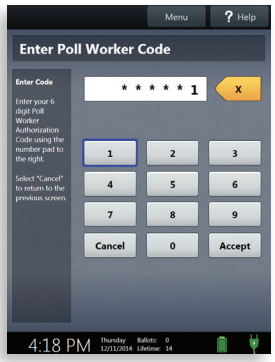
Verity Touch Writer is an accessible ballot marking device. On Verity Touch Writer, poll workers will activate a ballot, and then allow the voter to begin voting. When they are finished voting, the voter will print the marked ballot, verify their choices using Verity Reader (if desired), and then cast their ballot using Verity Scan, or into a ballot box to be processed centrally.

1. When the device is ready to be used for marking ballots, the "Ready for Use" screen will display.
2. Press and hold your finger on the Ready for Use button to continue (or, alternately, press the blue poll worker button on the back of the Touch Writer).

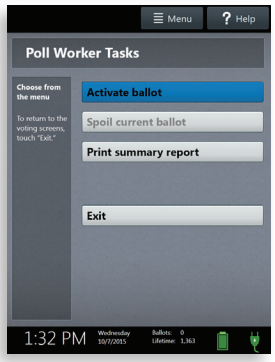


Verity Touch Writer, *continued*

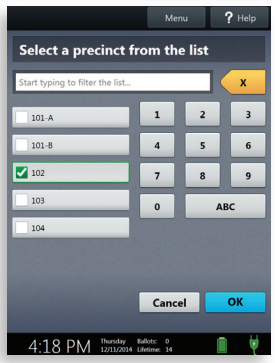
3. Enter the Poll Worker Code and select **Accept**.



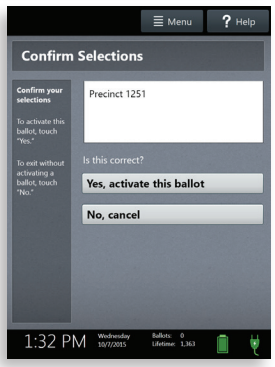
4. Select **Activate ballot**.



5. Choose the correct precinct from the list and select **OK**.
   - *(Closed Primary Elections only)* After choosing the precinct, select the Party, if applicable.
   - If your jurisdiction uses AutoBallot, you can scan the barcode produced by your poll pad/poll book to automatically activate a ballot for the correct precinct/party.



6. Confirm the selections you have made, and then select **Yes, activate this ballot**.
   - If the precinct and/or party are not correct, select **No, cancel** to return to the main menu.

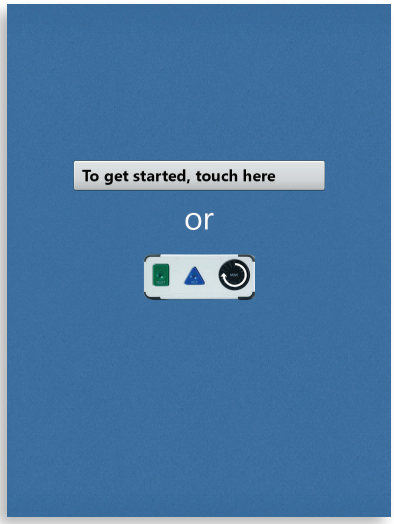


Verity Touch Writer, *continued*

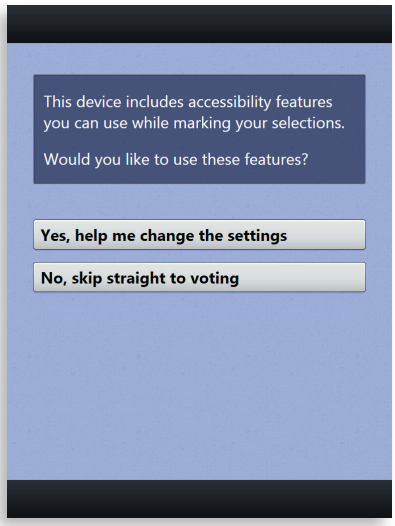
marking ballots with Verity Touch Writer

Once a poll worker has activated a ballot (page 282):

1. The voter selects **To get started, touch here** (or turns the Move wheel on Verity Access clockwise).
   - If multiple languages are available, a "get started" button will appear in multiple languages. The voter selects the button with their preferred language.
   - The language selected applies to both the device instructions and the ballot.
   - If the voter changes his/her mind, the language settings can still be changed at any time in the process by accessing the language menu (see page 288).

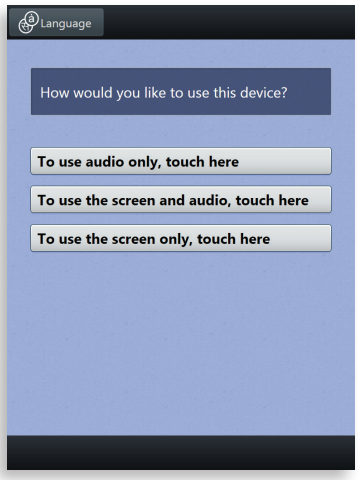


2. The voter chooses whether they would like to use the Verity Access accessibility features.
   - If the voter chooses Y**es, help me change the settings**, they will proceed to the next step.
   - If the voter chooses **No, skip straight to voting**, they will be taken to the About Your Ballot screen (step 4).

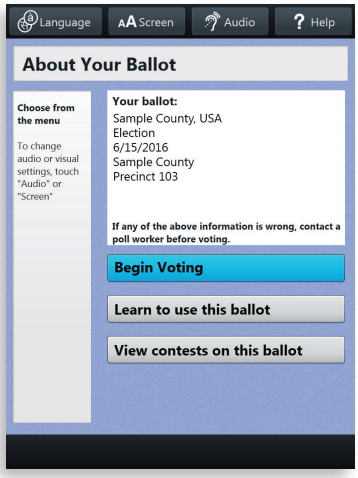


Verity Touch Writer, *continued*

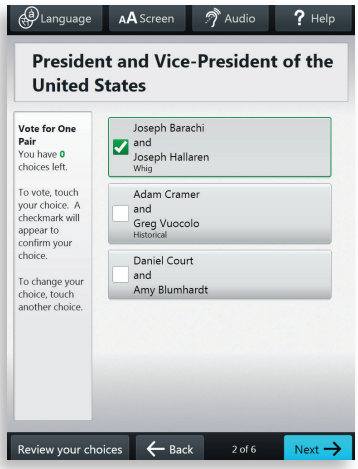
3. The voter selects whether to use the screen, audio, or both to complete their ballot, and then adjusts their audio and/or screen settings.
   - After making their selection, the voter is presented with three screens of instructions that orient them to the Touch Writer device. The voter can select Next to view each instructional page, or select **Skip Instructions** to go to their ballot.



4. The voter can start voting (by selecting **Begin Voting**), learn how to use the ballot, or view a list of contests on the ballot.

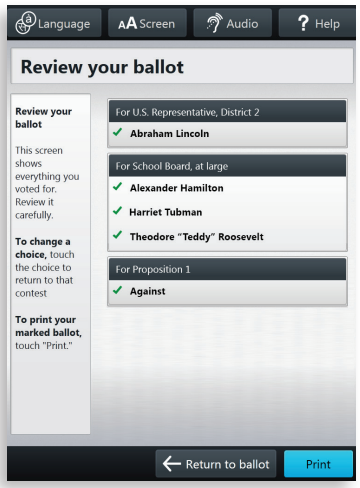


5. Voter makes their choices; The voter can make ballot choices using the touch screen, or by using the Move wheel and Select button on the Verity Access.
   - **A)** A selected choice will display a green box with check mark to the left of the choice.
   - **B)** The voter can review ballot choices by selecting **Review your choices**.
   - **C)** The **Next** button advances to the next contest on the ballot.

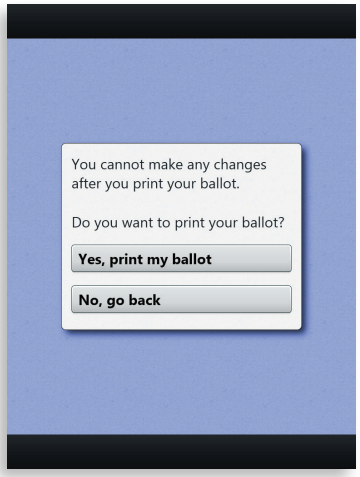


Verity Touch Writer, *continued*

6. When the voter has reached the end of the ballot, the Review your ballot screen appears.
   - The voter can select a specific contest to return to that contest on the ballot or select **Return to ballot** to go to the last contest visited.
7. After reviewing and confirming choices, the voter selects **Print** to print the ballot.



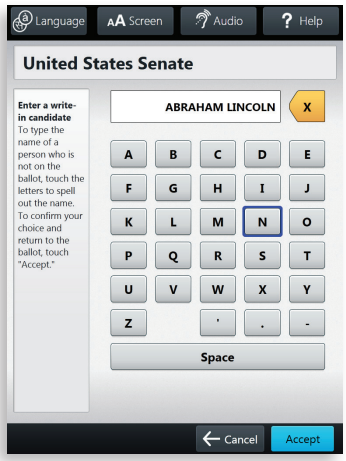
8. Voter selects **Yes, print my ballot**.
9. The voter retrieves the printed ballot from the laser printer next to their Verity Touch Writer.
   - *(optional)* If your polling place is equipped with Verity Reader, the voter may take their ballot to the Verity Reader to verify their choices.
   - If your polling place is equipped with Verity Scan, the voter will take their printed ballot to the Verity Scan device to cast their ballot.



making write-in choices

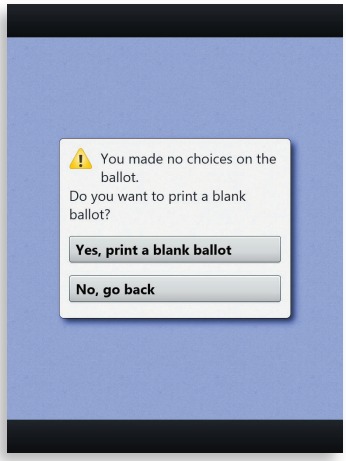
1. Voter selects the write-in option using the touch screen, or by using the Move wheel and Select button on the Verity Access. The Enter Write-in screen will appear.

2. Voter uses the touch screen or the Move wheel and Select button on the Verity Access to type the name of their desired write-in candidate, and then selects **Accept**.
3. The write-in option will appear selected with a green box and check mark to the left of the choice, showing the write-in candidate name the voter typed.



printing blank ballots

If the voter has marked no choices and selects the Print button, Verity Touch Writer will ask the voter to confirm before printing the blank ballot.



substitutions in <*n of m*> contests

In a contest with more than one valid choice (e.g. 'vote for one, two or three'): If the voter has already selected the allowed number of choices, and then selects an additional choice, Touch Writer will indicate which previous choice is being changed, and which new selection is being added.

voting session idle timeout

If the 'idle session' setting has been activated in Verity Build (see page 182), then a warning will appear after 5 minutes of inactivity; if the voter does not respond to the warning within 45 seconds, the Touch Writer will display the "Session Locked" screen. When the session is locked, a poll worker may either spoil the ballot, or unlock the session and allow the voter to continue voting.

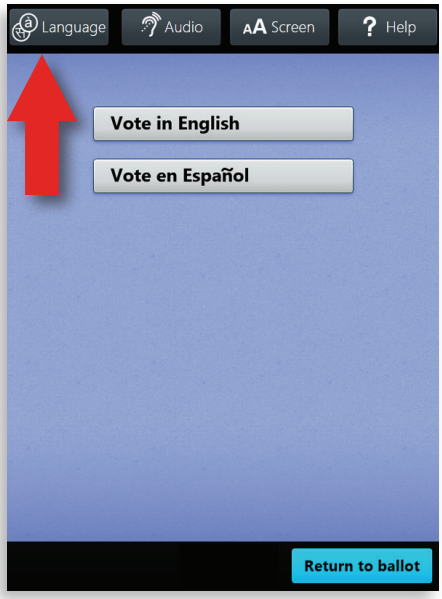
Verity Touch Writer, *continued*

Verity Touch Writer help and features

The Verity Touch Writer is equipped with context-specific voter help and settings that can be accessed from the touch screen. To exit help or settings screens and resume voting, select the Exit Help or Return to ballot button on the bottom right.

The **Help** menu is located at the top right of the Verity Touch Writer screen. Selecting Help takes the voter to a screen with help text for the voting step currently underway. Help is also available via the help button on the Verity Access.

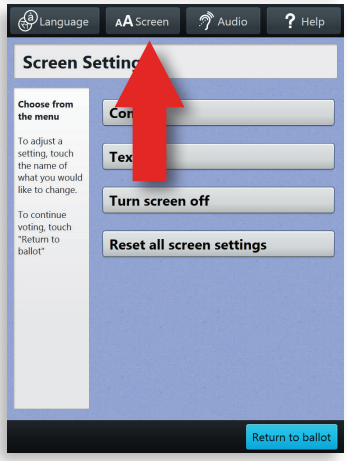
If multiple languages are available, a **Language** menu will be located at the top left of the Verity Touch Writer screen. Selecting Language allows the voter to change the language of the instructions and ballot.



Verity Touch Writer, *continued*

The **Audio** menu is located at the top center right of the Verity Touch Writer screen. Selecting Audio allows the voter to change the audio settings (volume, speed, and pitch) for the headphones.

The **Screen** menu is located at the top center left of the Verity Touch Writer screen. Selecting Screen allows the voter to change the screen settings (contrast and text size) and to turn the screen off (if using headphones only).



about Verity Access

Verity Access is an Audio-Tactile Interface (ATI) that allows voters with disabilities to vote privately and independently. Verity Access is discussed in-depth on page 266. Access includes headphones for voters with visual impairments, or others who want to hear the ballot. Verity Access is also compatible with tactile input switches and other inputs such as sip-and-puff devices. With Verity Access, a voter can:

- Navigate through a ballot with the Move wheel.
- Make selections on a ballot with the Select button.
- Headphones can be plugged into the top left side of the Verity Access.
- Tactile switches, sip-and-puff, or any dual-switch input devices can be plugged into the top right side.

Verity Touch Writer, *continued*

installing headphones

To install headphones on the Verity Access interface:

1. Lift the Verity Access from its cradle.

2. Plug the headphone cord into the headphone jack on the top left of the Verity Access. The headphone jack is also indicated by the raised headphone symbol.

installing tactile switches or other input devices

To install input devices on the Verity Access interface:

1. Lift the Verity Access from its cradle.

2. Plug the tactile switches, sip-and-puff, or other stereo input device cord into the jack on the top right of the Verity Access. The input jack is also indicated by the raised wheelchair symbol.

assisting voters with disabilities: Verity Touch Writer

Orientation and voter education on the Verity Touch Writer is essential for achieving voter confidence and voter satisfaction. The following is intended as instructional material for poll workers, so that they may provide the best possible assistance to voters with disabilities. It will take several minutes of time to explain the voting process; therefore, it is important for poll workers to be patient, answer questions, and do not rush things during the orientation process.

STEP 1: Explain the overall workflow of the voting process

NOTE: *Do not worry about giving specific "how to vote" instructions (e.g. how to use the wheel, how to use the buttons, etc.). You will get to that later, after the voter is at the machine, and oriented to its physical features. First, just make sure that the voter understands the overall workflow.*

1. Let the voter know that he/she can use a ballot marking device (Verity Touch Writer).
2. After the voter marks and prints their ballot with the Touch Writer, the voter can review their printed paper ballot at the Verity Reader device. The voter will then take the paper ballot to Verity Scan to cast the ballot.

STEP 2: Allow voter to get comfortable/oriented at the device

NOTE: *Do not hand the voter the headphones yet - the first goal is to get the voter comfortable with the physical device itself, and its controls – not the actual process of moving through the ballot; that information will come later.*

1. Let the voter know he/she can use the touchscreen or the Verity Access.
2. If the voter is blind or visually impaired, orient them to the device:
    - Allow him or her to be seated in a comfortable position.
    - Provide a specific description of the outlines of the machine, and/or ask for permission to place the voter's hands on the voting machine itself, to allow the voter to get oriented…the voter can feel the edges, feel the touchscreen, and generally understand the outlines of the device.
    - After the voter understands the general outlines of the device, ask for permission to place his/her hands on the Verity Access.
        - Point out the distinctively shaped buttons; let the voter feel the edges, and if the voter reads Braille, point out the labels.
    - Explain what each button does, using specific directions such as…

step 2, continued

- "On the far right is the circular 'MOVE' wheel; turn it clockwise to advance through the ballot. Every time you turn the wheel a click, you will hear audio. The wheel acts as a trigger for the audio."
- "On the far left is the rectangular 'SELECT' button; once you land on a selection you want to choose, press SELECT."
- "In the middle is the triangular 'HELP' button."

3. Make voters aware that they can hold Verity Access in their lap, if desired.
4. Make voters aware of the Touch Writer screen contrast and font options, if applicable.

STEP 3: Before activating the ballot, inform the voter about Audio and Screen Options that will appear

NOTE: *Voters with visual impairments may want to disable the screen and use audio only, for reasons of privacy.*

1. "You will be given the opportunity to change the audio and/or screen settings; you can also make changes to these settings at any time while you are voting."
2. "Do you want assistance with making any changes to the audio or screen settings?"

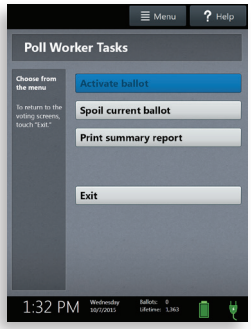
STEP 4: Explain the voting process, and how to mark and print the ballot

1. Only after the voter has gotten totally physically oriented, then explain how to use the Verity Access to mark the ballot (see standard voter instructions):
   - **A)** Before you begin voting, you can view/hear a list of contests.
   - **B)** To start, select "Begin Voting" and mark your choices for each contest.
   - **C)** Review your ballot;
   - **D)** To print your ballot, select "Print".
2. *(if applicable)* (Hand the voter the headphones) "If you turn the wheel clockwise, you will hear that every click plays the next audio item."
3. "Are you ready to begin? I have activated your ballot."
4. *(if applicable)* "After you have finished, you may place your printed ballot in this privacy sleeve."

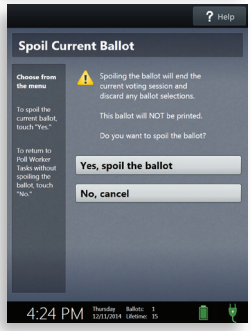
spoiling a ballot on Verity Touch Writer

The Spoil Current Ballot menu allows you to spoil (discard) the current active ballot before it is printed.

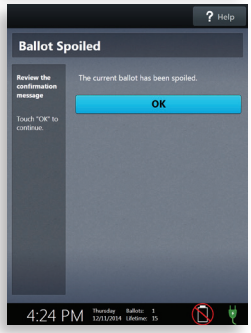
1. Press and hold your finger on the Ready for Use button on the Touch Writer screen, or alternately, press the *blue* poll worker button on the back of the Verity Touch Writer.
2. Enter the Poll Worker Code and select **Accept**.
3. Select **Spoil current ballot**.



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



5. Select **OK**. Fill out and file any paperwork required by your jurisdiction.



spoiling printed paper ballots

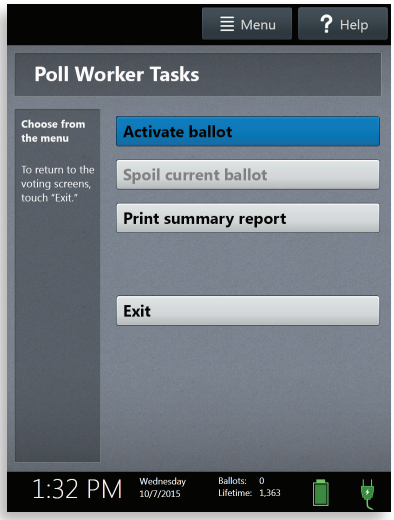
To spoil a ballot that has already been printed from Verity Touch Writer, or to spoil a preprinted paper ballot, follow your local procedures (for example, filling out a spoiled ballot log and envelope).

Verity Touch Writer, *continued*

printing a summary report

You can print a ballot marking session summary report on Verity Touch Writer at any time. This report lists the number of ballots printed, active sessions, sessions in progress, and ballots spoiled.

1. Press and hold your finger on the Ready for Use button on the Touch Writer screen, or alternately, 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 **Print summary report**.



provisional voting on Verity Touch Writer

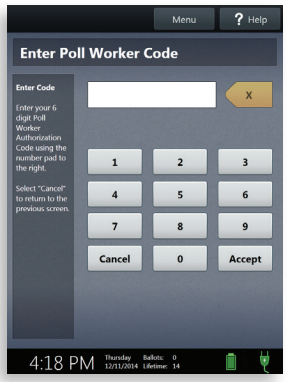
Follow local procedures for provisional voting, as determined by local and state rule and code. If your jurisdiction procedures permit, poll workers may issue a provisional access code using Verity Touch Writer by selecting Mark as provisional on the Confirm Access Code screen. A provisional voter will then use this code to access, vote, and print a provisional ballot. Verity Scan will not accept provisional ballots printed from Touch Writer. Follow local procedure to process provisional ballots.

suspending and closing polls on Verity Touch Writer

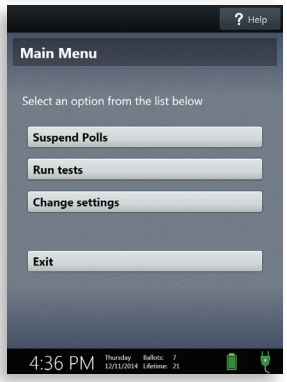
suspending polls on Verity Touch Writer

1. Press and hold your finger on the Ready for Use button on the Touch Writer screen, or, alternately, press the *blue* poll worker button on the back of the Verity Touch Writer.

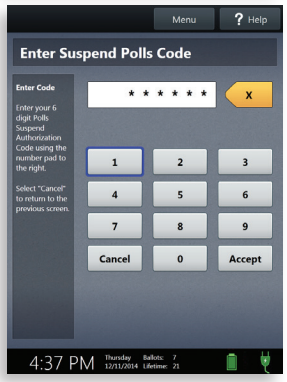
2. Select **Menu** at the top of the screen.



3. Select **Suspend Polls**.

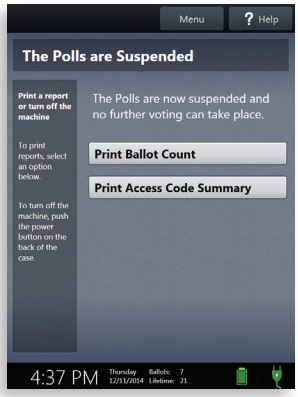


4. Enter your Suspend Polls Code and select **Accept**. A Suspend Polls report will automatically print.



Verity Touch Writer, *continued*

5. Wait while the Suspend Polls report prints.
6. The polls are now suspended. Print and file reports available on the screen as required by your jurisdiction. The available reports may vary and are configured by the election officials in your jurisdiction.



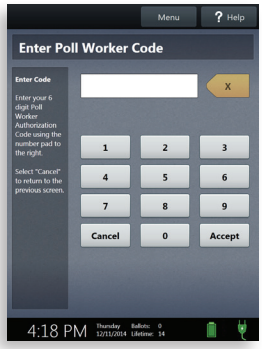
7. When you have finished printing reports, press the *red* power button on the back of the Verity Touch Writer to power it off.
   - If applicable, wait for the Touch Writer to be completely powered down and showing a black screen before unlocking the tablet and removing it from the cradle.
   - After stowing the tablet, make sure to lock it in with the key and pull the blue latch down to secure it in place.

   NOTE: *Verity power cords are equipped with locking connectors; the connector will make a small "click" when connecting. To disconnect a power cord, grasp the cord at the base of the black connector molding where it connects to the Verity device, and slide back the sleeve. This will unlock the connection so that the cord may be removed.*
8. Follow your local jurisdiction's guidelines, including chain-of-custody procedures, when transferring voting devices, vDrives, and/or ballots to your central counting location. If you are leaving equipment in place, be sure to properly secure all equipment, preferably behind a locked door.
9. For instructions on reopening polls after the polls have been suspended, see page 281.

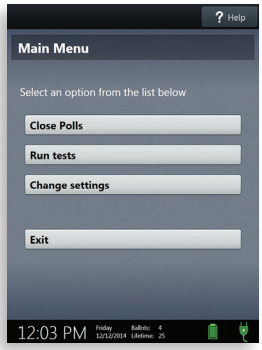
closing polls on Touch Writer

! IMPORTANT: Wait until the close polls time to close polls. Once polls are closed they cannot be reopened on that device.

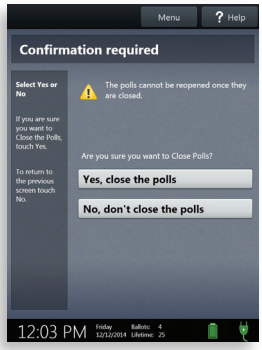
1. Press and hold your finger on the Ready for Use button on the Touch Writer screen, or, alternately, press the *blue* poll worker button on the back of the Verity Touch Writer.
2. Select **Menu**.



3. Select **Close Polls**.

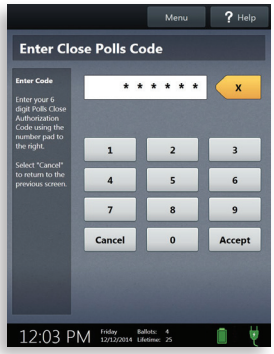


4. Select **Yes, close the polls**.

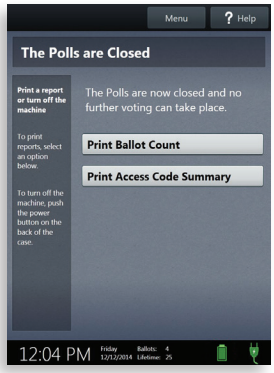


Verity Touch Writer, *continued*

5. Enter your Close Polls Code and select **Accept**.



6. Wait while the Close Polls report prints.
7. The polls are now closed. Print and file available reports as required by your jurisdiction. The available reports may vary and are configured by the election officials in your jurisdiction.
   - A list of device reports with descriptions can be found on page 325.



8. Press the *red* power button on the back of the Verity Touch Writer to power it down.
   - Wait for the Touch Writer to be completely powered down and showing a black screen before unlocking the tablet and removing it from the cradle. If tablet is removed before powering down, a message alerting you to the issue will be displayed.
   - After stowing the tablet, make sure to lock it in with the key and pull the blue latch down to secure it in place.

   NOTE: *Verity power cords are equipped with locking connectors; the connector will make a small "click" when connecting. To disconnect a power cord, grasp the cord at the base of the black connector molding where it connects to the Verity device, and slide back the sleeve. This will unlock the connection so that the cord may be removed.*
9. Follow your local jurisdiction's guidelines, including chain-of-custody procedures, seals, etc., when transferring equipment, vDrives, and/or Ballots to your central counting location. If you are leaving equipment in place, be sure to properly secure all equipment, preferably behind a locked door.

Verity Reader

Verity Reader is an accessible ballot verification device; voters can insert their voted ballot to visually verify how their ballot will be counted, and/or hear audio read-back of their ballot choices

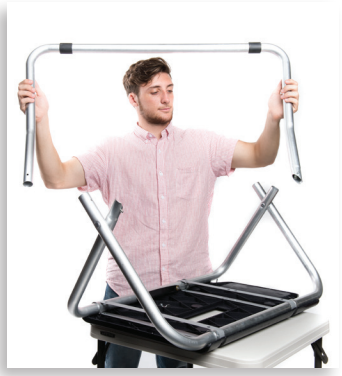
setting up the Verity Reader booth

1. Remove booth parts from the transport bag. A complete set of booth parts includes the booth table, rear leg assembly, front leg extensions, ballot tray, and privacy screens.

2. Undo the bungee cords and unfold the legs from booth table. Pull on the handle and lift to lock the legs into place.

Verity Reader, *continued*

3. Attach the rear leg assembly. Press the metal buttons to attach and lock it into place.



4. Attach the front leg extensions. Press the metal buttons to attach and lock it into place.

5. Turn the booth over to install the ballot tray.

Verity Reader, *continued*

6. Insert the ballot tray through the slot on the top of the booth table. The tray must curve toward the back of the booth (in the photo to the right, the poll worker is standing behind the booth). Once the tray is inserted, slide it forward to secure it using the plastic tabs.

setting up Verity Reader

1. Set the Verity Reader on top of booth, aligning footpads with the indentations (the handle on the front of the Reader should face the same direction as the handle on the booth).

2. Reach under the front of the booth top and push the latch in the direction of the back of the booth to lock in place.

3. Unlock the case (if locked). Open the case and remove the power brick and power cord from the storage compartment. Close the compartment and case.

Verity Reader, *continued*

4. Plug the power cord securely into the power brick.

5. Plug the power brick into the back of the Verity Reader (flat part up).

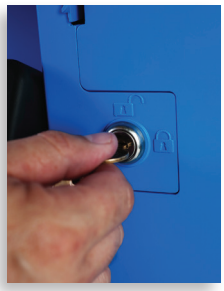
6. Open the Verity Reader case and push the lid brace to lock it into place.

   IMPORTANT: Never tilt a device up by the handle while cords are connected – this can damage the cord where it connects to the device, or cause damage to the device itself.

7. Unlock the tablet.
8. Open the latch.
9. Remove the tablet from its storage compartment.

Verity Reader, *continued*

10. Seat the tablet in its cradle and tilt it back.
11. Lock the tablet in place.



12. Connect the Verity Access controller to the Verity Reader and place the controller in the compartment on the right-hand side.
13. Plug the Verity Reader power cord into a power strip/ wall outlet.

14 Verify the Verity Reader device seals, per local procedure. Attach privacy screens to booth after voting device is installed by inserting each screen into the notches on the sides of the booth top.

15. Power on the Verity Reader using the red power button on the back of the device.

16. During the power on process, the Verity Reader will display the Power-On Self Test report screen. This report will indicate any hardware or connection issues; if any issues are noted, check connections and restart the device using the red power button.

NOTE: *Software startup for each unit may take several minutes, due to security and data integrity checks that the Verity software performs. This process is included in the design of the Verity Voting system to verify the authenticity of the software before allowing it to operate.*

Verity Reader, *continued*

Verity Reader orientation

screen orientation

When powered up, the Verity Reader should display the Ready to Use screen.

The current date and time are displayed on the bottom left.

AC and battery Power Indicators

On the bottom right, a green battery icon indicates the battery is connected; a green plug icon indicates AC power is connected. Specific battery power level is shown on the Reader's Power-On Self Test report screen, when the device is powered on.

If AC power is not available, the device will automatically switch over to battery power, and a warning message will display. To dismiss the message and continue operating on battery power, touch "**If the power is out, touch here to use battery**".

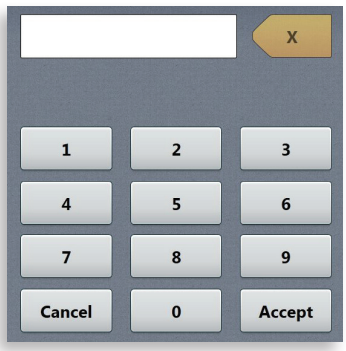
NOTE: *If a voting session is in progress, the warning message will not appear until the session is completed.*

poll worker button

The blue poll worker button is located on the back of Verity Reader. This button is used to access poll worker features (pressing this button will prompt poll workers to enter the poll worker passcode).

entering passcodes

- Passcodes can be entered via the device touch screen..
- Passcodes must be 6 digits.
- Passcodes are determined by your local election office prior to the election.
- Selecting the yellow button to the right of the passcode field will delete the last character entered. Select Cancel to return to the previous screen.
- After entering the passcode, select **Accept** to proceed.



verifying choices with Verity Reader

voter privacy and assisting voters

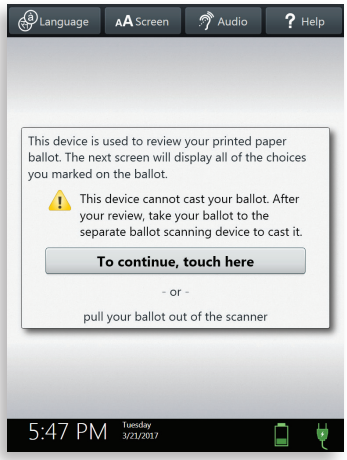
- No person other than a voter, a person assisting a voter, or a poll worker should enter the voting area.
- If assisting a voter, stand beside the privacy screen to maintain voter privacy. Ask appropriate questions to learn what part of the voting process the voter needs help with, e.g., 'What screen are you on?'.

verifying a ballot

1. When the device is ready to be used, the screen will display "Paper ballot review - Ready for use".
2. The voter inserts their voted ballot into Verity Reader. Flashing green arrows indicate the location and direction of the ballot feed.

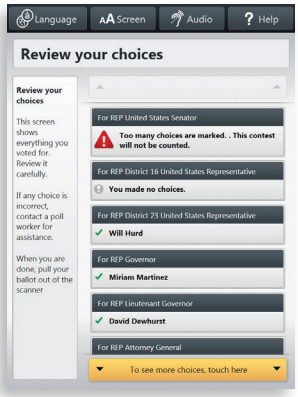
   NOTE: *Ballots must be fed into Verity Reader short edge first, but otherwise can be inserted in any orientation.*

3. **DO NOT REMOVE THE BALLOT YET.** A confirmation screen appears, explaining the purpose of the Reader device. The voter selects **Continue** to proceed.



Verity Reader, *continued*

4. **DO NOT REMOVE THE BALLOT YET.** The voter verifies their choices on the screen, and/or listen to audio read-back of their choices using the attached headphones.
5. Once the voter has verified their choices, they can remove their ballot from the scanner.
6. Voter takes their ballot to the Verity Scan to cast their ballot.

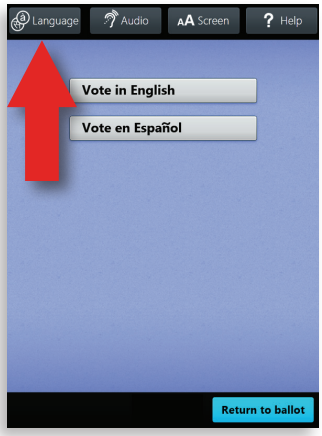


Verity Reader help and features

The Verity Reader is equipped with context-specific voter help and settings that can be accessed from the touch screen. To exit help or settings screens and resume voting, select the Exit or Return button on the bottom right.

The **Help** menu is located at the top right of the Verity Reader screen. Selecting Help takes the voter to a screen with help text for the voting step currently underway. Help is also available via the help button on the Verity Access.

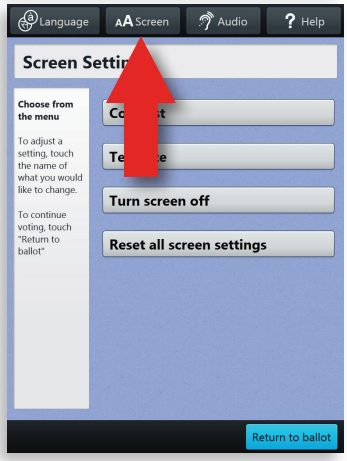
If multiple languages are available, a **Language** menu will be located at the top left of the Verity Reader screen. Selecting Language allows the voter to change the language of the instructions and ballot.



Verity Reader, *continued*

The **Audio** menu is located at the top center right of the Verity Reader screen. Selecting Audio allows the voter to change the audio settings (volume, speed, and pitch) for the headphones.

The **Screen** menu is located at the top center left of the Verity Reader screen. Selecting Screen allows the voter to change the screen settings (contrast and text size) and to turn the screen off (if using headphones only).



about Verity Access

Verity Access is an Audio-Tactile Interface (ATI) that allows voters with disabilities to verify their ballot privately and independently. Verity Access is discussed in-depth on page 266. Access includes headphones for voters with visual impairments, or others who want to hear the ballot. Verity Access is also compatible with tactile input switches and other inputs such as sip-and-puff devices. With Verity Access, a voter can:

- Navigate through the screen with the Move wheel.
- Make selections with the Select button.
- Headphones can be plugged into the top left side of the Verity Access.
- Tactile switches, sip-and-puff, or any dual-switch input devices can be plugged into the top right side.

Verity Reader, *continued*

installing headphones

To install headphones on the Verity Access interface:

1. Lift the Verity Access from its cradle to the right of the Verity Reader.
2. Plug the headphone cord into the headphone jack on the top left of the Verity Access. The headphone jack is also indicated by the raised headphone symbol.

installing tactile switches or other input devices

To install input devices on the Verity Access interface:

1. Lift the Verity Access from its cradle.
2. Plug the tactile switches, sip-and-puff, or other stereo input device cord into the jack on the top right of the Verity Access. The input jack is also indicated by the raised wheelchair symbol.

assisting voters with disabilities: Verity Reader

Orientation and voter education on the Verity Reader is essential for achieving voter confidence and voter satisfaction. The following is intended as instructional material for poll workers, so that they may provide the best possible assistance to voters with disabilities. It will take several minutes of time to explain the voting process; therefore, it is important for poll workers to be patient, answer questions, and do not rush things during the orientation process.

STEP 1: Reiterate the overall workflow of the voting process

NOTE: *Recommendations for assisting voters with disabilities with the Verity Touch Writer ballot marking device are found on page 291.*

1. After the voter has marked and printed their ballot with the Touch Writer, the voter can review their printed paper ballot at the Verity Reader device. The voter will then take their paper ballot to Verity Scan to cast the ballot.
2. Let the voter know they can keep their marked ballot in a privacy sleeve until they are ready to review it.

STEP 2: Allow voter to get comfortable/oriented at the device

NOTE: *Do not hand the voter the headphones yet - the first goal is to get the voter comfortable with the physical device itself, and its controls – not the actual process of reviewing the ballot; that information will come later.*

1. Let the voter know he/she can use the touchscreen or the Verity Access.
2. If the voter is blind or visually impaired, orient them to the device:
    - Allow him or her to be seated in a comfortable position.
    - Provide a specific description of the outlines of the machine, and/or ask for permission to place the voter's hands on the voting machine itself, to allow the voter to get oriented…the voter can feel the edges, feel the touchscreen, and generally understand the outlines of the device.
    - After the voter understands the general outlines of the device, ask for permission to place his/her hands on the Verity Access.
        - Point out the distinctively shaped buttons; let the voter feel the edges, and if the voter reads Braille, point out the labels.

step 2, continued

- Explain what each button does, using specific directions such as…
  - "On the far right is the circular 'MOVE' wheel; turn it clockwise to advance through the information on the device. Every time you turn the wheel a click, you will hear audio. The wheel acts as a trigger for the audio."
  - "On the far left is the rectangular 'SELECT' button; once you land on a selection you want to choose, press SELECT."
  - "In the middle is the triangular 'HELP' button."

3. Make voters aware that they can hold the Verity Access in their lap, if desired.
4. Make voters aware of the Verity Reader screen contrast, font options, and audio settings, as applicable.
   - "You have the opportunity to change the audio and/or screen settings; you can make changes to these settings at any time while you are reviewing your ballot."
   - "Do you want assistance with making any changes to the audio or screen settings?"

   NOTE: *Voters with visual impairments may want to disable the screen and use audio only, for reasons of privacy.*

STEP 3: Explain how to insert the ballot, and the ballot review process

1. Only after the voter has gotten totally physically oriented, then explain how to insert and review the ballot:
   - **A)** Remove the ballot from the privacy sleeve (if applicable).
   - **B)** Insert the ballot into the scanner (note the green flashing lights indicating the scanner feed slot, if applicable).
   - **C)** The Reader device will read the ballot, and then return it to the voter; do not remove the ballot yet (removing the ballot completely will cancel the review process).
   - **D)** Review your ballot using the screen or audio.
   - **E)** When you have finished reviewing your selections, you can remove your ballot and return it to the privacy sleeve. Do not forget to take your ballot to the Verity Scan to cast your ballot.
2. *(if applicable)* (Hand the voter the headphones) "If you turn the wheel clockwise, you will hear that every click plays the next audio item."
3. "Are you ready to begin? Do you have any questions?"
4. "When you are finished, do not forget to take your ballot to the Verity Scan to cast your ballot."

other Verity Reader features

Pressing the poll worker button and selecting the **Menu** button on the top of the Verity Reader screen will also allow election staff to access additional features.

Run Tests, Change Settings, and Administrator menus

These three menus are described elsewhere in this document. Availability of these menus will depend on the current state of the device. Poll workers should not access these menus unless they have been authorized to do so by election officials, and only after receiving proper training in their use.

- Features available under the Run Tests menu are described beginning on page 210.
- Features available under the Change Settings menu are discussed beginning on page 226.
- Administrator menu features are covered on page 341.

shutting down Verity Reader

1. When ready, press the red power button on the back of the Verity Reader to power it down.

   NOTE: *Verity power cords are equipped with locking connectors; the connector will make a small "click" when connecting. To disconnect a power cord, grasp the cord at the base of the black connector molding where it connects to the Verity device, and slide back the sleeve. This will unlock the connection so that the cord may be removed.*

   - Wait for the tablet to be completely powered down and showing a black screen before unlocking and removing it from the cradle. If tablet is removed before powering down, a message alerting you to the issue will be displayed.
   - After stowing the tablet, make sure to lock it in with the key and pull the blue latch down to secure it in place.

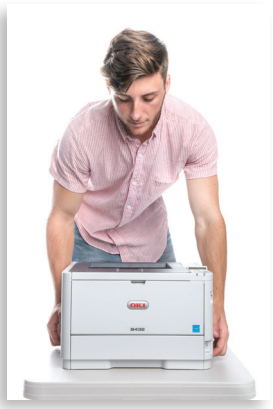
2. Follow your local jurisdiction's guidelines, including chain-of-custody procedures, seals, etc., when transferring equipment, vDrives, and/or Ballots to your central counting location. If you are leaving equipment in place at a polling location, be sure to properly secure all equipment, preferably behind a locked door.

Verity Print

The Verity Print device is used to print blank ballots on an attached printer; Verity print may be used at the polling place, or in a central office. Verity Print allows you to choose the precinct/ballot style and quantity of ballots to print.

setting up the ballot printer

1. Set up the ballot printer table and place the ballot printer on the table.



2. Insert the square end of the printer cable into the printer.

3. Insert the printer power cord into the printer and the other end into an outlet or UPS/battery backup.

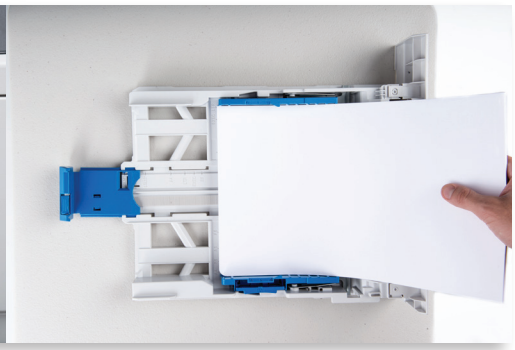
Verity Print, *continued*

4. Load the ballot printer with appropriate ballot paper.

loading ballot paper in the main tray (Tray 1)

A) Pull out the tray 1 drawer on the printer.

B) Load paper in the tray. If necessary, push the blue tab and pull the paper guide to the appropriate setting (Letter/8.5"x11", or Legal/8.5"x14"). Paper sizes larger than 8.5"x14" require a tray extender kit (available separately).



Verity Print, *continued*

C) The tray extender kit for 17"/20" ballots includes two parts:

- The front piece installs into the MP Tray door, and is used to support the ballots as they exit the printer.

  NOTE: *This piece can hold a maximum of ~100 sheets before the ballots should be removed from the top of the printer.*

- The rear piece replaces the stock paper stop and rear tray extension cover. Once installed, the extender can support 14", 17", and 20" paper; however, the stock paper stop must be reinserted to support 11" paper.

E) Once paper has been loaded, reinsert and close the paper tray.

5. Use the switch on the side of the printer to power on the printer.

! IMPORTANT: Do not power on Verity Print until you have powered on the ballot printer and connected it to the Verity Print.

setting up Verity Print

1. Set the Verity Print on top of a table next to the ballot printer
2. Unlock the case (if locked). Open the case and remove the power brick and power cord from the storage compartment. Close the compartment and case.

3. Plug the power cord securely into the power brick.

4. Plug the power brick into the back of the Verity Print (flat part up).

5. Verify the tamper seal number sealing the printer port, and then remove the seal. Insert the flat end of the USB printer cable to the back of the Verity Print (the notch faces up).

Verity Print, *continued*

6. Open the Verity Print case and push the lid brace to lock it into place.

7. Unlock the tablet.
8. Open the latch.
9. Remove the tablet from its storage compartment.

10. Seat the tablet in its cradle and tilt it back.
11. Lock the tablet in place.

Verity Print, *continued*

12. Plug the Verity Print power cord into a power strip/wall outlet.
13. Verify the Verity Print device seals, per local procedure.
14. Power on the Verity Print using the red power button on the back of the device.

15. During the power on process, the Verity Print will print the Power-On Self Test report on its built-in thermal printer. This report will indicate any hardware or connection issues; if any issues are noted, check connections and restart the device using the red power button.

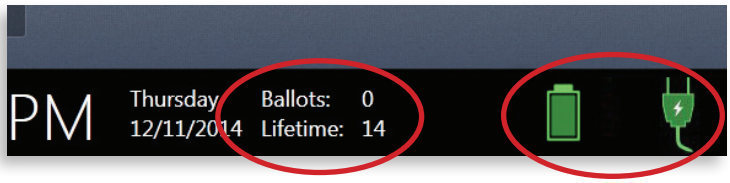
    NOTE: *Software startup for each unit may take several minutes, due to security and data integrity checks that the Verity software performs. This process is included in the design of the Verity Voting system to verify the authenticity of the software before allowing it to operate.*

Verity Print, *continued*

Verity Print orientation

screen orientation

When powered up, the Verity Print should display the Enter Poll Worker Code screen. In addition to the time and date, the following information appears at the bottom of the screen:



- **Ballots:** This is the number of ballots printed on the Verity Print for the current election. At the start of a voting event, this number should be zero.
- **Lifetime:** The number of ballots printed on the Verity Print for the lifetime of the device (for all elections); this number will vary.

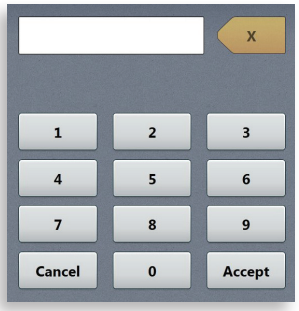
AC and battery Power Indicators

A green battery icon indicates the battery is connected; a green plug icon indicates AC power is connected. Specific battery power level can be found on the Verity Print Power-On Self Test report.

If AC power is not available, the device will automatically switch over to battery power, and the warning message to the right will display. To dismiss the message and continue operating on battery power, touch "**If the power is out, touch here to use battery**".

entering passcodes

- Passcodes are entered via the device touch screen.
- Passcodes must be 6 digits.
- Passcodes are determined by your local election office prior to the election.
- Selecting the yellow button to the right of the passcode field will delete the last character entered. Select Cancel to return to the previous screen.
- After entering the passcode, select **Accept** to proceed.



thermal printer operation

The built-in thermal printer is used to print device reports.

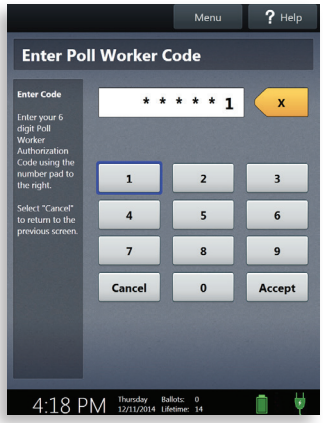
1. The thermal printer is located on the right-hand side of the Verity Print.
2. To open the paper compartment: While standing in front of the device, pull the lever on the top of the printer cover towards you.

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.

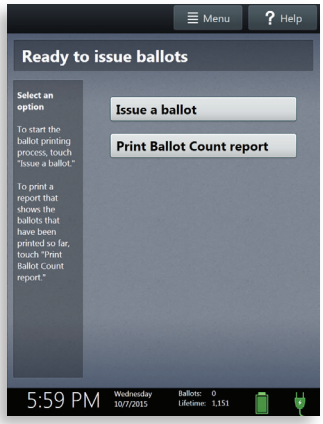
Verity Print, *continued*

printing ballots with Verity Print

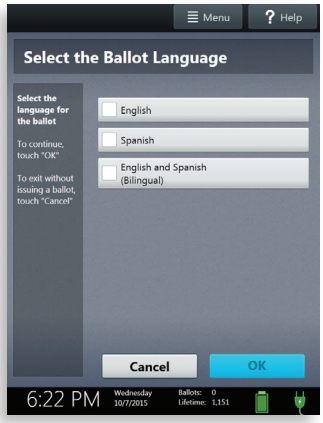
1. Setup and power on all devices. Confirm that you are running on AC power (see page 318).
2. When prompted, enter the Poll Worker Code and select **Accept**.



3. The Ready to issue ballots screen will display. Select **Issue a ballot**.

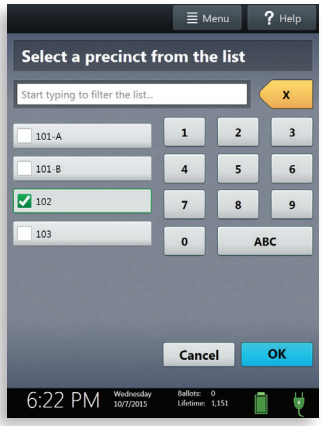


4. Choose the ballot language, and then select **OK**.

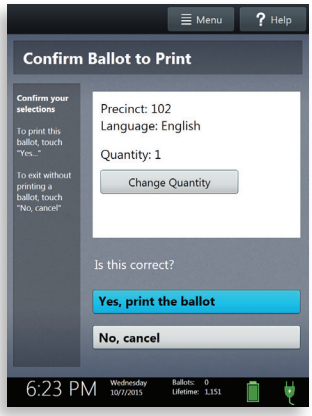


Verity Print, *continued*

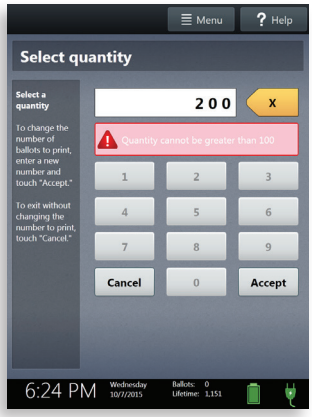
5. Choose the precinct, and then select **OK**. You may use the keypad on the screen to search for a precinct (select the ABC button to perform an alphabetic search).
   - *(Closed Primary Elections only)* After choosing the precinct, select the Party, if applicable.
   - If your jurisdiction uses AutoBallot, you can scan the barcode produced by your poll pad/poll book to automatically activate a ballot for the correct precinct/party.



6. Verify that the correct precinct and language are displayed on the screen (and party, if this is a primary election). Select **Yes, print the ballot**.
   - To change the quantity of ballots to print, select **Change Quantity**.



   - Enter the number of ballots to print, and then select **Accept**. You may print up to 100 ballots at a time.

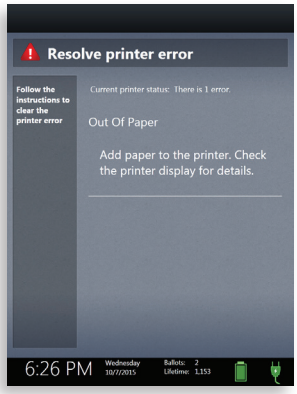


7. Wait while the ballot(s) print on the attached ballot printer.

Verity Print, *continued*

printing errors

If an error occurs during printing (for example, the printer is out of paper), the nature of the error will be shown on the screen. Follow the directions on the screen to resolve the issue.



spoiling printed paper ballots

To spoil a ballot that has already been printed from Verity Print, or to spoil a preprinted paper ballot, follow your local procedures (for example, filling out a spoiled ballot log and envelope).

printing a Ballot Count report

You can print a Ballot Count report on Verity Print at any time.

1. On the **Ready to issue ballots** screen, select **Print Ballot Count report**.
2. Wait while the report prints on the built-in thermal printer. File the report according to local jurisdiction rules.

other Verity Print features

Pressing the poll worker button and selecting the **Menu** button on the top of the Verity Print screen will also allow election staff to access additional features.

Run Tests, Change Settings, and Administrator menus

These three menus are described elsewhere in this document. Availability of these menus will depend on the current state of the device. Poll workers should not access these menus unless they have been authorized to do so by election officials, and only after receiving proper training in their use.

- Features available under the Run Tests menu are described beginning on page 210.
- Features available under the Change Settings menu are discussed beginning on page 226.
- Administrator menu features are covered on page 341.

shutting down Verity Print

1. When you have finished printing ballots and reports, press the red power button on the back of the Verity Print to power it down.

NOTE: *Verity power cords are equipped with locking connectors; the connector will make a small "click" when connecting. To disconnect a power cord, grasp the cord at the base of the black connector molding where it connects to the Verity device, and slide back the sleeve. This will unlock the connection so that the cord may be removed.*

- Wait for the tablet to be completely powered down and showing a black screen before unlocking and removing it from the cradle. If tablet is removed before powering down, a message alerting you to the issue will be displayed.
- After stowing the tablet, make sure to lock it in with the key and pull the blue latch down to secure it in place.

2. Follow your local jurisdiction's guidelines, including chain-of-custody procedures, seals, etc., when transferring equipment, vDrives, and/or Ballots to your central counting location. If you are leaving equipment in place at a polling location, be sure to properly secure all equipment, preferably behind a locked door.

device audit logs

Audit logs for all devices are accessible in Verity Count once a vDrive associated with the device has been read into Count. Retrieval of device audit logs from Verity Count is discussed on page 428. For general discussion of audit logs and records, see page 486.

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. Below 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.

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 (Touch Writer)	• Election Name and Date • Jurisdiction and polling place • Voting Type (e.g. Early Voting or Election Day) • Ballot count • Lifetime count • Number of precincts/splits • Ballot Marking session summary	Before polls are opened, upon request.
Zero report (Scan)	• Election Name and Date • Jurisdiction and polling place • Voting Type (e.g. Early Voting or Election Day) • Ballot count • Lifetime count • Number of precincts/splits • Tally summary by contest*	Before polls are opened, upon request.
Open Polls (Scan, Touch Writer)	• Election Name and Date • Jurisdiction and polling place • Voting Type (e.g. Early Voting or Election Day) • Ballot count • Lifetime count	Automatically, when polls are opened or re-opened.
Suspend Polls (Touch Writer)	• Total Ballots printed • Precincts voted (summary)	Automatically, when polls are suspended.

device reports, *continued*

Report name	Report contents/description	When it is printed
Close Polls (Touch Writer)	• Election Name and Date • Jurisdiction and polling place • Voting Type (e.g. Early Voting or Election Day) • Ballot count • Lifetime count • Total Ballots printed • Precincts voted (summary)	Automatically, when polls are closed.
Suspend Polls (Scan)	• Election Name and Date • Jurisdiction and polling place • Voting Type (e.g. Early Voting or Election Day) • Ballot count • Lifetime count	Automatically, when polls are suspended.
Close Polls (Scan)	• Election Name and Date • Jurisdiction and polling place • Voting Type (e.g. Early Voting or Election Day) • Ballot count • Lifetime count • Tally (summary by contest) *(if allowed)*	Automatically, when polls are closed.
Precincts Enabled	• Election Name and Date • Jurisdiction and polling place • Voting Type (e.g. 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	Available on the Ready to Open Polls screen.

device reports, *continued*

Report name	Report contents/description	When it is printed
Ballot Marking Session Summary Report (Touch Writer)	• Total ballots activated since polls were opened. • Ballots printed • Ballots spoiled • Ballots in use	Available at any time on the Touch Writer.
Tally* (Scan)	• 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 Scan, upon request.
Ballot Count (Scan)	• 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 Scan, upon request.
Write-in Report (Scan)	• Ordered by precinct, and then contest • Each unique write-in entered • Votes received for each unique write-in	After polls are closed on Scan, upon request.

NOTE: *The type of Tally report available (summary or by precinct) is determined according to settings made in Verity Build (see page 177). The Tally report may not be included for some jurisdictions, depending on local election procedures.*

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.
- 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 Use Procedures guide or equivalent documentation
- Logs, out of service tags, and chain of custody forms

Supplies

- Spare device rechargeable batteries*
- Spare headphones and tactile switches for accessible devices*
- Spare set of device/equipment keys*
- Spare device thermal paper rolls*
- (if applicable) Scanner test and calibration sheets*
- (if applicable) Spare ballot printer toner*
- Spare power bricks/cords
- Lint-free wipes and Isopropyl alcohol

***NOTE:** *These items are available for purchase directly from Hart.*

help desk procedures

responsibilities and guidelines

- When taking calls, get a name and phone 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 Use Procedures documentation (or equivalent) as your first resource. These are the documents the poll worker is most likely to have on hand.
- 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.
- Support staffing needs for will vary by jurisdiction size, state/local regulations, election scope, and a host of additional variables; it may be helpful to consider past call volume for elections of similar scope.
- The Hart Customer Support Center (1-866-ASK HART) is available 7 AM to 7 PM CST Monday through Friday, with extended hours on Election Days. Urgent calls received outside of normal or extended hours will be returned promptly by an on-call support representative. On-site support is also available; for more information, contact Hart.

recommended training & equipment

Training

- Verity Polling Place Operations training course
- Verity Support Procedures training course

Documentation

- Verity Use Procedures guide or equivalent documentation
- Help Desk Call logs

Supplies

- One Polling Place voting setup in Test Mode that has all precincts available.

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.

voting device troubleshooting

The following 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.

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.

troubleshooting issue directory

try each step in order, until the problem is resolved

Issue	Resolution Steps *(try each step in order, until the problem is resolved)*
AC power	*see* **No wall power/AC power**
Access controller does not work	**1** Verify device audio settings (**p 339**) **2** Restart device (**p 338**) **3** Contact Election Office and replace device (**p 337**)
Ballot incorrect (wrong ballot issued)	*see* **Spoiling Ballots**
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 page 199.

voting device troubleshooting, *continued*

Issue	Resolution Steps *(try each step in order, until the problem is resolved)*
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 that there are a few sheets of standard sized paper loaded in the main cassette tray. **2** If the Verity Print/Touch Writer reports a problem with the printer while printing a ballot, **do not restart the Print or Touch Writer.** Follow 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 gray 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 voting device, 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). **5** Verify printer cable is plugged in to printer and Verity Print or Touch Writer; verify printer has AC power. **6** If you are still unable to produce a printed ballot, spoil the Verity Touch Writer ballot (if possible) (**p 339**), restart the *Print/Touch Writer* (**p 338**), 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 to replace the printer.
Ballot stuck in scanner (ballot has been cast on Verity Scan)	**1** Check/note device message(s), if any; confirm ballot has been cast **2** Restart device (**p 338**). This should clear the scan path. Or, open the rear ballot box compartment door and physically clear the jam. Follow local procedures regarding security seals. **3** If scanner jams repeatedly, contact election office; use emergency ballot slot and/or replace device (**p 337**)

voting device troubleshooting, *continued*

Issue	Resolution Steps *(try each step in order, until the problem is resolved)*
Ballot stuck in scanner (ballot has not been cast on Verity Scan, Verity Reader)	**1** Check/note device message(s), if any; confirm ballot has *not* been cast. **2** **If ballot is visible:** DO NOT open scanner cover; pull and flatten ballot; re-feed ballot. **If ballot is not visible:** open the back door on ballot box and physically clear the jam. Flatten and re-feed ballot. Follow local procedures regarding security seals. **3** If scanner jams repeatedly, contact election office; use emergency ballot slot and/or replace device (**p 337**)
Ballot will not scan	**1** Check and respond to device message(s), if any **2** Confirm ballot has not been cast **3** Remove, flatten and re-feed ballot **4** Clean scanner (**p 339**) **5** Contact election office; use emergency ballot slot and/or replace device (**p 337**)
Battery not present/no battery power	**1** Check battery (**p 338**) **2** Restart device (**p 338**) **3** Replace battery **4** If no AC power, contact Election Office
"Battery Low" error appearing on device screen	**1** Check system battery (**p 338**). Replace battery with fully charged battery, if available, and restart device (**p 338**) **2** Check AC power supply (**p 337**) and restart device (**p 338**)
Closed polls too soon	**1** Verify polls are closed **2** Contact Election Office and replace device (**p 337**)
Device has incorrect polling place/precincts	**1** Verify polling place from any device report **2** Contact Election Office and replace device (**p 337**)
Device is hot or smells hot	*see* **Battery not present/no battery power**

voting device troubleshooting, *continued*

Issue	Resolution Steps *(try each step in order, until the problem is resolved)*
Device screen is dark	*see* **Device will not turn on**
Device turns off/ loses power (was on previously)	**1** Check power supply (**p 337**) **2** Check battery (**p 338**) **3** Restart device (**p 338**) **4** Contact Election Office and replace device (**p 337**)
Device will not turn on	**1** Check tablet connection/docking (**p 337**) **2** Check power supply (**p 337**) **3** Check battery (**p 338**) **4** If power on report is available, verify software version (**p 338**) **5** If AC power is present, restart device (**p 338**) **6** Contact Election Office and replace device (**p 337**)
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 (replace if necessary) (**p 339**) **2** Verify device audio settings (**p 339**) **3** Restart device (**p 338**) **4** Contact Election Office and replace device (**p 337**)
Language chosen incorrectly	*see* **Wrong language selected - Verity Touch Writer**
No battery power (battery power indicator on device screen is red/ crossed out)	*see* **battery not present/no battery power; battery Low error**

voting device troubleshooting, *continued*

Issue	Resolution Steps *(try each step in order, until the problem is resolved)*
No thermal printer paper/replacing thermal printer paper	Load thermal printer paper (**p 340**)
No vDrive Found	Contact Election Office and replace device (**p 337**)
No wall power/AC power	**1** Check power supply/reconnect AC power (**p 337**). (Once power is reconnected, it will take a moment for the device display to update.) **2** If display does not update, restart device (**p 338**) **3** If there is no A/C power in the polling place, operate on battery power and contact Election Office
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/precinct**
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 (Verity Touch Writer)**
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 (Verity Touch Writer)**

voting device troubleshooting, *continued*

Issue	Resolution Steps *(try each step in order, until the problem is resolved)*
Printer not working (device thermal printer)	*see:* **Thermal printer does not work**
Printing reports after powering down	Press red power button on back of device to turn it back on and print reports needed
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 printed)	**1** Spoil ballot (**p 339**) **2** Issue/activate new ballot, if applicable
Suspended polls too soon	If dictated by local procedures, restart device (**p 338**) 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 338)** 2 Contact Election Office and replace device (**p 337**)
Thermal printer does not work	**1** Check/make note of any device message(s) **2** Load/reload thermal paper (**p 340**) **3** Restart device (**p 338**) **4** Contact Election Office and replace device (**p 337**) **NOTE:** *If printer is printing a long string of numbers, see* **Thermal printer has entered diagnostic mode**.

voting device troubleshooting, *continued*

Issue	Resolution Steps *(try each step in order, until the problem is resolved)*
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 cannot be used normally. If printing is attempted while in diagnostics mode, a long string of numbers will print (see page 340). To reset the printer to normal operations mode, restart the device (**p 338**)
vDrive error message (Invalid vDrive, corrupt vDrive)	Contact Election Office and replace device (**p 337**)
vDrive almost full message	Contact Election Office and deploy a spare device **(p 337)**
vDrive lost/missing	Contact Election Office and replace device (**p 337**)
Wall power	*see* **No wall power/AC power**
Wrong ballot/ ballot style/ precinct chosen - Verity Touch Writer (ballot not yet printed)	*see* **Spoiling Ballots**
Wrong language selected - Verity Touch Writer (ballot not yet printed)	Select the language button in the top left of the Verity Touch Writer screen and choose the correct language.

troubleshooting procedure reference

replacing voting devices

- 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 a 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 237.

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).

! IMPORTANT: When reconnecting the tablet, don't forget to lock the tablet back in place.

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.
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 restart or power on the device.

voting device troubleshooting, *continued*

checking the system battery

1. Make certain all voters using the device have finished voting. If restarting 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. Unlock the device tablet and remove it from its cradle.
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 software version matches the correct version for your jurisdiction.

restarting a device

1. Make certain all voters using the device have finished voting. If restarting 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 again 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.
2. If headphones do not work, try connecting a different pair of headphones, if available.

verifying device audio settings

1. On the Verity Touch Writer or Reader, select **Audio**.
2. Verify the device audio settings. Select **Volume** to check the volume settings.

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.

cleaning the Verity Scan or Verity Reader 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 Scan/Reader to turn it off.
3. Unplug the AC power cord from the back of the Scan/Reader.
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. When finished, plug in AC power, press red power button, and follow on-screen prompts to resume using the device.

voting device troubleshooting, *continued*

verifying the polling place

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.

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.
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. 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 338).

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. Such functions may include:

- create recovery vDrive (all devices)
- enable/disable recount mode (Verity Scan only)
- change scanning rules (Verity Scan and Verity Reader)
- change print settings (Verity Touch Writer and Verity Print)

creating a recovery vDrive

In the event that a device vDrive is lost or damaged, 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 page 178).

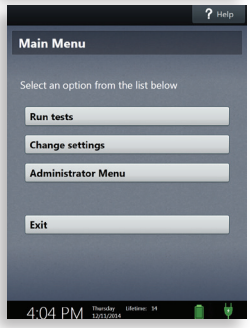
materials needed

- 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. Select **Menu** in the upper left of the screen.

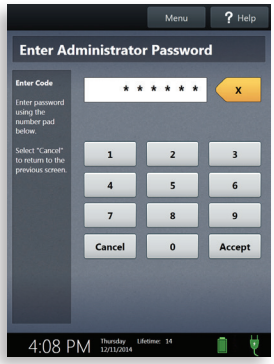
NOTE: *Create Recovery vDrive is only available when no election is currently loaded (i.e. no vDrive is present). For instructions on creating a recovery vDrive for the Central application, see page 381.*

2. Select **Administrator Menu**.

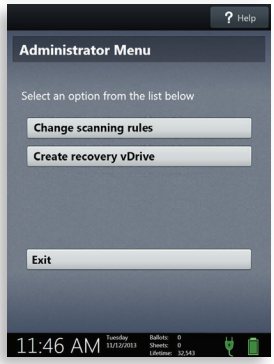


device administrator functions, *continued*

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



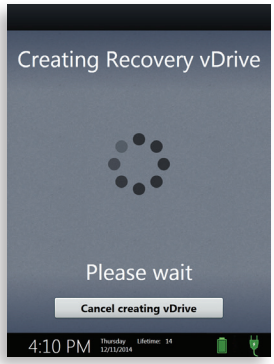
4. Select **Create recovery vDrive**.



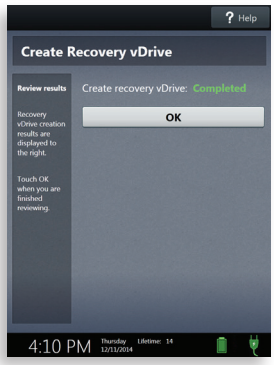
5. Insert a vDrive that has not been previously written for the election.

6. Select the election data you wish to recover, and then select **OK**.

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



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 page 410).

enabling recount mode

(Verity Scan only)

Verity Scan's Recount Mode feature allows jurisdictions to conduct a recount using the Verity Scan polling place scanner. Recount mode is discussed beginning on page 461.

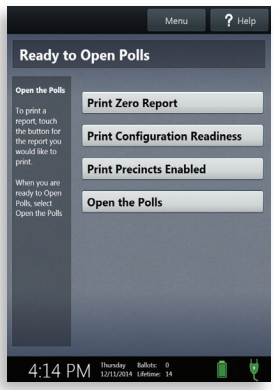
device administrator functions, *continued*

changing scanning rules

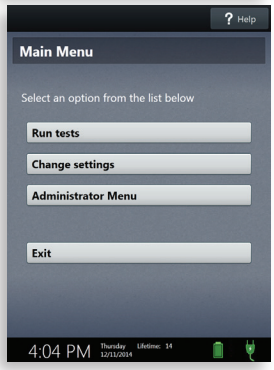
(Verity Scan and Reader)

The change scanning rules function allows an administrator to change the second-chance voting behavior of individual Verity Scan & Reader devices. 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.

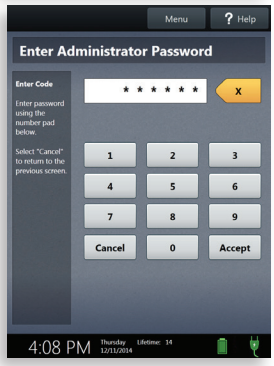
1. Select **Menu** in the upper left of the screen.
   - If polls have been opened on Scan, press the poll worker button and enter the Poll Worker code to access the Main Menu Change Scanning Rules is not available when polls are closed on Verity Scan.
   - On Reader, press the poll worker button on the back of the Reader device and enter the Poll Worker code to access the Menu button.



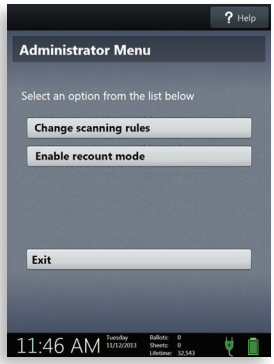
2. Select **Administrator Menu**.



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



4. Select **Change scanning rules**.



5. Select the desired ballot processing rules for that particular device. You can set rules for processing of Undervotes, Overvotes, Invalid Votes, Blank Ballots, Blank Pages, Marginal Marks, and voted Write-ins.
   - Any category set to **Default** will follow the rules defined in the Verity Build application.
   - Setting a category to **Accept** means the device will not prompt the user to correct any errors of that type.
   - Setting a category to **Reject** means the device will notify the voter of any errors matching that category. For Scan, 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 print settings

(Verity Touch Writer and Print)

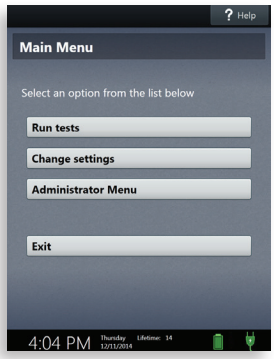
The change print settings function allows an administrator to include or exclude sequential ballot numbering on ballots printed using Verity Touch Writer or Print.

1. Select **Menu** in the upper left of the screen.

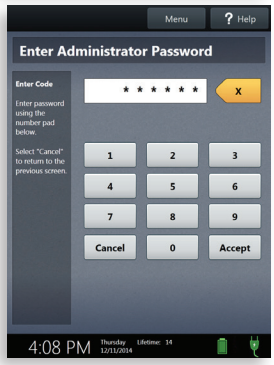
NOTE: *On Touch Writer, If polls have already been opened, press and hold your finger on the Ready for Use button (or press the poll worker button) and enter the Poll Worker code to access the Main Menu. Change Print Settings is not available when polls are closed on Verity Touch Writer.*

device administrator functions, *continued*

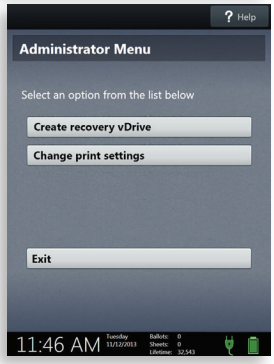
2. Select **Administrator Menu**.



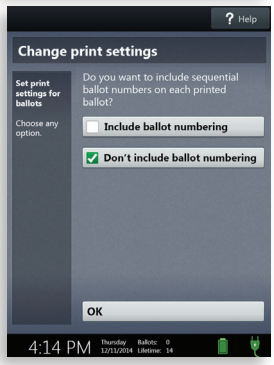
3. Enter the device Administrator passcode and select **Accept**.



4. Select **Change print settings**.



5. Select whether or not you want to include sequential ballot numbering on printed ballots, and then select **OK** when done.



chapter 6

central ballot processing

6

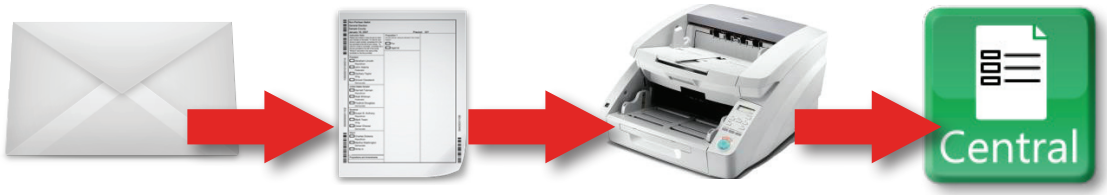
central ballot processing

overview

Jurisdictions that scan and process paper ballots centrally may use either Verity Scan to scan these ballots, or a Verity Central workstation with an attached ballot scanner. For information on using Verity Scan to scan ballots centrally, see page 392. Procedures for using Verity Central to process ballots are discussed below.

about Verity Central

In Verity Central, you will run voted paper ballots through your Verity Central scanner, review and resolve ballots, and write the cast vote records to vDrive in preparation for Verity Count vote tabulation.



paper ballots received

ballots opened and flattened

ballots scanned

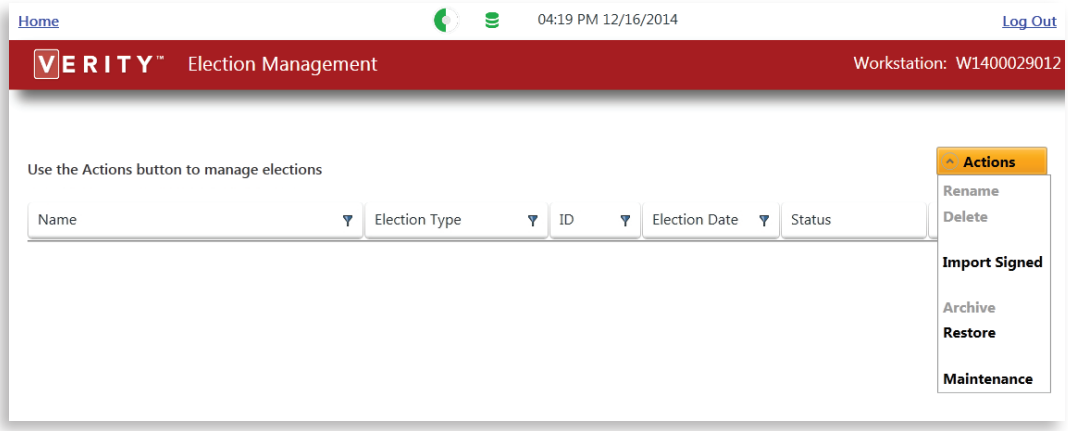
ballots resolved and Cast Vote Records written to vDrive

getting started with Verity Central

importing an election on the Central workstation

To open an election in Verity Central, you first must import the signed election export from Build, using the Election Management application on the Central workstation.

1. Insert a Verity Key (created in Build) for the election.
2. Insert the removable media (USB) containing the signed export from Build into an available USB port on the Central workstation computer. For instructions on creating the signed export on the Build workstation, see page 196.
3. Log in to the Verity Central workstation.
4. On the Verity home page, click the Manage tile.
5. In the Election Management application, click **Actions**.
6. Select **Import Signed** from the Actions drop-down menu.



7. Browse to the location of the removable media and select the election to import. Click **OK**.
8. Enter the Applications password for the Verity Key (created in Build, see page 194). Click **OK**.
9. A confirmation message appears; click **OK**.
10. Click **Home** in the upper left corner to return to the Verity Home screen.

getting started with Verity Central, *continued*

opening the Central application

On the Verity home screen, click the Central application tile to open Central. The Central application contains five chevron-shaped tabs: Elections, Read, Resolve, Results, and Import/Export.

using on-screen help

Help is available on every screen of the Central application; it will contain information related to the current screen, including instructions, notes, and important information regarding the steps you must complete on that screen.

1. Click the tab labeled **Help** at the bottom left of the screen to expand the help tab.
2. The help tab will display information about the current screen.
3. Click the **x** in the upper right corner to close the help tab.

selecting and opening an election

Under the Select Election tab, you will open the election, create tasks for scanning, and set your basic preferences for default voting type and ballot resolution. The following menus are available in the Select Election tab:

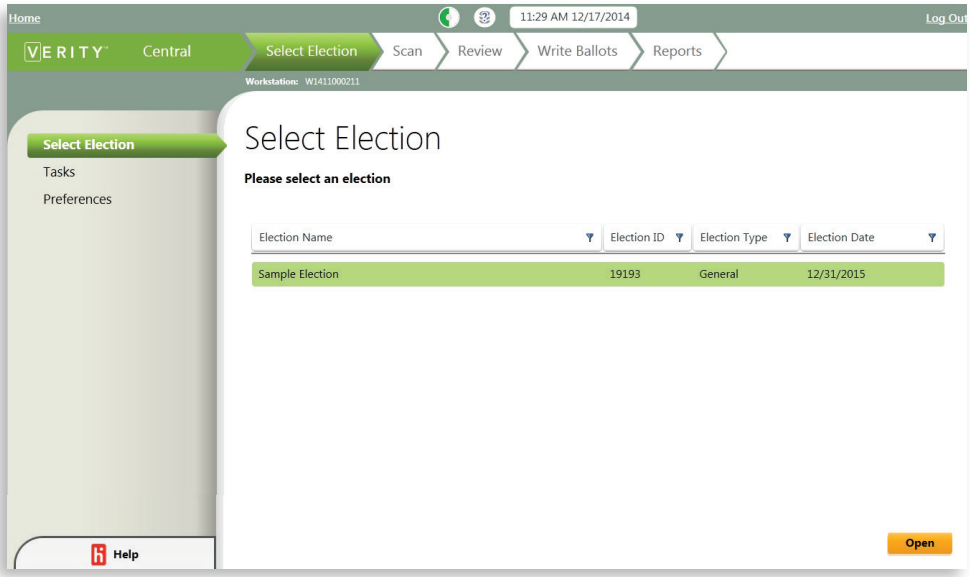
Select Election: Select and open an election.

Tasks: Create and manage election tasks associated with Central scanning.

Preferences: Set default preferences for elections before importing them into the Central workstation.

selecting and opening an election

The Select Election menu lets you select and open an election that you have imported from the Build workstation.



1. Open the Central application and select the **Select Election** menu.
2. Select the election you need to work with.
3. Click **Open** in the bottom right of the screen.

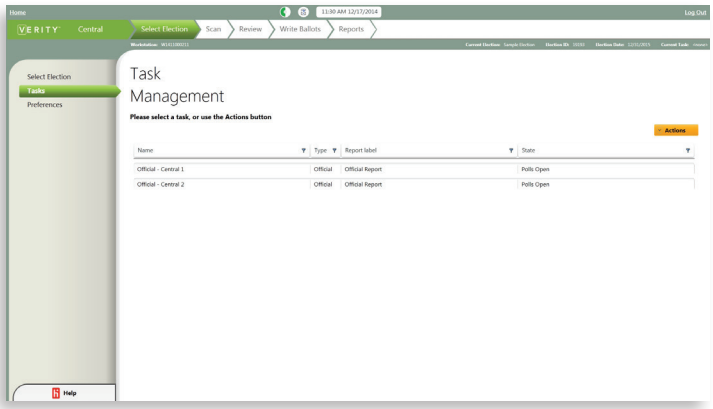
selecting and opening an election, *continued*

creating and managing tasks

The Tasks menu allows you to create and manage election tasks. Each task is associated with a particular election event or process that involves scanning ballots. The following are some examples of events that would each involve a separate task:

- **Logic and Accuracy Test** (one task per testing event, typically in Test mode)
- **Election Results** (typically one task per election, in Official mode)
- **Recount Results** (if necessary, a separate task in Official mode)

Note that you should not scan ballots into multiple Central tasks, and then read the vDrive(s) containing these tasks into a single Verity Count task. If you do so, any batch information contained in the various Central tasks will be merged, meaning that you will not be able to filter by batch in Count. In most cases, you will create only one Central task for scanning Official ballots. An exception to this rule would be if you are conducting a recount using Central, in which case you may create a separate Central task for that purpose (a separate Recount task may also be created in Count). Regardless, you must create and open a task before scanning ballots.

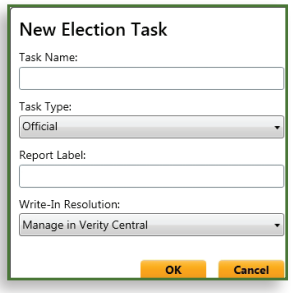


1. Use the Tasks menu to create a task and choose task settings.

   A) Select the **Tasks** menu

   B) Click **Actions**.

   C) Select **New** under the Actions drop-down menu to open the New Election Task window.



   in the **New Election Task** window:

   D) Give the task a name.

   E) Assign the task a type (Official or Test). Official is used for scanning Official mode ballots. Test is used with Test mode ballots.

selecting and opening an election, *continued*

F) Define a Report Label *(optional)*. A Report Label will appear on reports generated under that task.

NOTE: *You can use the Report Label option to enter a description of the task that will appear on reports generated under that task.*

G) Decide how Central will handle write-ins for this task.

- Manage in Verity Central: If you choose this option, you will resolve all Write-in votes in Verity Central. All write-ins, even those that are rejected, must be resolved in Central before any ballots from that batch can be tabulated in Count.
- Defer to Verity Count: If you choose this option, you will defer write-in resolution to Count. Write-ins will be resolved in the Verity Count application as required by local procedure, and filters and options related to write-in votes will not be available in Verity Central

2. Open the task you would like to work on.

A) Select the task to open from the list.

B) Under the Actions drop-down menu, select **Open**.

additional task management options

1. Select a task to manage that task.
2. From the Actions drop-down menu, you can also:
   - Select **Rename** to rename a task
   - Select **Change label** to change a task's report label
   - Select **Delete** to delete a task (if you delete a task, it cannot be retrieved)

closing polls

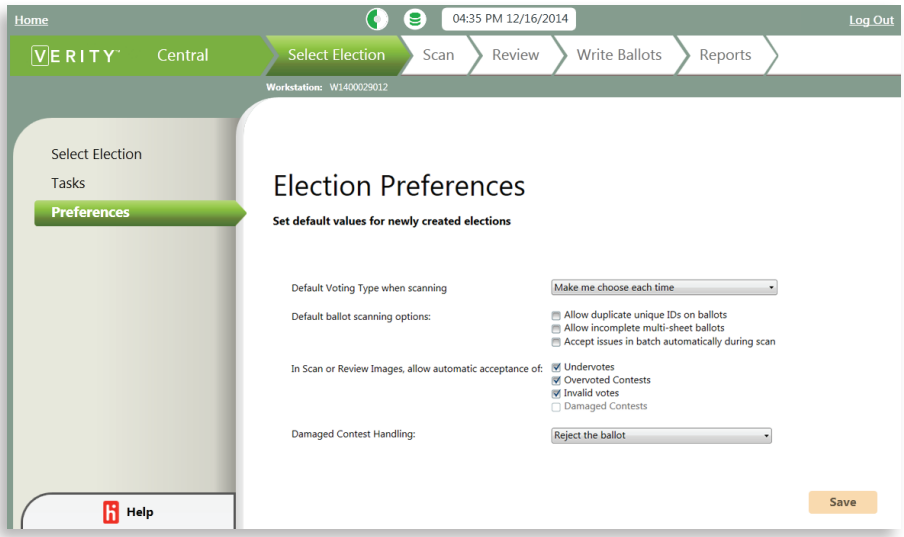
1. Select a task to manage.
2. From the Actions drop-down menu, select **Close Polls**.
3. If you are certain that you wish to close polls for that task, select **Yes**.

! IMPORTANT: Once polls are closed, they cannot be reopened for that task. Once polls are closed for a task, you may no longer scan ballots in that task. Polls cannot be closed for a task if there are batches remaining that have not yet been written to vDrives.

selecting and opening an election, *continued*

setting preferences

The Preferences menu allows you to set default preferences for Verity Central. Preferences set here will apply to future elections only (with the exception of the "Default Voting Type when scanning" preference). To change settings for the current election, see page 363.



1. Select the **Preferences** menu.
2. **Default Voting Type when scanning:** Use the drop-down menu to choose the default voting type behavior.
   - **Make me choose each time (default):** This will force the Central operator to choose what Voting type they are scanning (e.g., Absentee, Election Day, Early Voting) each time they begin a batch.
   - **Remember my last choice:** this option will automatically assign each batch to the same voting type that was used in the previous batch.
3. **Allow duplicate ballot IDs:** Only relevant if you assigned unique identifiers to your ballots. If, for instance, there was a printing mistake, or duplicate unique identifiers were intentionally used, checking this box will allow ballots with duplicate unique identifiers.
4. **Allow incomplete multi-sheet ballots:** If checked, Central will not reject multi-sheet ballots that are missing one or more sheets. You might want to check this box if you have ballot pages that may be spread across multiple batches (i.e. the second page of the ballot is separated from the first).

! IMPORTANT: A ballot, page, or contest is "**Accepted**" when the voter intent determination of the Verity Central is confirmed; A ballot, page, or contest is "**Resolved**" when a user manually resolves a voter intent issue (by correcting a mismark, for instance).

5. **Accept issues in batch automatically during scan:** If checked, Central will automatically accept contests with designated issues upon scanning (removing the need to adjudicate those contests in the Review tab). This option will apply to whatever issue types are selected in the next option (Undervotes, Overvoted Contests, Invalid Votes, or Damaged Contests).
6. **In Scan or Review Images, allow automatic acceptance of:** Check one or more of the criteria to enable the ability to automatically accept the following issues: Undervotes, Overvoted Contests, Invalid Votes, and/or Damaged Contests.
   - If "Accept issues in batch automatically during scan" is checked: Central will automatically accept all contests with the selected issues when the ballots are scanned (removing the need to adjudicate those contests in the Review tab).
   - If "Accept issues in batch automatically during scan" is *not* checked: Under the Review tab, you will have the option to automatically accept all contests in a batch that match the selected criteria (see page 370).

   NOTE: *The Damaged contests check box is only enabled if "Treat damaged contest as voter intent issues" is selected in the following option (see below).*
7. **Damaged Contest Handling:** Use the drop-down menu to choose how damaged contests are handled (a damaged contest occurs when Central cannot determine the location of an option box on the page, e.g. due to tape or white-out on the ballot):
   - **Reject the ballot:** Rejects any ballot containing a damaged contest, and does not include it in the scanned batch (the ballot may be removed and/or duplicated and the batch rescanned).
   - **Treat damaged contests as voter intent issues:** This option allows you to resolve damaged contests in the Review tab, or allow scan to automatically accept damaged contests during the scan process.
8. If you have made changes, click **Save** to save your preferences.

scanning ballots

Under the Scan tab, you will scan ballots, manage batches of ballots, search and view scanned ballot images, and set up scanners. The following menus are available in the Scan tab:

Scan: Scan batches of ballots.

Manage Batches: Manage scanned batches of ballots.

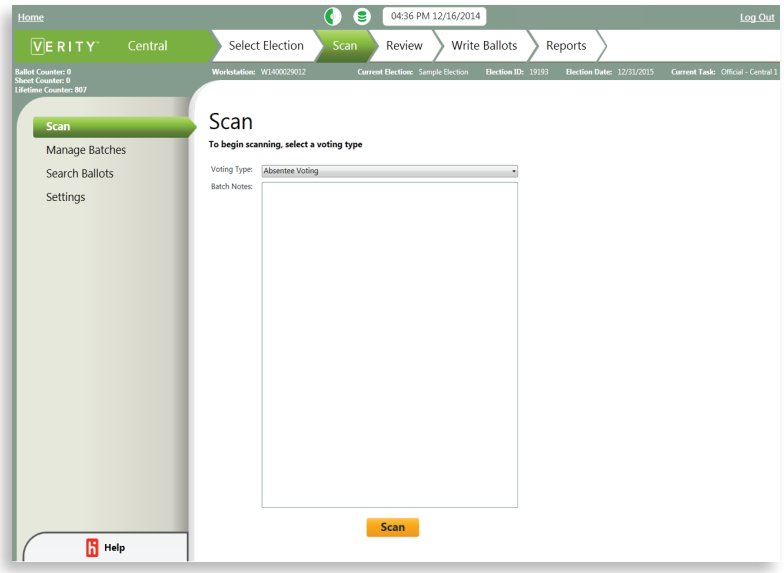
Search Ballots: Search for and view individual scanned ballots.

Settings: Setup scanners, test scanners, and choose scanning settings.

scanning a batch

The Scan menu is where you will begin scanning ballots. If this is the first time you are using Central, you will want to set up the ballot scanner first before you begin scanning ballots. See page 363 for information on scanner settings.

NOTE: *Your jurisdiction may require that a Zero report (or equivalent) be created prior to scanning. For information on available reports in Central, see page 382.*

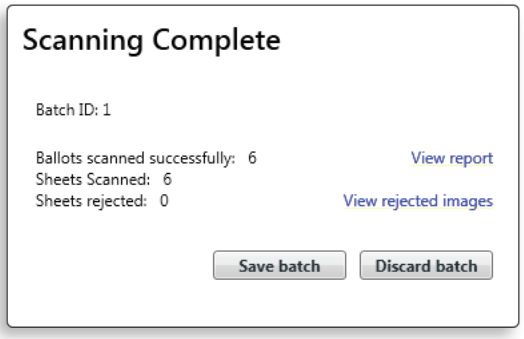


1. Choose the voting type for the batch (e.g. Absentee, Election Day, or Early Voting).

   NOTE: *If you selected Remember my last choice when setting Preferences (page 356), this choice will default to the voting type of the last batch that was scanned.*

scanning ballots, *continued*

2. Type a description or notes for the batch, if desired *(optional)*.
3. Click Scan to start scanning. You'll be reminded to print a Configuration (Zero) report before scanning the first batch. Click **Yes** to view and print the report; click **No** to continue without printing the report.
4. A preview of each scanned ballot will appear on the right-hand side of the screen as it is scanned.
5. When scanning is complete, the Scanning Complete window will appear. Check the batch report and view any rejected images.



A) Click **View report** to see the batch report. Check to make sure the numbers of ballots and pages scanned equals the numbers expected. The report will also tell you which ballots or sheets were rejected, if any.

B) Click **View rejected images** (if any). Rejected images are ballots that cannot be read. Reasons could include:

- The ballot or contest is damaged or torn, or the ballot barcodes are obscured or misprinted.
- The ballot was mis-fed in the scanner.
- A multi-sheet ballot is incomplete/missing sheets (Central can be set to accept or reject ballots with missing sheets; see setting preferences, page 356).
- The ballot has already been scanned (depending on how you set up your ballots, Central can be set to accept or reject ballots with duplicate ballot IDs; see page 356).

C) If the number of ballots and pages scanned equals the number expected and there are no rejected images: Print the batch report and clip it to the ballots scanned in that batch. Click **Save Batch**. The Scanning Complete window will close.

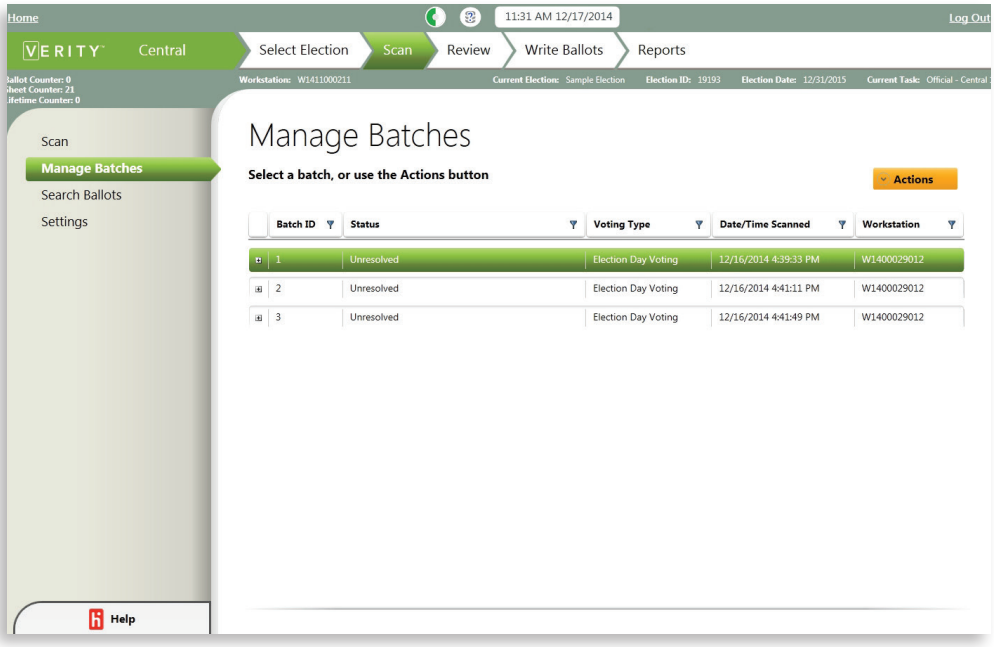
- If there are rejected images, you can choose **Discard batch** to rescan the entire batch. Choose **Save Batch** if you prefer to remove only the rejected ballots and correct/rescan them in a later batch.

6. To scan additional batches, repeat steps 1-5 after saving the first batch.

scanning ballots, *continued*

managing batches

The Manage Batches menu displays a list of all batches scanned, and includes the following information:



- Batch ID
- Status
  - OK as scanned = batch is ready to write to vDrive.
  - Deleted = batch was deleted.
  - Written = cast vote records written to a vDrive.
  - Resolved = no ballots in the batch require resolution.
  - Unresolved = the batch contains at least one ballot requiring resolution.
- Voting Type (e.g. Absentee, Election Day, etc.)
- Time Scanned (when the ballots were scanned)
- Workstation ID (where the ballots were scanned)

To manage scanned batches:

1. Select the **Manage Batches** menu.
2. Select the batch you would like to manage from the list. You can click the + next to the batch ID to view any batch notes.

scanning ballots, *continued*

3. Click **Actions**. Under the Actions drop-down menu, you have the following options:
   - **Batch Report:** allows you to view and print a report showing the number of ballots, sheets, and status of the ballots in the selected batch.
   - **Change type:** allows you to change the voting type for the selected batch (e.g. from Absentee to Early Voting, etc.).
   - **Edit notes:** allows you to change the batch notes.
   - **Delete batch:** allows you to delete a scanned batch of ballots.

! IMPORTANT: If you delete a batch, it cannot be retrieved; the ballots will need to be re-scanned.

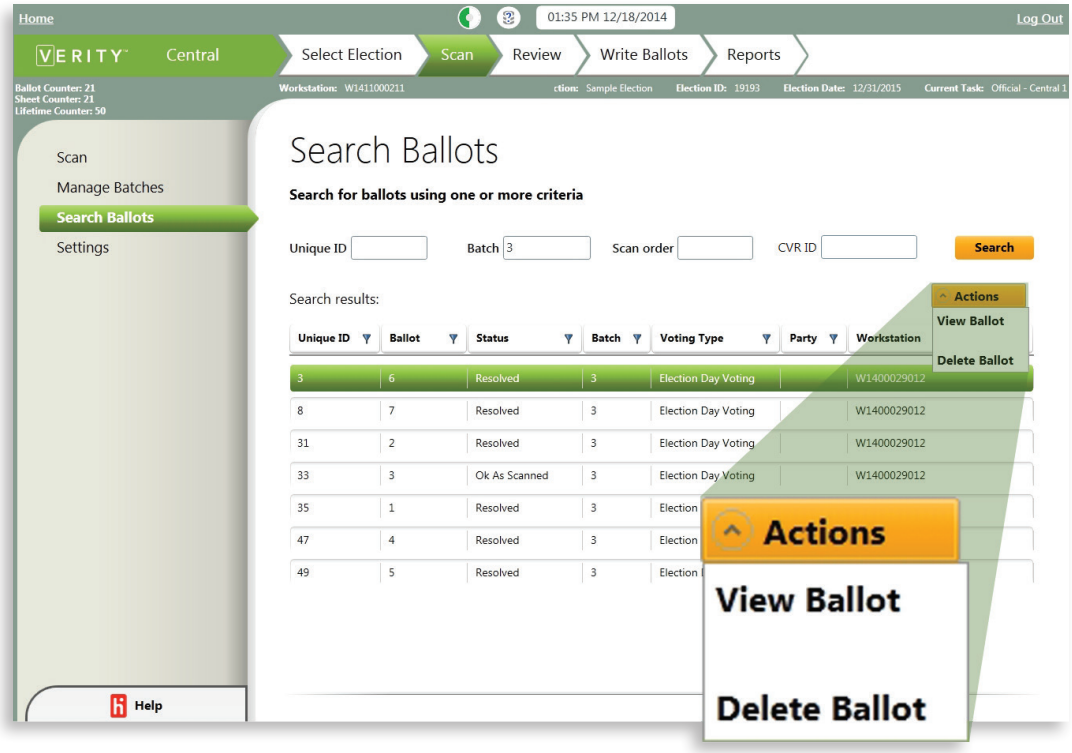
best practices for processing paper ballots

- Best practices for scanning paper ballots starts with proper management of batches while scanning (keeping batches together neatly throughout the process, using scanned batch reports and keeping a printed copy with each batch, and keeping the scanning area organized).
- For mailing ballots, proper folding techniques are also critical: Don't fold through option boxes or barcodes, and avoid folding against the grain of the paper.
- Be sure to properly unfold and flatten ballots prior to scanning.
- Assess and plan the workspace to efficiently and securely deliver voted ballots to and from the scanning station.
- Properly fan ballots prior to scanning to eliminate excess paper dust feeding into the scanner.
- Properly maintain your ballot scanner. Clean the scanner using a PC vacuum regularly and cover scanner when not in use to limit dust and debris.

scanning ballots, *continued*

searching ballots

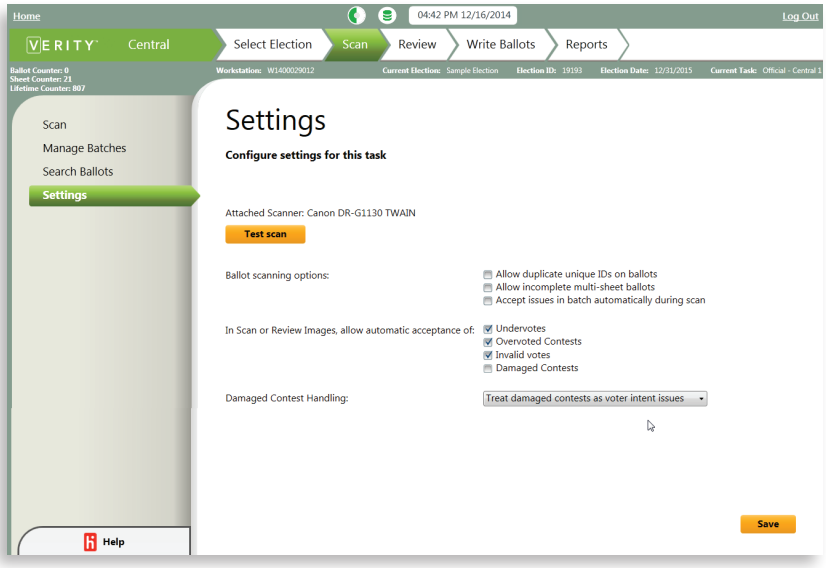
The Search Ballots menu allows you to search for individual scanned ballots within a batch by one or more criteria, so that you can view page images of the ballots.



1. Select the **Search Ballots** menu.
2. Type the desired search criteria, and then click Search. You can search by Unique ID (if applicable), batch, scanning order, or by CVR ID; search results will display below the search fields.
3. Click a ballot on the list to select it.
4. Under the **Actions** drop-down menu, choose **View Ballot**. You can also choose **Delete Ballot** to permanently delete a ballot from the batch.
5. View the ballot.
   - **A)** Use the zoom slider to magnify the ballot image.
   - **B)** Click **Actions to Print** the ballot image or **Export** the ballot image to PDF.
   - **C)** Click **Next** or **Previous** to navigate to other pages in the batch.

settings

The Settings menu allows you to perform a test scan, as well as configure settings for the current election.



1. Central displays the name of the scanner currently attached to the workstation or network.
2. Click **Test scan** to perform a test scan. Ensure the test scan sheet is loaded in the scanner and the scanner is turned on. Any sheet (including a ballot) may be used to test the scanner.

   NOTE: *The test scan feature only tests whether the workstation recognizes the scanner, and that the scanner is able to scan. It is not intended to test the scanning of actual ballots.*
3. **Allow duplicate ballot IDs:** Only relevant if you assigned unique identifiers to your ballots. If, for instance, there was a printing mistake, or duplicate unique identifiers were intentionally used, checking this box will allow ballots with duplicate unique identifiers.
4. **Allow incomplete multi-sheet ballots:** If checked, Central will not reject multi-sheet ballots that are missing one or more sheets. You might want to check this box if you have ballot pages that may be spread across multiple batches (e.g. the second page of the ballot is separated from the first).

scanning ballots, *continued*

5. **Accept issues in batch automatically during scan:** If checked, Central will automatically accept contests with designated issues upon scanning (removing the need to adjudicate those contests in the Review tab). This option will apply to whatever issue types are selected in the next option (Undervotes, Overvoted Contests, Invalid Votes, or Damaged Contests).
6. **In Scan or Review Images, allow automatic acceptance of:** Check one or more of the criteria to enable the ability to automatically accept the following issues: Undervotes, Overvoted Contests, Invalid Votes, and/or Damaged Contests.
   - If "Accept issues in batch automatically during scan" is checked: Central will automatically accept all contests with the selected issues when the ballots are scanned (removing the need to adjudicate those contests in the Review tab).
   - If "Accept issues in batch automatically during scan" is *not* checked: Under the Review tab, you will have the option to automatically accept all contests in a batch that match the selected criteria (see page 370).

   NOTE: *The Damaged contests check box is only enabled if "Treat damaged contest as voter intent issues" is selected in the following option (see below).*
7. **Damaged Contest Handling:** Use the drop-down menu to choose how damaged contests are handled (a damaged contest occurs when Central cannot determine the location of an option box on the page, e.g. due to tape or white-out on the ballot):
   - **Reject the ballot:** Rejects any ballot containing a damaged contest, and does not include it in the scanned batch (the ballot may be removed and/or duplicated and the batch rescanned).
   - **Treat damaged contests as voter intent issues:** This option allows you to resolve damaged contests in the Review tab, or allow scan to automatically accept damaged contests during the scan process.
8. Click **Save** to save any changes.

! IMPORTANT: A ballot, page, or contest is **"Accepted"** when the voter intent determination of the Verity Central is confirmed; A ballot, page, or contest is **"Resolved"** when a user manually resolves a voter intent issue (by correcting a mismark, for instance).

reviewing ballots

Under the Review tab, you will review ballot images, manage ballot filters, resolve ballots and contests, and, if applicable, review and manage write-in choices. You can also export ballot images singly or in bulk. The following menus are available in the Review tab:

Review Images: Filter scanned ballots by criteria, view ballots, and resolve ballots.

Write-in Candidates: Define certified write-in candidates for the election. Available only if you chose to manage write-ins in Central when setting up the task (page 354).

reviewing images: overview

The Review Images menu allows you to filter ballots by criteria, view batch status, select ballots for review, view ballot pages and contests, and resolve or accept contests for voter intent issues and write-ins.

A ballot, page, or contest is **"Accepted"** when the voter intent determination of the Verity Central is confirmed; A ballot, page, or contest is **"Resolved"** when a user manually resolves a voter intent issue (by correcting a mismark, for instance).

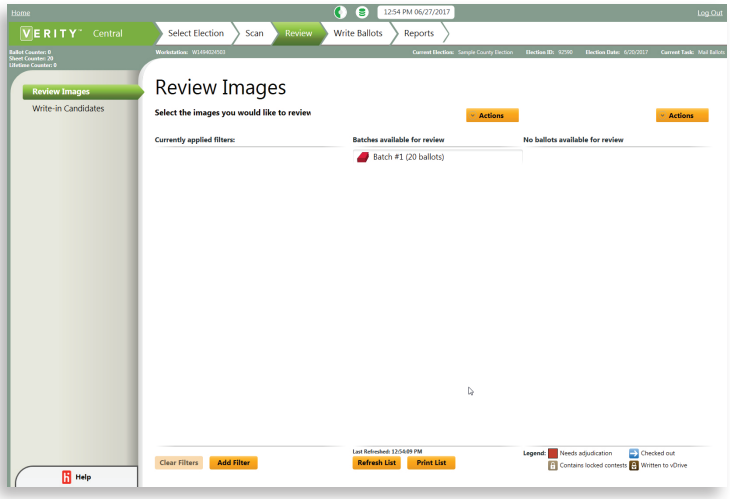
The general review images workflow is illustrated below:

1. Apply Filters *(optional)*
2. Accept batches, or select a batch for review
3. Accept ballot(s), or select a ballot for review
4. Accept or Resolve ballot pages and contest for voter intent *(according to local jurisdiction procedure)*

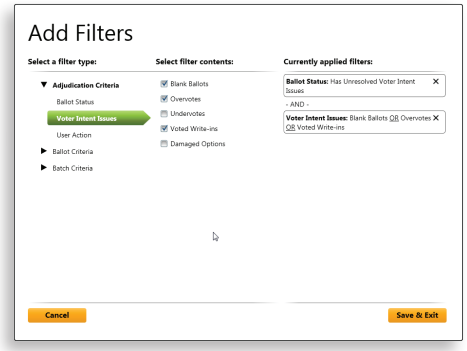
reviewing ballots, *continued*

reviewing images: applying filters

In the left side of the Review Images screen, you can apply ballot filters. Ballot filters allow you to filter batches of ballots to display only ballots that match certain criteria; applying filters is an optional step.



1. Click **Add Filter** to open the Add Filter menu and begin the ballot review process. Clicking **Clear Filters** will remove all previously applied filters.
2. Apply and combine filters:
   - **A)** Select the **Filter Type** to be added.
   - **B)** Select the **Filter Contents**.
   - **C)** Currently applied filters appear on the right.
     - To remove an applied filter: under Currently applied filters, click the **x** next to the filter you want to remove.
   - **D)** When you have added all desired filters, click **Save & Exit**. You will return to the Review Images menu.



3. In the **Review Images** menu, click a batch to view the ballots contained within that batch. The batches will be filtered to show only those that contain ballots meeting the filter criteria. The far right column will show the specific ballots that meet the filter criteria.

   NOTE: *You can click* **Clear Filters** *in the bottom left of the Review Images menu to remove all current filters.*

how filters work

Filters in Verity Central work using Filter Types and Filter Contents. When you select more than one filter type or filter content, Central shows the filter behavior in the "Currently applied filters" column (using AND and OR to indicate how the filters will interact). It is important to note that all filtering applies at the BALLOT level, not the page or contest level.

filter types

Filter Types use an "AND" logic; this means that choosing two different Filter Types will retrieve ballots that meet the first Filter Type criteria AND the second Filter Type criteria.

For example: If you add a Voter Intent Issues filter for Over Votes, and a User Action filter of Resolved by User, you will retrieve all ballots that contain at least one over-voted contest AND at least one contest that was resolved by a user.

NOTE: *The ballots retrieved will not always contain exclusively overvoted contests that are also resolved by a user—filtering applies at the ballot level.*

filter contents

Filter Contents use an "OR" logic; this means that choosing two different Filter Contents will retrieve ballots that meet the first Filter Content criteria OR the second Filter Content criteria.

For example: If you add a Voter Intent Issues filter type, and select Filter Contents of both Over Votes and Voted Write Ins, you will retrieve all ballots that contain at least one over-voted contest OR at least one voted write-in contest.

NOTE: *The ballots retrieved will not always contain exclusively overvoted contests that also contain a voted write-in—filtering applies at the ballot level.*

Ex. 1: two filter types

Filters added:

- Adjudication Criteria>Voter Intent Issues>Overvotes
- Adjudication Criteria>User Action>Resolved By User

Retrieves all ballots in the selected batch(es) that contain:

- At least one over-voted contest AND
- At least one contest that was resolved by user

how filters work, *continued*

Ex. 2: one filter type with two filter contents

Filters added:

- Adjudication Criteria>Voter Intent Issues>Overvotes
- Adjudication Criteria>Voter Intent Issues>Voted Write-ins

Retrieves all ballots in the selected batch(es) that contain:

- At least one over-voted contest OR
- At least one contest with a voted write-in

available filters

The tables below list the Filter Types and Filter Contents available in Verity Central, along with a description of which ballots each Filter Content will retrieve.

adjudication criteria

Filter Type	Filter Contents	Filter Content Description
Ballot Status	Has Unresolved Voter Intent Issues	retrieves all ballots that contain unresolved voter intent issues
	No Unresolved Voter Intent Issues	retrieves all ballots that do not contain unresolved voter intent issues
Voter Intent Issues	Blank Ballots	retrieves all blank ballots
	Overvotes	retrieves all ballots containing overvoted contest(s)
	Undervotes	retrieves all ballots containing undervoted contest(s)
	Voted Write-ins	retrieves all ballots containing voted write-in contest(s)
	Invalid Votes	retrieves all ballots contain invalid voted contest(s)
	Damaged options	retrieves all ballots containing damaged contest options (i.e. where an option box cannot be read)
User Action	Accepted By User	retrieves all ballots containing contest(s) that have been accepted ("as-is") by a user
	Resolved By User	retrieves all ballots containing contest(s) that have been resolved/edited by a user
	Neither	retrieves all ballots that have not been accepted or resolved by a user

available filters, *continued*

ballot criteria

Filter Type	Filter Contents	Filter Content Description
Precinct	(list of all precincts in the election)	retrieves all ballots for the selected precinct(s)
Party	(list of all parties in the election)	retrieves all ballots for the selected party/ parties (closed primary elections only)
Unique ID Range	(enter range from low to high)	retrieves all ballots with a Unique ID within the entered range (only applicable if you are using Unique Identifiers on your ballots)
Contest(s) Included	(list of all contests in the election)	retrieves all ballots that contain the selected contest(s)
Marked Choice	(list of all choices in the election)	retrieves all ballots that contain the selected marked choices.

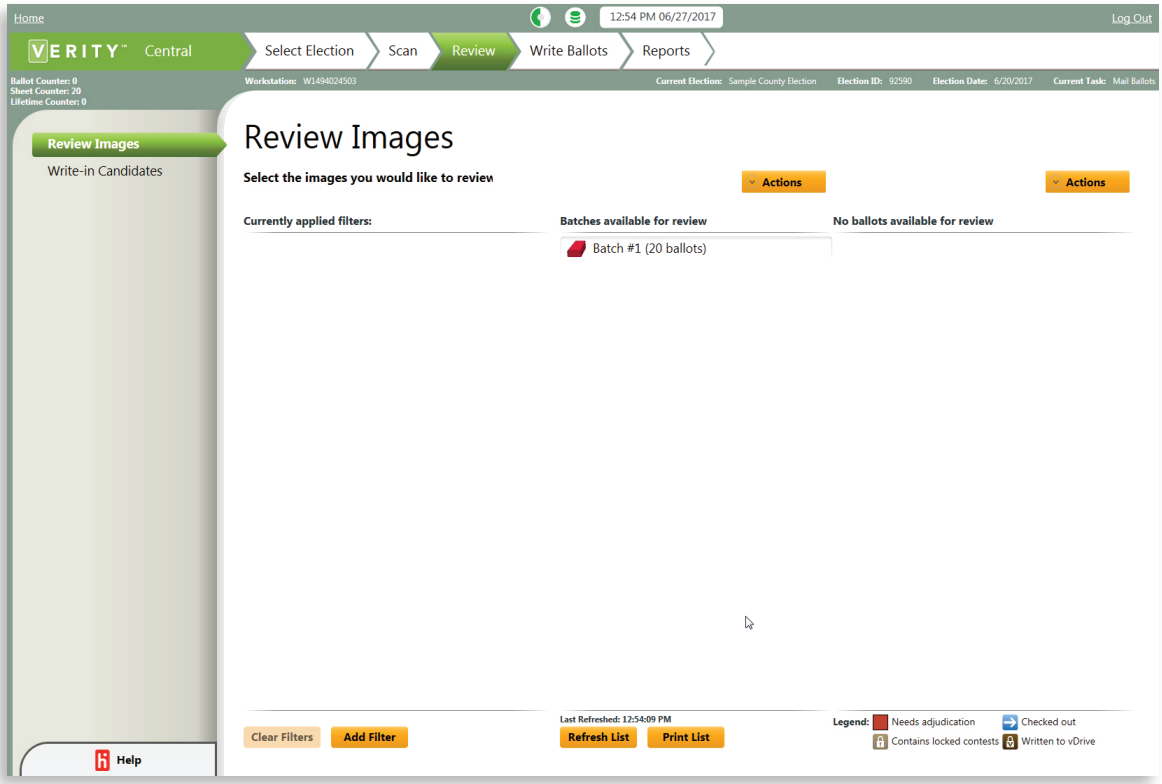
batch criteria

Filter Type	Filter Contents	Filter Content Description
Scanning Workstation	(list of all scanning workstations by ID)	retrieves all ballots scanned on the selected workstation(s)
Voting Type	(list of all voting types defined)	retrieves all ballots cast during the selected voting type(s)
Batch ID	(list of all batches by batch ID)	retrieves all ballots within the selected batch(es)
Batch Status	OK As Scanned	retrieves all ballots in batches that, as scanned, did not require any resolution of issues
	Resolved	retrieves all ballots in batches that no longer contain any ballots requiring resolution
	Unresolved	retrieves all ballots in batches that contain at least one unresolved ballot
	Written	retrieves all ballots in batches that have been written to vDrive

reviewing ballots, *continued*

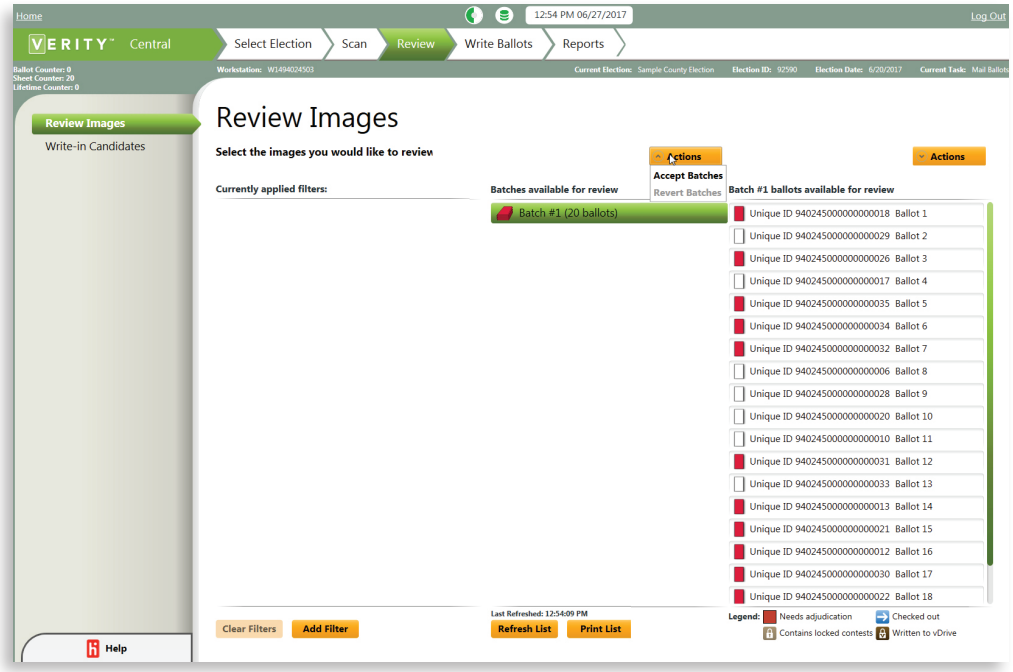
reviewing images: working with batches

In the middle column of the Review Images screen, you can view and accept batches and select batches to work on. The middle column lists the scanned batches, in order. If there are active filters, the batches will be filtered to show only those batches that contain ballots meeting the filter criteria.



- In configurations with multiple networked Central client workstations, the **Refresh List** button (at the bottom of the center column) updates the status of ballots and batches adjudicated on other workstations.
- The **Print List** button allows you to view, print, or export a list of all ballots scanned, by batch.

reviewing ballots, *continued*



Click a batch to work with that batch (you may select multiple batches using Shift+click or CTRL+click).

- When a batch is selected, it is highlighted in green, and the ballots contained in that batch are displayed in the right-hand column.
- If a batch contains ballots that require adjudication, the batch icon is colored red.

Clicking the **Actions** button above the batches column gives you the following options:

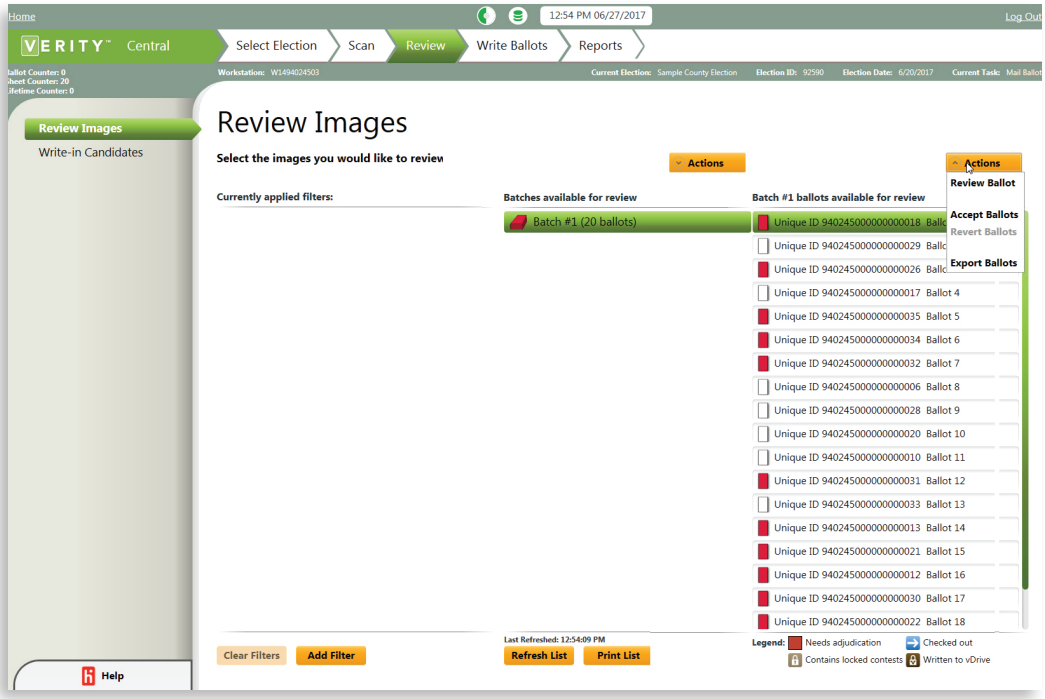
- You can click **Accept Batches** to accept all remaining unresolved ballot pages or contests within the selected batch(es); you will be asked to confirm before proceeding. Central will accept only pages or contests with the issues you select under settings, under the option "**In Scan or Review Images, allow automatic acceptance of...** " (see page 363). This action does *not* alter any user-resolved pages or contests.
- You can click **Revert Batches** to revert the selected batch or batches to their original, scanned state. This will remove any and all user resolutions/ adjudications; you will be asked to confirm before proceeding.

With the batch selected, you can now select and review ballots within that batch.

reviewing ballots, *continued*

reviewing images: selecting and opening ballots

In the right-hand column of the Review Images screen, you can accept and review ballots. The right column lists the ballots contained in the selected batch, in order. If there are active filters, the ballots will be filtered to show only those ballots that meet the filter criteria. You can select one or more ballots and accept the entire ballot, open the ballot for review. Selected ballots are highlighted in green.



The status of each ballot is indicated by the following (a legend is provided in the lower right corner of the screen):

- **Needs adjudication:** This ballot contains a contest that requires adjudication to determine voter intent.
- **Checked out:** a user has begun the review process for this ballot. A ballot is checked back in when it is either resolved, or the user leaves the Ballot Review window. The ballot cannot be accessed by other users or written to a vDrive while it is checked out.
- **Contains locked contests:** A user has manually locked one or more contests on this ballot.
- **Written to vDrive:** this ballot has been resolved and written to a vDrive for tabulation.

reviewing ballots, *continued*

To accept one or more ballots with a single click:

1. Select a ballot (or ballots) in the right-hand column.
2. Click the **Actions** menu above the ballots column, and choose **Accept Ballots** (you will be asked to confirm before proceeding).
    - You may choose **Revert Ballots** under the Actions menu to revert the selected ballot(s) to their original, scanned state. This will remove any and all user resolutions/adjudications; you will be asked to confirm before proceeding.
    - You may choose **Export Ballots** to export the selected ballot image(s) to PDF.

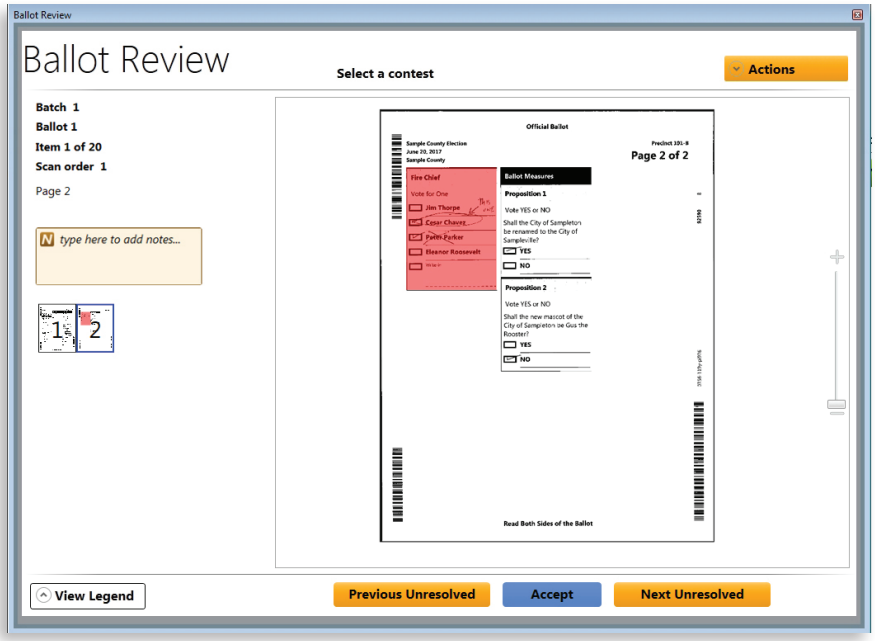
To open the Ballot Review window and review ballot pages and contests:

1. Click a ballot to select it for review the ballot for voter intent.
2. Click the **Actions** menu.
3. Select **Review Ballot**; the Ballot Review window will open.

reviewing ballots, *continued*

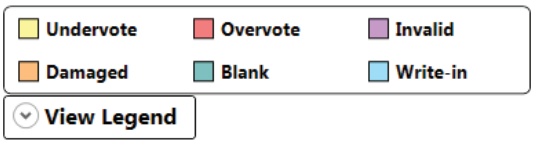
reviewing images: resolving pages and contests

In the Ballot Review window, you can manually resolve entire ballot pages or individual contests.



1. Review ballot pages in the page-level view.

   A) Contests requiring adjudication are color-coded by the type of issue. Click **View Legend** (lower left) to see the meaning of each color code.



   - **Undervote:** The voter has chosen fewer than the allowed number of choices.
   - **Overvote:** The voter has chosen more than the allowed number of choices.
   - **Invalid:**
     A) *(Open Primary Elections only)* The voter has voted in partisan primaries for multiple parties, or
     B) A voter has made a selection in a dependent contest without making the proper selection(s) in the determining contest (see page 114).
   - **Damaged:** Damaged contest; a contest option box cannot be read.
   - **Blank:** The voter has made no choices for the entire ballot page.
   - **Write-in:** The voter has entered a write-in candidate for the contest.

reviewing ballots, *continued*

B) The upper left side of the Ballot Review window displays:

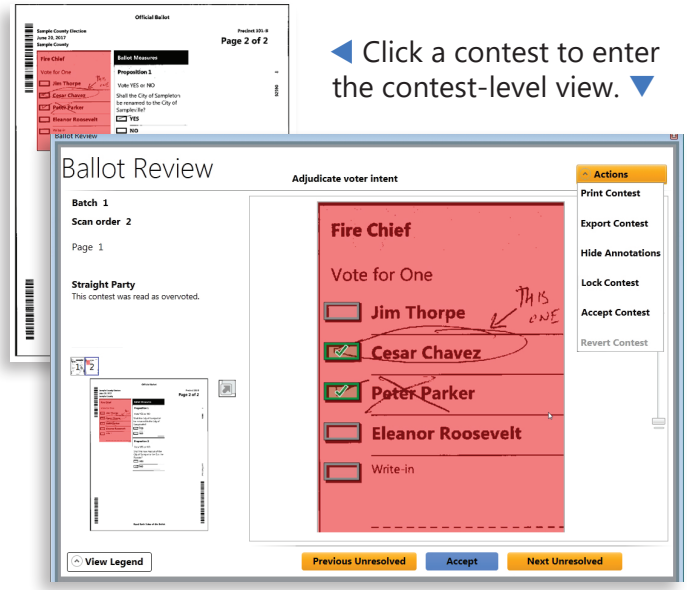
- The batch and ballot information (including the CVR ID for the ballot sheet, if the ballot has been written to a vDrive).
- A field for entering notes.
- Thumbnails of the ballot pages.

C) Click **Actions**. From the Actions menu, you can:

- **Print Page:** Prints the current ballot page image.
- **Export Page:** Exports the current ballot page image.
- **Hide Annotations/View Annotations:** toggles viewability of the color coding on the page image. You cannot make changes to the ballot status while annotations are hidden
- **Lock/Unlock Page:** Locks the page for review; useful if you are using multiple stations for ballot review. When a page is locked, it cannot be modified without first unlocking it.
- **Accept Page:** Accepts all contests on the page in their current state.
- **Revert Page:** Returns the page to its original scanned state.

D) Click the **Accept** button at the bottom of the screen to accept the page as-is (i.e. without resolving individual contests).

E) Use the zoom slider to magnify a page.



2. Click a contest to review and resolve it in contest-level view.

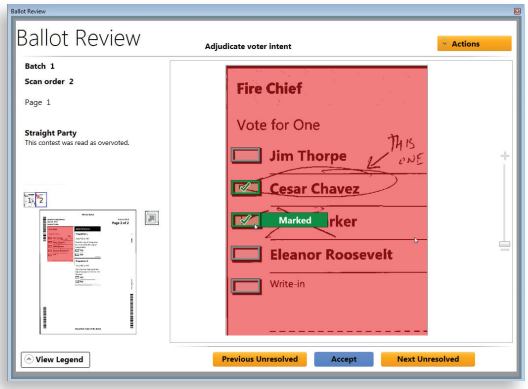
A) From the Ballot Review window, click a contest to enter the Contest View.

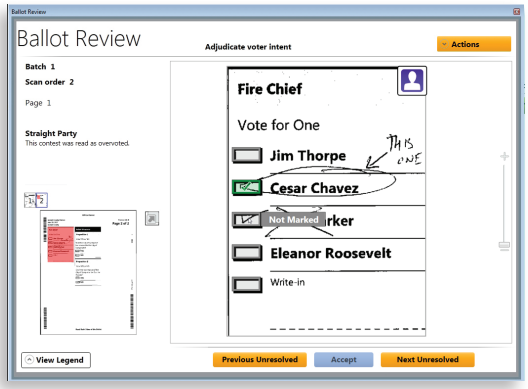
B) The current active page now appears as a thumbnail in the lower left corner. You can click the maximize button to return to the page view.

reviewing ballots, *continued*

C) Click **Actions**. From the Actions menu, you can:

- **Print Contest:** Prints the current contest image.
- **Export Contest:** Export the current contest image to PDF.
- **Hide Annotations/View Annotations:** toggles viewability of the color coding on the contest image.
- **Lock/Unlock Contest:** Locks the contest for review; useful if you are using multiple stations for ballot review. When a contest is locked, it cannot be modified without first unlocking it (see page 379).
- **Accept Contest:** Accepts the contest in its current state.
- **Revert Contest:** Returns the contest to its original scanned state.





3. Determine voter intent, if required. You have two options:

A) Click the **Accept** button at the bottom of the screen to accept the contest as-is (i.e. without resolving), *or*

B) Click a selection box to mark or unmark a selection.

- A marked box is green with a small check mark; An unmarked box is gray.
- Hovering over a selection box with the mouse reveals the current state of the selection (e.g. "Marked", "Not Marked").
- Click a selection box to change the current state (Marked to Not Marked, or Not Marked to Marked).
- In the examples shown above, clicking Peter Parker selection box changes the selection to Not Marked; the vote will now be recorded for Cesar Chavez.

4. Click **Next unresolved** to go to the next unresolved contest. You can also click the maximize button to return to the page-level view and select a different contest

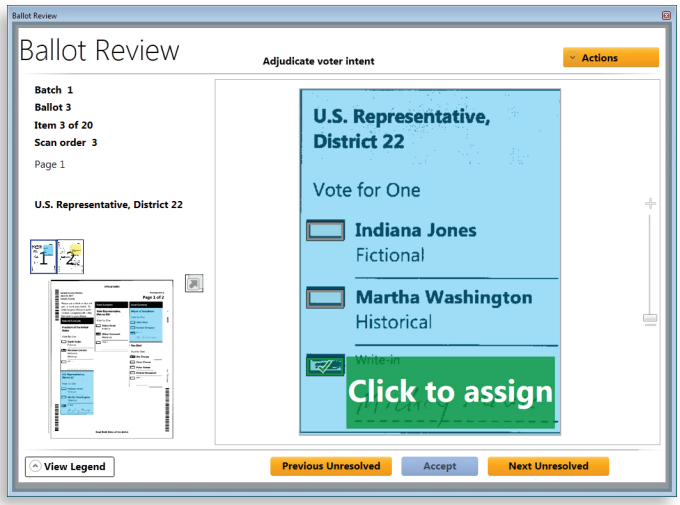
- The icon at the top right of a reviewed contest indicates the status of the contest. Hovering the mouse pointer over the icon reveals the state of the contest (e.g. "User resolved", "User accepted", "Contest locked").

assigning write-ins

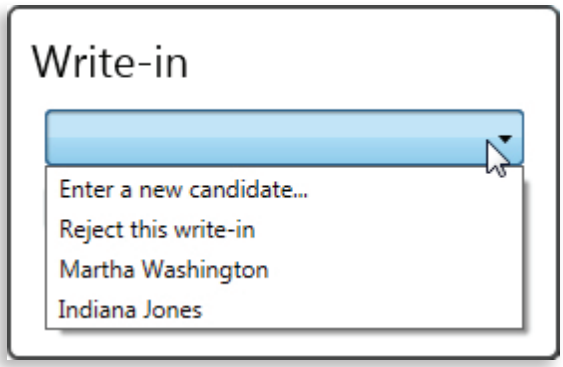
NOTE: *If you selected "Defer Write-ins to Count" when creating the current task, then write-in votes will not be available for resolution in Central; see page 354.*

The process for assigning write-in votes is the same as the process for resolving other contests, with the additional step of assigning the vote to a write-in candidate. If you have certified write-in candidates, you may define those first (see page 378). To assign a write-in vote in Central:

1. In the page-level view of the Ballot Review window, click a contest with a write-in vote to open the contest in contest-level view.
2. Click the write-in name to assign it.



3. Choose from the list of certified write-in choices (if applicable). You can also select **Enter a new candidate...** to enter a new write-in name.

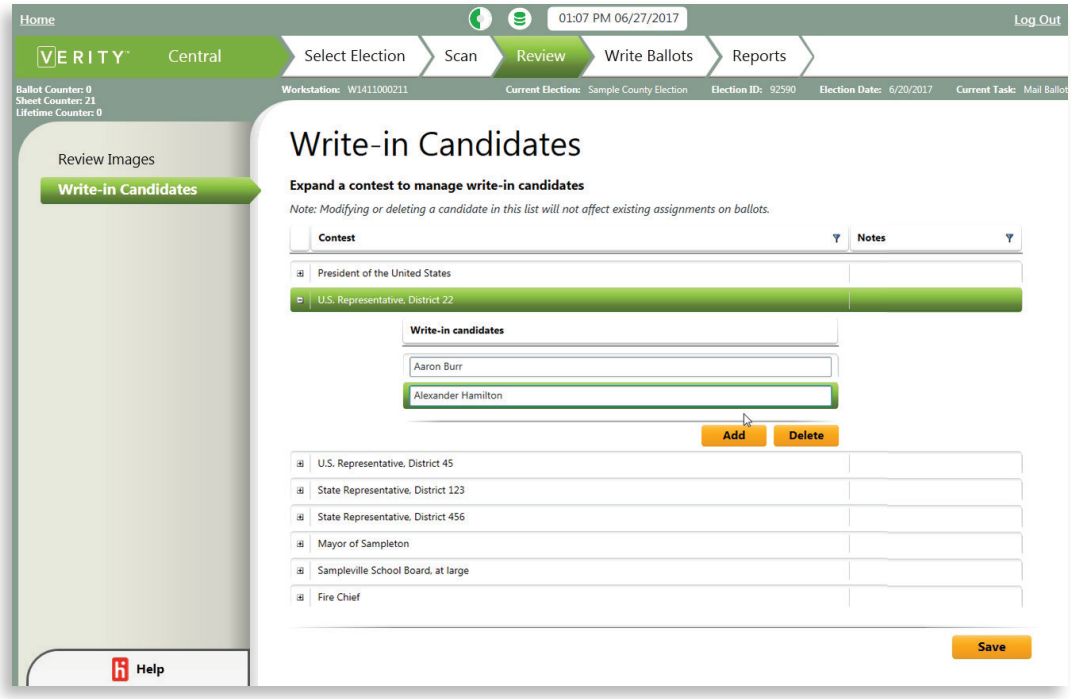


4. The write-in assignment will appear superimposed over the write-in. Click **Next unresolved** to advance to the next contest requiring review.

reviewing ballots, *continued*

managing certified write-ins

The Write-in Candidates menu allows you to view, add or delete certified write-in candidates.



viewing certified choices for each contest

Click the **+** symbol to the left of a contest to expand and view certified choices for that contest.

adding new certified choices

1. Click **Add** to add a new certified choice for the contest.
2. Type the candidate name.
3. Click **Save** in the lower right corner.

deleting existing certified choices

Select the choice to delete, and then click **Delete** to delete the choice from the list. Click **Save** when done. If any write-in votes were assigned to a deleted choice, these votes must be reassigned to a new choice.

finishing the ballot review process

All ballots with issues must be checked in and accepted or resolved before that batch can be written to a vDrive.

checking in and checking out ballots and contests

- A ballot or contest is automatically checked out to the user when they open the ballot or contest in the Ballot Review window.
- The ballot or contest is automatically checked back in when the ballot or contest is resolved, or when the Ballot Review window is closed, or another batch is chosen.

locking ballot pages or contests

- A user can manually lock a ballot page or contest to prevent other users from modifying that ballot page or contest.
- In the Ballot Review window, click **Actions** and choose **Lock Page** (or **Lock Contest**) to lock the current ballot page or contest. To unlock a locked page or contest, choose **Unlock Page** (or **Unlock Contest**).

writing ballots to vDrive

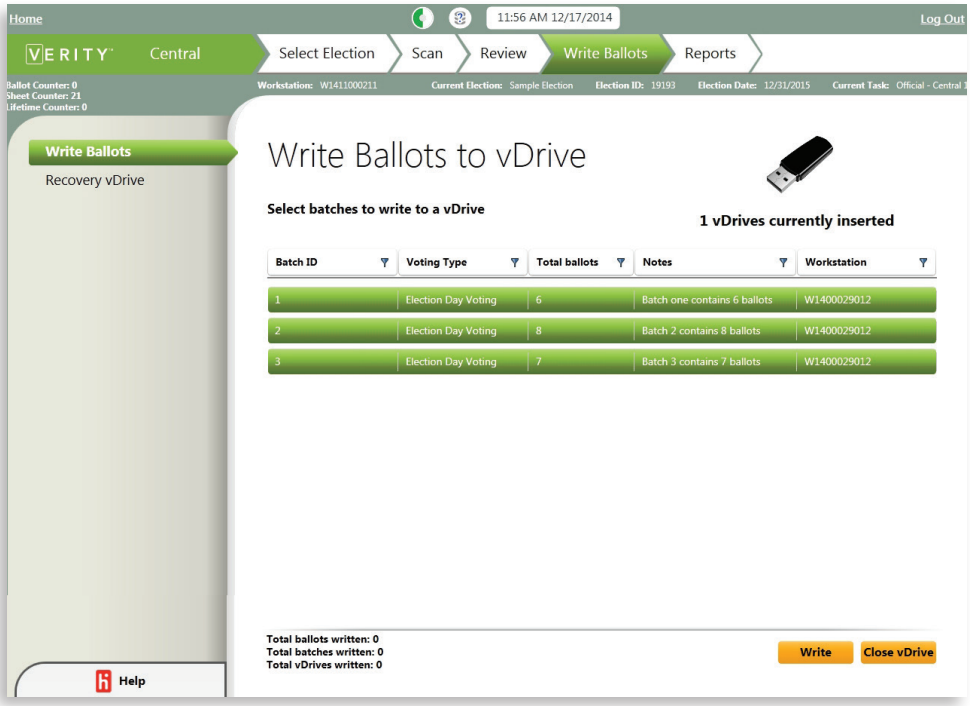
Once you have finished reviewing the ballots, in the Write Ballots tab you will write the cast vote records to a vDrive for tabulation in Verity Count. The following menus are available in the Write Ballots tab:

Write Ballots: Write batches of ballots to vDrives for tabulation in Count.

Recovery vDrive: Create a recovery vDrive from previously written ballot data.

writing ballots to a vDrive

The Write Ballots menu allows you to write batches of ballots to a vDrive for tabulation in Verity Count.



1. Insert an unused vDrive for your election into an available USB port on the Central workstation. The screen will show whether a vDrive is inserted.
2. Select the batches to write.
3. Click **Write**.
4. When the batch has finished writing, click **OK**. If desired, you can repeat steps 2-4 to write additional batches to the vDrive.

5. Once you have finished writing batches to the vDrive, click **Close vDrive**. Once you have closed the vDrive, no additional batches can be written to that vDrive.

! IMPORTANT: Only close the vDrive if you no longer wish to write ballots to the vDrive. Once the vDrive is closed, no additional batches can be written.

6. Click **Yes**. Once you have closed the vDrive, no additional batches can be written to that vDrive.
7. The vDrive has been closed. Click **OK**.

   NOTE: *In order to ensure quick read time in Verity Count, Verity Central enforces a limit of 20,000 ballots per vDrive. If the batch you have chosen to write exceeds this limit, you will be prompted to insert a vDrive with adequate capacity remaining.*

creating a Recovery vDrive

The Recovery vDrive menu allows you to create a replacement for a damaged or lost vDrive using backup data from a previously written vDrive.

1. Select the **Recover vDrive** menu.
2. Insert a vDrive into an available USB port on the Central workstation. The vDrive must not have been previously used in any devices or applications for the current election.
3. Select the vDrive data from the list that you would like to recover.
4. Click **Recover.** The new vDrive will be written with the data selected.

about recovery vDrives

- A recovery vDrive contains the ID of the original vDrive (this unique number is assigned to the vDrive by the device or Central workstation it was used with).
- The recovery and the original cannot be read into a single Count task. Therefore, if the original vDrive has already been read into Count, a recovery vDrive made using the same source cannot be read into the same election task in Count.
- A recovery vDrive can only be used to transfer ballots to Count, and cannot be used to continue voting on a device.

generating reports (Verity Central)

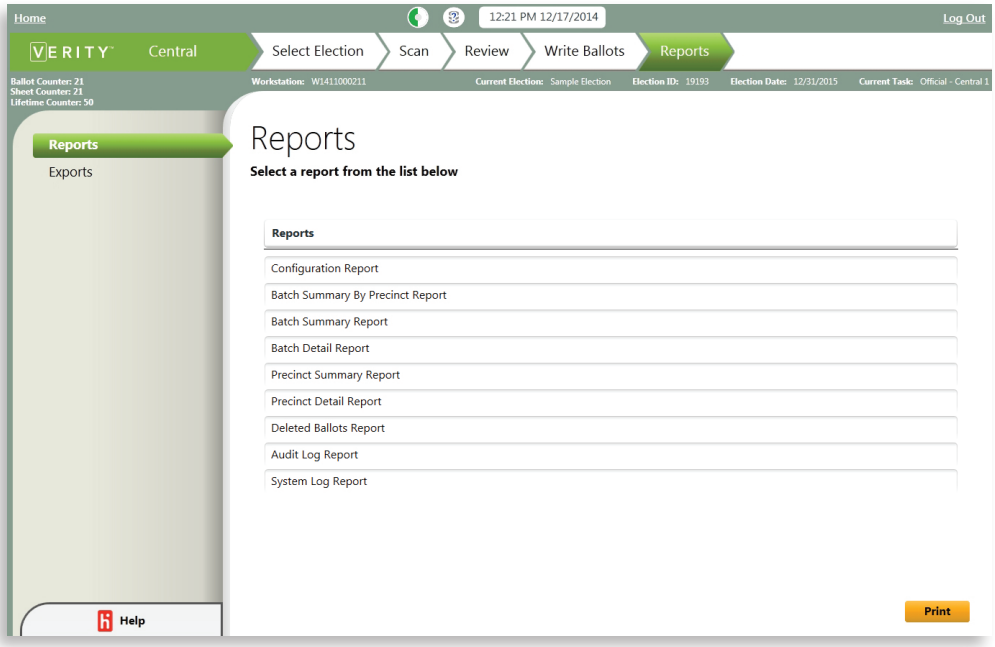
In the Reports tab, you can create reports for batches, precincts, and more. You can also export data including provisional ballot status and registered voter information. The following menus are available in the Report tab:

Reports: View and print election reports from Verity Central.

Exports: Export data from Verity Central.

generating reports

The Reports menu allows you to print a variety of reports; a list of each available report with descriptions is located on the following page.



1. Select the **Reports** menu.
2. Select the desired report from the list.
3. Click **Print**.
4. View, Print or Save the report.
   - **A)** To Print, click the Printer icon.
   - **B)** To Save to file, click the Disk icon.
   - **C)** You can view additional pages of the report using the blue arrow buttons.

available reports: Central

The following reports are available in Central; the contents of each report are listed below. These reports cannot be deleted or edited by the user. All Central reports contain the following information in their header:

- Report title
- Election title *(except System Log report)*
- Election date *(except System Log report)*
- Jurisdiction name *(except System Log report)*
- Date and time the report was generated
- Page numbering

Scanned Batch report

NOTE: *Scanned Batch reports are available when you have finished scanning a batch (page 358), and under the Manage Batches menu (page 360).*

Contains the following information for a single scanned batch:

- All batch data
- A list for each scanned image in the batch that displays:
  - Scan sequence number
  - Precinct or precinct split name
  - Page number
  - Unique identifier
  - Variation number
  - Language
  - Party (if this is a closed primary election)
  - Scan status (accepted or rejected)
  - If scan status is rejected, the reason for the rejection
- Totals for the batch:
  - Total images scanned
  - Total images accepted
  - Total images rejected
  - Total ballots scanned
  - Total ballots accepted
  - Total ballots rejected

generating reports (Verity Central), *continued*

Configuration report

Contains the following election information:

- Election ID
- Task status
- Total number of batches scanned
- Total number of batches written to vDrives
- Total count of ballots scanned (Ballot Count)
- Lifetime count
- Sheet count

Batch Summary By Precinct report

Contains the following information for each batch, by precinct; information is separated by batch:

- Precinct/Split name
- Date and time batch was scanned
- Workstation where the batch was scanned
- Number of scanned ballots for each precinct
- Number of deleted ballots for each precinct
- Number of precinct ballots saved in the batch for each precinct
- Number of resolved ballots for each precinct
- Number of unresolved ballots for each precinct
- Number of ballots written to vDrive for each precinct

Batch Summary Report

Contains the following information for each batch:

- Batch ID
- Date and time batch was scanned
- Workstation where the batch was scanned
- Number of scanned ballot in the batch
- Number of deleted ballots in the batch
- Total number of ballots saved in the batch
- Number of resolved ballots in the batch
- Number of unresolved ballots in the batch
- Number of ballots written to vDrive in the batch

Batch Detail report

Contains the following information for each batch, sorted by Batch ID, and then by Scan Sequence Number.

- Batch ID
- Date and time batch was scanned
- Voting type (Election Day, Absentee, etc.)
- User who scanned the batch
- Workstation where the batch was scanned
- Batch notes
- For each batch, the following information for each ballot image scanned:
  - Scan sequence number
  - Precinct/Split name
  - Page number
  - Unique identifier *(if applicable)*
  - Variation number
  - Language
  - Party *(closed primary elections only)*
  - Ballot Status, including:
    - If the status is rejected, the reason for rejection
    - Whether ballot has been deleted
    - Whether ballot contains unresolved voter intent issues
    - Whether the ballot has been written to vDrive

Precinct Summary report

Contains the following batch information for each precinct/split:

- Batch ID
- Date and time batch was scanned
- Workstation where the batch was scanned
- Number of scanned ballot in the batch
- Number of deleted ballots in the batch
- Total number of ballots saved in the batch
- Number of resolved ballots in the batch
- Number of unresolved ballots in the batch
- Number of ballots written to vDrive in the batch

generating reports (Verity Central), *continued*

Precinct Detail report

Contains the following ballot information, grouped by batch, for each precinct or precinct split:

- Precinct or precinct split name
- Batch IDs that contain ballots from this precinct or precinct split
- Date and time the batches were scanned
- Workstation where the batches were scanned
    - Information for each ballot image scanned in the batch:
    - Scan sequence number
    - Page number
    - Unique identifier *(if applicable)*
    - Variation number
    - Language
    - Party *(closed primary elections only)*
    - Ballot Status, including:
        - If the status is rejected, the reason for rejection
        - Whether the ballot has been deleted
        - Whether ballot contains unresolved voter intent issues
        - Whether the ballot has been written to a vDrive
- Total ballots scanned in the batch
- Total ballots deleted from the batch
- Total number of precinct ballots in the batch
- Total ballots with unresolved voter intent issues
- Total ballots without unresolved voter intent issues
- Total ballots written to a vDrive

Deleted Ballot report

Contains the following information for each ballot that has been deleted after scanning, grouped by Batch ID, and sorted by Unique Identifier:

- Unique identifier (if applicable)
- Voting type (Election Day, Absentee, etc.)
- Date and time the ballot was deleted
- User who deleted the ballot
- Workstation where the ballot was deleted
- Precinct/Split name
- Party *(closed primary elections only)*
- The following totals for each batch:
  - Total number of ballots scanned in the batch
  - Number of ballots deleted from the batch
  - Total number of precinct ballots in the batch

Audit Log report

NOTE: *All Audit and System Log reports are automatically digitally signed (see page 398). Users can select the Date/Time range of entries before viewing the report.*

The Audit Log report is a comprehensive log of all activity that has occurred in the Count application on that workstation. Each entry includes the following detail:

- Date/time of event
- User logged in at time of event
- Application name and full version number
- Device serial number or workstation ID
- Event name (in plain text)
- Event detail data (in plain text)
- Election ID
- Tags

System Log report

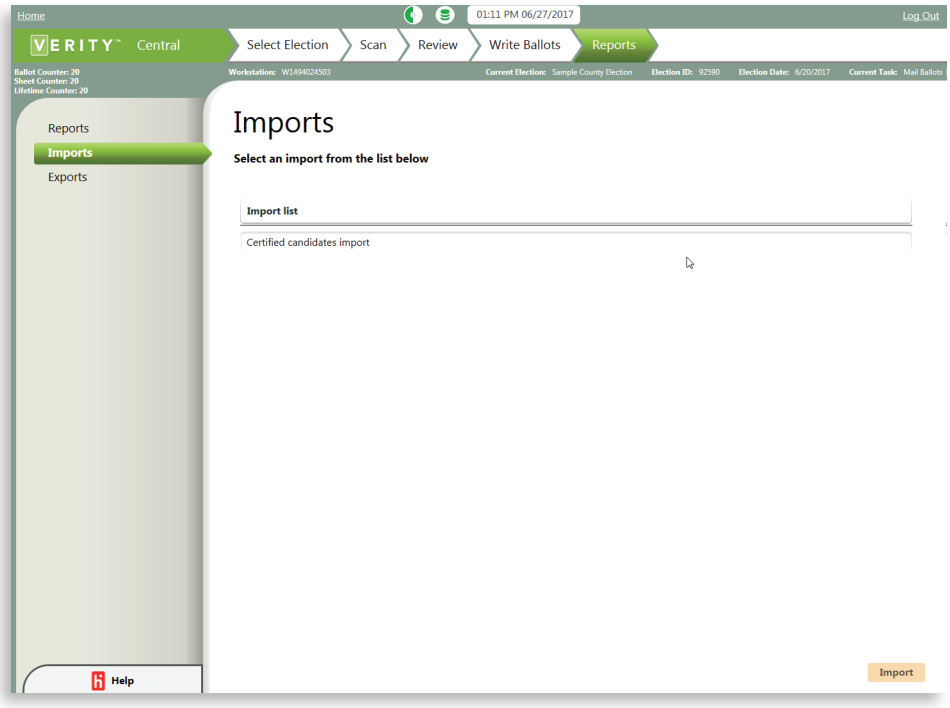
NOTE: *All Audit and System Log reports are automatically digitally signed (see page 398). Users can select the Date/Time range of entries before viewing the report.*

The System Log report is a comprehensive log of all activity that has occurred on a *workstation or network*. Each entry includes the same details as the Audit Log, listed above.

generating reports (Verity Central), *continued*

importing data

The Imports menu allows you to import selected data from Central from a removable drive.



1. Select the Imports menu, and then select the data to be imported from the Import List.
2. Click **Import.** You will be prompted to browse and choose the location of the file on removable USB media.

available imports: Central

The following imports are available in Central; the contents of each export are listed below. These imports cannot be deleted or edited by the user:

Certified Write-in Candidates

Used to import a list of certified write-in candidates for each contest that includes a write-in option; import format is a .csv file, with the following data in columns, left to right:

NOTE: *If data already exists, importing will overwrite existing data.*

- Write-in candidate name
- Contest title (must match the exact format used when defining the contest title, including \n used for line breaks)
- 3-letter Party association of the contest (if a primary)

Examples:

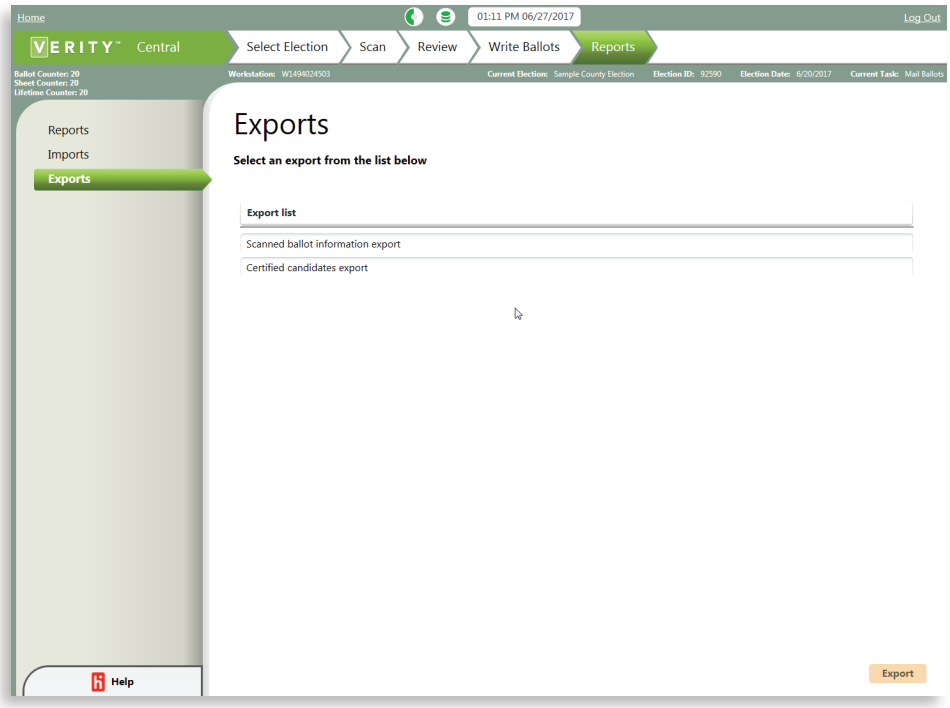
Nikolai Tesla	President of the United States	DEM
Marie Curie	President of the United States	REP
George Carver	United States Senator, District 33	LIB
Theodore Roosevelt	Sampleville School Board\nPlace 1	GRN

Nikolai Tesla,President of the United States,DEM
Marie Curie,President of the United States,REP
George Carver,"United States Senator, District 33",LIB
Theodore Roosevelt,Sampleville School Board\nPlace 1,NP

generating reports (Verity Central), *continued*

exporting data

The Exports menu allows you to export selected data from Central to removable USB media.



1. Select the **Exports** menu, and then select the data to be exported from the list.
2. Click **Export**. You will be prompted to choose an export location on removable USB media.

available exports: Central

The following exports are available in Central; the contents of each export are listed below. These exports cannot be deleted or edited by the user:

Scanned Ballot Information export

Contains the following information for each ballot image:

- Scan sequence number
- Precinct or precinct split name
- Page number
- Unique identifier (if applicable)
- Variation number
- Language
- Party (closed primary elections only)
- Ballot Status, including:
  - If the status is rejected, the reason for rejection
  - Whether if ballot has been deleted
  - Whether ballot contains unresolved voter intent issues
  - Whether the ballot has been written to a vDrive
- vDrive ID (assigned by the Central workstation)

Certified Write-in Candidates export

This export is identical to the format of the Certified candidates import, and includes the following data:

- Candidate name
- Contest title
- Party abbreviation (if applicable)

central scanning with Verity Scan

For jurisdictions without Verity Central, central scanning may be performed using one or more Verity Scan devices. Verity Scan may be used to scan Absentee mail ballots, ballots from Early Voting or Election Day, or ballots from other voting types. When using Verity Scan to process ballots centrally, please note the following:

- Each Verity Scan should be predefined with a polling place that includes all possible ballot styles/precincts, and that matches the voting type of the ballots being scanned. (In this manner, you may scan ballots from multiple precincts using the same Verity Scan scanner). For information on predefining Verity Scan, see page 205. For information on setting up a polling place for the desired voting type and precincts in Verity Data, see page 107.
- When ballots are being scanned centrally, the voters will most likely not be present to scan their own ballot; therefore, you may wish to disable the second-chance voting options to scan ballots more efficiently. For information on changing ballot rules for second chance voting, see page 344.
- It is recommended that you follow established local chain of custody procedures, just as you would if the Verity Scan were being deployed to a polling place, though this practice may vary by jurisdiction.

chapter 7

semi-official tabulation & reporting

7

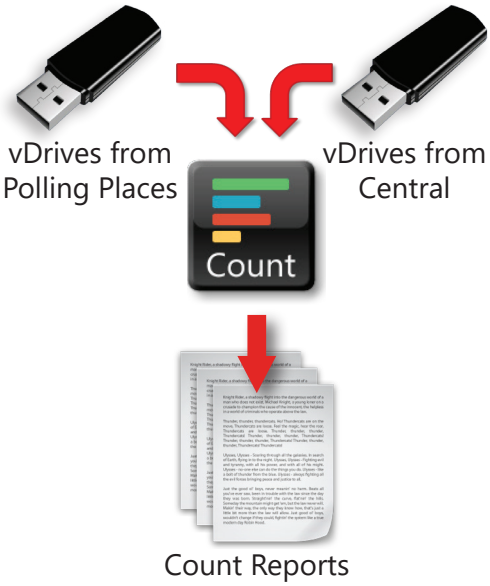
semi-official tabulation & reporting

overview

Tabulation of results from Verity Central ballot scanning stations and Verity Scan devices is accomplished using Verity Count. Cast Vote Records from Central and Scan are transported to Verity Count using vDrives.

about Verity Count

In Verity Count, you will create tasks to manage instances of a particular election (such as Logic and Accuracy tests and official elections), read and tabulate vDrives, resolve write-in votes, print reports, and export data.



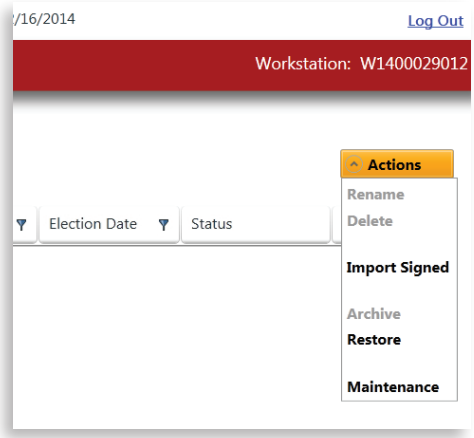
getting started with Verity Count

importing an election on the Count workstation

To open an election in Verity Count, you first must import the signed election from Build, using the Election Management application on the Count server workstation.

NOTE: *Before importing any elections, you can first set basic election preferences for Count, if desired (see page 398). These preferences will be applied as defaults to any imported election.*

1. Insert a Verity Key (created in Build) for the election.
2. Insert the removable media (USB) containing the signed export from Build into an available USB port on the Central workstation computer.
3. Log in to the Verity Count workstation.
4. On the Verity home page, click the **Manage** tile.
5. In the Election Management application, click **Actions**.
6. Select **Import Signed** from the Actions drop-down menu.
7. Browse to the location of the removable media and select the election to import. Click **OK**.
8. Enter the Applications password for the Verity Key (created in Build, see page 194). Click **OK**.
9. A confirmation message appears; click **OK**.



10. Click **Home** in the upper left corner to return to the Verity Home screen.

opening the Count application

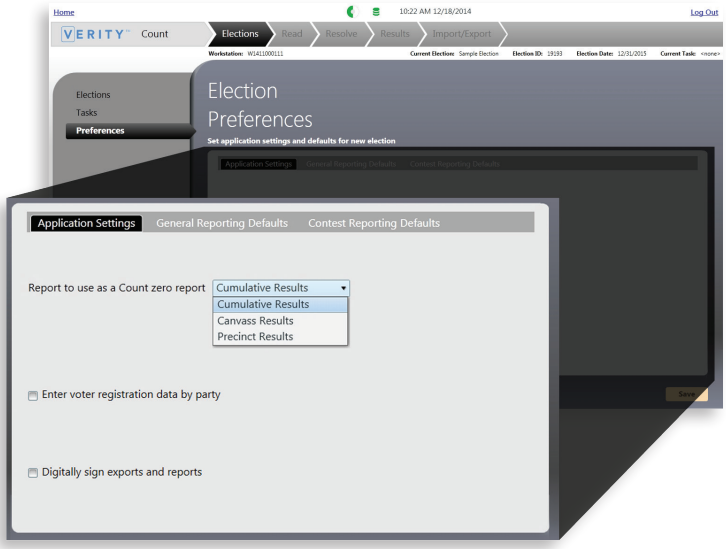
Log in to the Verity Count workstation. On the Verity home screen, click the Count application tile to open Count. The Count application contains five chevron-shaped tabs: Elections, Read, Resolve, Results, and Import/Export.

getting started with Verity Count, *continued*

setting preferences

The Preferences menu allows you to set default preferences for all elections in Verity Count. You can set preferences at any time; however, with the exception of Application settings (the first tab), preferences set here only affect elections that have not yet been imported in Election Management. The first time you open Count you should set preferences before importing your first election onto the workstation. You can change settings for an election you have already imported on the Count workstation under the Results tab, in the Reporting Options menu (page 415).

1. Select the **Preferences** menu.
2. Select the **Application Settings** tab. Unlike other preferences, changing these settings will also apply to currently loaded elections.



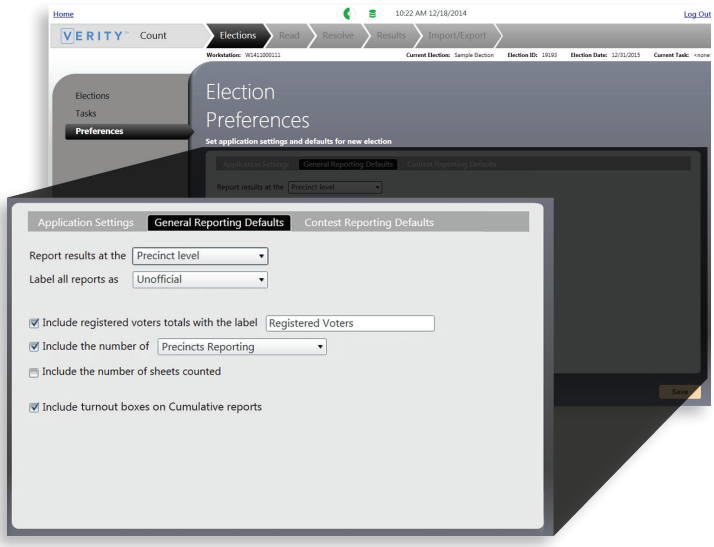
A) Choose which type of report you will be using as a basis for the Count Zero report, so that the application can validate that the Zero report has been printed.

B) Check the box if you would like to enter voter registration by party *(primary elections only)*.

C) Check the box if you would like to digitally sign all Count exports and reports.

- When a digital signature is generated, a separate file signature file is saved each time a report file or export is generated.
- A digital signature file may be used to verify that the report/export was produced using a Hart workstation.
- Note that all Audit Log, System Log, and Device Log reports are automatically signed. Checking this box will additionally sign all Count reports and exports.

3. Select the **General Reporting Defaults** tab to set your basic reporting preferences.



A) Choose how to report results: at the precinct or at the precinct-split level.

- **At the precinct level** *(the Precinct and Canvass reports will show consolidated precinct results)*
- **At the precinct-split level** *(the Precinct and Canvass reports will show unconsolidated precinct results)*

B) Choose whether to label reports **Unofficial** or **Official**.

- Typically, reports are labeled Unofficial until the completion of final canvassing.

C) Check the box if you would like to include registered voter totals on report headers, and then enter a reporting label for registered voter totals.

- If checked, registered voter totals (turnout) will appear on reports where applicable.
- If you choose this option, you should enter your registered voter totals (page 436) before generating reports.

D) Check the box if you would like to include either the number of precincts reporting or the number of polling places reporting on report headers.

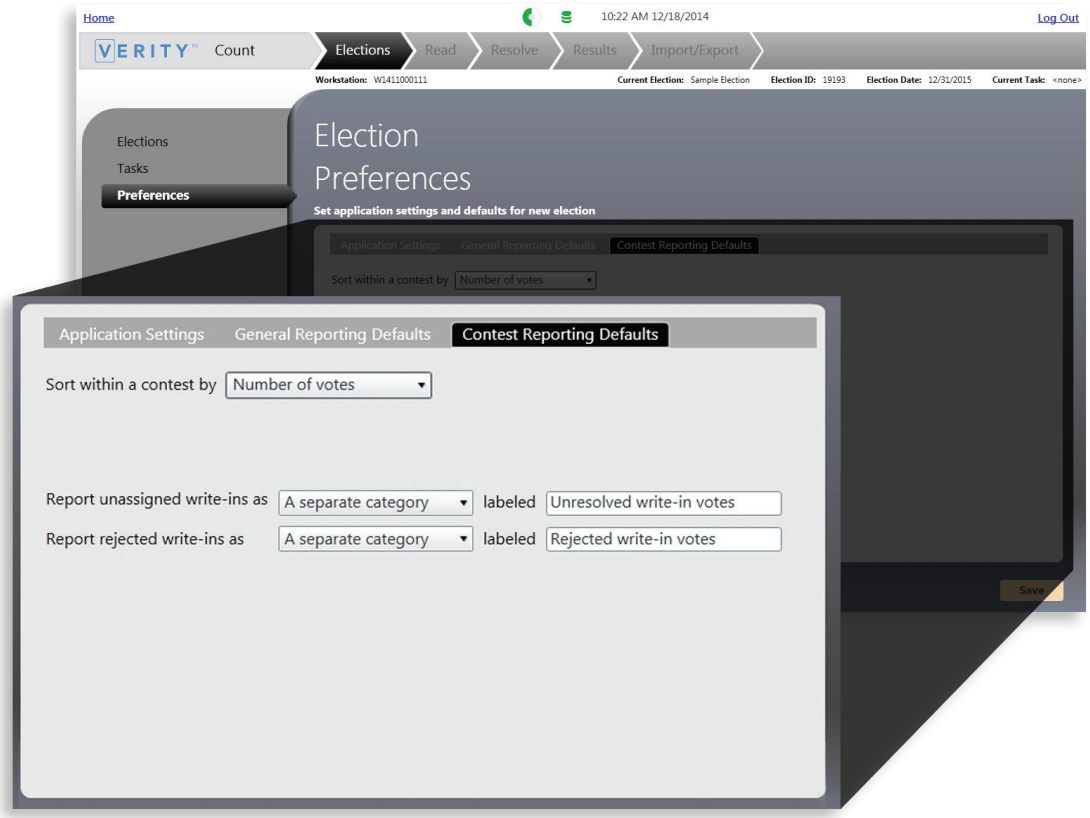
- If checked, the number/percentage of precincts reporting (or polling places reporting) will appear in reports where applicable.
- For instructions on setting reporting status for Precincts and Polling Places, see page 431 and page 433.

E) Check the box if you would like to include the number of sheets counted (note that, in the case of multi-sheet ballots, this will differ from the number of ballots).

F) Check the box if you would like to include turnout boxes on all Cumulative reports.

getting started with Verity Count, *continued*

4. Set reporting defaults for contests.



A) Choose how to sort contest results. The available options are:

- **By ballot order**
- **By number of votes**

B) Choose how to report unassigned write-in votes, and enter a reporting label. The available options are:

- **A separate category**: unassigned write-ins will be reported as a separate category, in which case you can define a label for that category.
- **Undervotes**: unassigned write-ins will be reported as undervotes.

C) Choose how to report rejected write-in votes, and enter a reporting label. The available options are:

- **A separate category**: rejected write-ins will be reported as a separate category, in which case you can define a label for that category.
- **Undervotes**: rejected write-ins will be reported as undervotes.

5. Click **Save** on the bottom right to save any changes you have made.

using on-screen help

Help is available on every screen of the Count application; it will contain information related to the current screen, including instructions, notes, and important information regarding the steps you must complete on that screen.

1. Click the tab labeled **Help** at the bottom left of the screen to expand the help tab.
2. The help tab will display information about the current screen.
3. Click the **x** in the upper right corner to close the help tab.

selecting and opening an election

Under the **Elections** tab, you will open the election, create tasks for tabulation, and set your basic preferences for reporting and exporting. The following menus are available in the Elections tab:

Elections: Select and open an election.

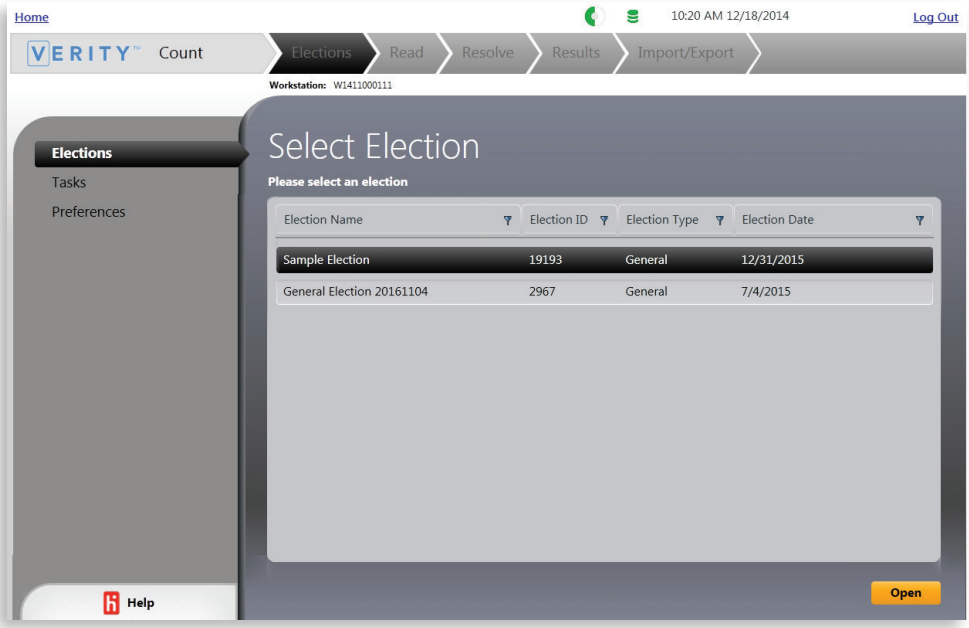
Tasks: Create and manage tasks in Official or Test mode.

Preferences: Set default preferences for elections before importing them into the Count workstation.

selecting and opening an election

The **Elections** menu lets you select and open an election that you have imported from the Build workstation.

NOTE: *If this is the first time you are using Count, set default preferences before importing an election. See page 398.*



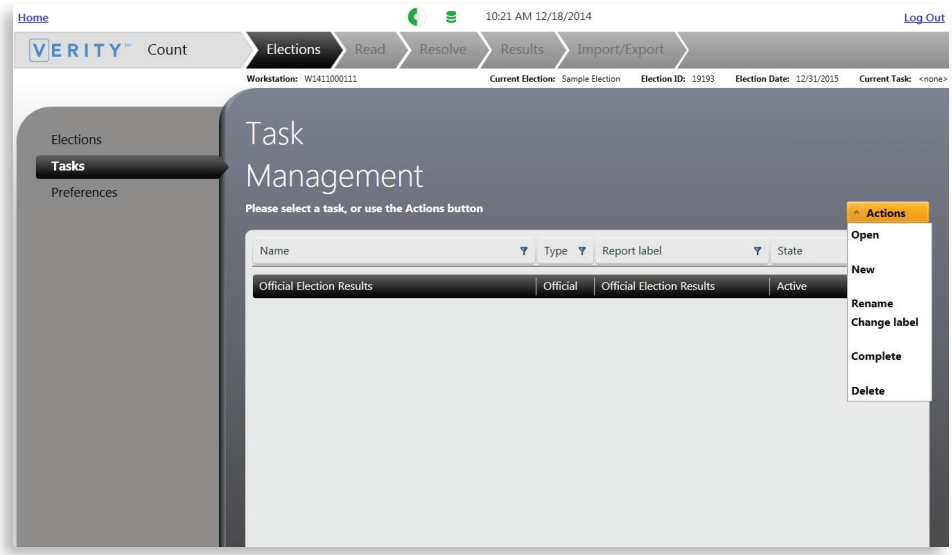
1. Select the **Elections** menu.
2. Select the election you would like to work on.
3. Click **Open** in the bottom right of the screen. You will automatically be taken to the Tasks menu.

creating and managing tasks

The **Tasks** menu allows you to open and create tasks for the selected election.

what is a task?

- In Count, a task is associated with a particular election event or process that involves tabulation. The following are some examples of events that would each involve a separate task:
  - Logic and Accuracy Test (one task per testing event, typically in Test mode)
  - Election Results (typically one task per election, in Official mode)
  - Recount Results (if necessary, a separate task in Official mode)
- Each task can be created in Test or Official mode. The election mode of the selected task and the election mode of the vDrive(s) must match in order to read the vDrives under the selected task.
- You can create a new task for a selected election at any time. Typically, for each election you should have only one task for reading and tabulating Official election results. One exception to this rule would be if you are conducting a recount, in which case you may create a separate Count task for that purpose.

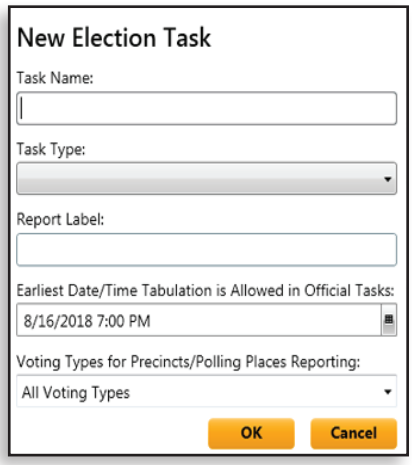


creating a new task

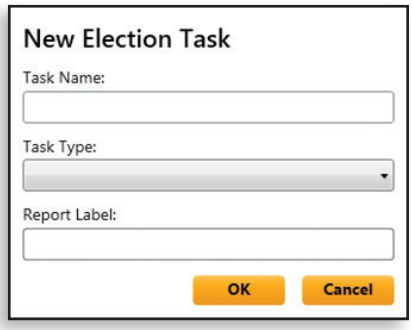
1. Select the **Tasks** menu.
2. Click **Actions**.
3. Select **New**.

selecting and opening an election, *continued*

4. Enter the task details.
   - The first time you create a task, you will verify the Earliest Date/Time Tabulation is allowed. In addition, you can set the voting type(s) for precincts/polling places reporting (see also reporting options, beginning on page 415). You will also choose the task name (used to identify the task within the application), task type (Test or Official), and report label that will appear on all reports printed from that task.



   - For subsequent tasks created for the same election, you will choose only the task name, task type, and report label.



5. Click **OK**.

opening an existing task

1. Select the **Tasks** menu.
2. Select the task to open.
3. Click **Actions**.
4. Select **Open**.

renaming an existing task

1. Select the **Tasks** menu.
2. Select the task to rename.
3. Click **Actions**.
4. Select **Rename**.
5. Enter the new Task Name and click **OK**.

changing a task report label

1. Select the **Tasks** menu.
2. Select the task to change.
3. Click **Actions**.
4. Select **Change label**.
5. Enter the new report label and click **OK**.

completing a task

1. Select the **Tasks** menu.
2. Select the task.
3. Click **Actions**.
4. Select **Complete**.
5. Click **Yes** to mark the task as complete. Once a task is marked as Complete, no additional vDrives can be read into that task.

! IMPORTANT: You should only mark a task as Complete if no additional vDrives need to be read into that task.

deleting a task

1. Select the **Tasks** menu.
2. Select the task to delete.
3. Click **Actions**.
4. Select **Delete**.
5. Click **Yes** to delete the task. Once a task is deleted, it cannot be restored.

! IMPORTANT: Only delete a task if the tabulated results in the task are no longer needed. If you accidentally delete a task, any vDrives read under that task will need to be re-read in a new task.

preferences

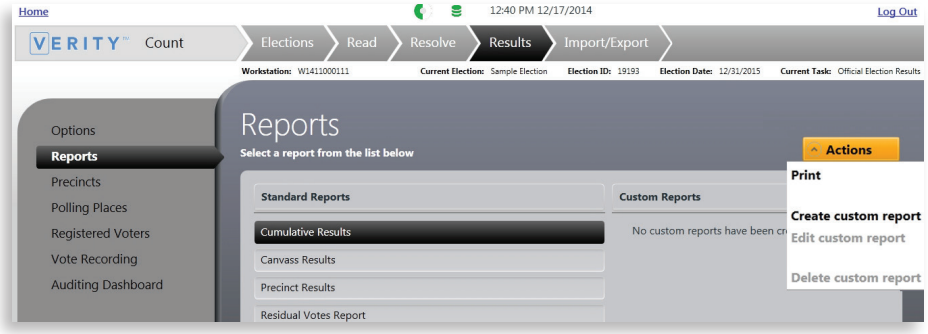
The **Preferences** menu allows you to set default preferences for all elections in Verity Count. You can set preferences at any time, however preferences set here only affect elections that have not yet been imported in Election Management; the first time you open Count you should set preferences before importing your first election onto the workstation. For instructions on choosing Application settings and setting default preferences, see page 398. You can change reporting options for an election you have already imported on the Count workstation under the Results tab, in the Reporting Options menu (page 415).

selecting and opening an election, *continued*

printing a zero report

Before reading in and tabulating any vDrives, you should print a Zero report. The Zero report is used to verify that no votes were tabulated on the Count workstation prior to the reading in of the first vDrive.

NOTE: *You will be reminded to print the Zero report when attempting to read the first vDrive.*



1. Under the Results Tab, select the **Reports** menu. If desired, you can set your reporting options first. For details on setting reporting options, see page 415.
2. From the list of standard reports, choose the report you indicated for Zero Reporting (see **Application settings** preferences, page 398). In most cases this will be the Cumulative Results report.
3. Click **Actions** and choose **Print.**
4. Choose your report filters.
   - **A)** Use the drop-down menu to include all voting types, or filter the report by a combination of individual voting types. In most cases, this should be set to "All" for zero reports.
   - **B)** Check the boxes to include overvotes or undervotes; uncheck the boxes to exclude overvotes or undervotes. For zero reports these settings can be ignored, since no ballots should be read at this time.
   - **C)** Select **Show Report** to display the report for viewing, printing, or saving to file.
5. Click the printer icon to print a copy of the report; click the disk icon to save a copy of the report to file. When saving the report, include the words "Zero Report" in the file name.
6. Verify that the vote count for all contests is zero. File the Zero Report as per local jurisdiction guidelines.

tabulating election results

In the **Read** tab, you will read and tabulate vDrives and monitor progress using the election Dashboard. The Dashboard provides a high-level look at Election Night progress. Depending on the user level, one of the following menus will be available:

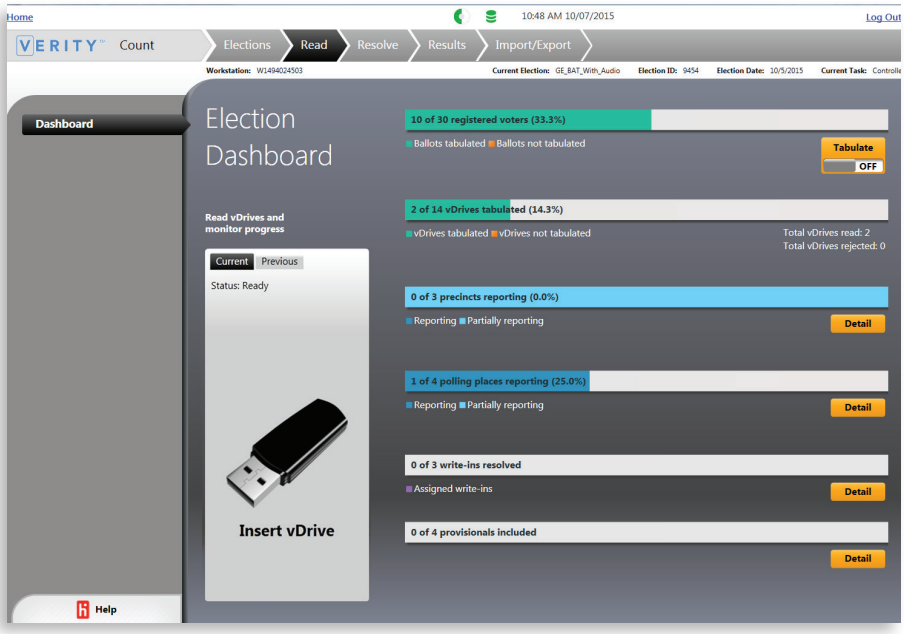
Dashboard: Ability to read drives, tabulate, monitor, and report.

Media Reading: Ability to read in vDrives only.

using the dashboard

The **Dashboard** is available to users with Count Administrator and Operator roles.

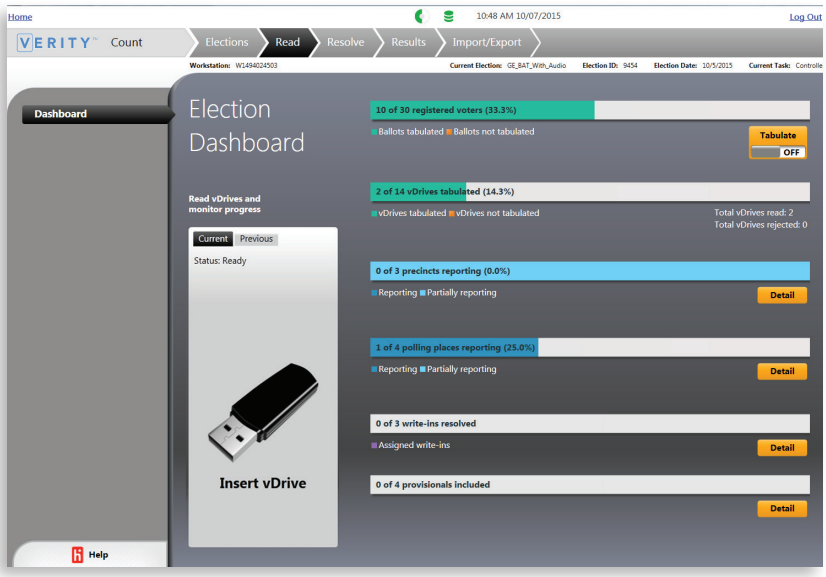
NOTE: *Only one Full Access- or Operator-level user may be logged in to a given task at a time. Users with the vDrive Reader role will see the* **Read vDrives** *menu instead. See page 62 for instructions on setting application user roles. The Read vDrives menu is discussed on page 410.*



A) On the left side, the vDrive window allows you to monitor the reading of vDrives for the current session.

B) The right side of the Election Dashboard contains the tabulation slider, which allows you to start and stop tabulation of vDrives that have been read. If the tabulation slider is ON, Verity will also automatically tabulate vDrives as they are read.

tabulating election results, *continued*



C) The dashboard also provides progress bars for monitoring the progress of tabulation. The progress bars are, from top to bottom:

- Ballots tabulated (based on registered voters/turnout)
- vDrives tabulated (based on the number of vDrives read)
- Precincts reporting
- Polling places reporting
- Write-ins resolved
- electronic provisionals *(not used with Verity in California)*

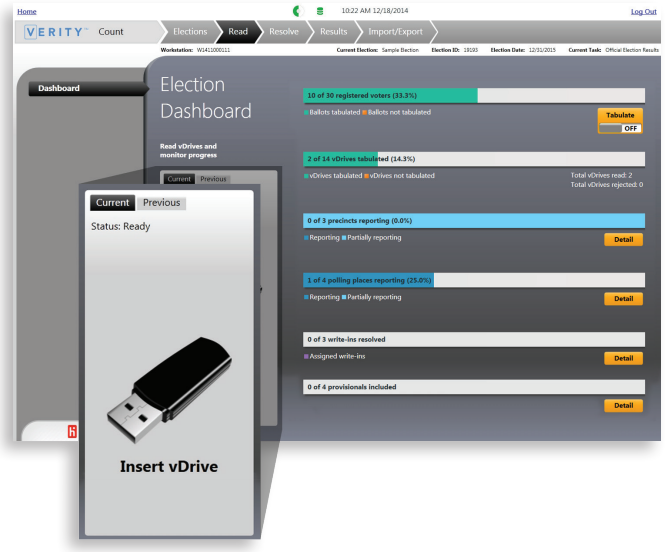
D) Click **Detail** next to precincts reporting to manually update precincts reporting status (see page 431). Click the Read tab to return to the dashboard.

E) Click **Detail** next to polling places reporting to manually update polling places reporting status or set the number of vDrives expected for each Polling Place (see page 433). Click the Read tab to return to the dashboard.

F) Click **Detail** next to write-ins resolved to view and print reports and resolve unassigned write-ins (see page 411). Click the Read tab to return to the dashboard.

G) The provisionals progress bar displays any electronic provisional ballots *(not used with Verity in California)*.

reading vDrives



1. Count is ready to read vDrives when you see the message "Insert vDrive". Insert a **Verity Key** into an available USB port on your Count computer.
2. Insert a **vDrive** into an available USB port on the Count computer.
3. Enter the user password for the current Count user, and then click **OK**.

   A) The vDrive window will display the **Reading...** message while a vDrive is being read. Do not remove the vDrive while it is being read.

   B) Once reading is complete, Count will display the vDrive status as **Read**, and show the polling place and the number of ballots contained on the vDrive.

   C) If you insert a vDrive that is not for the current election, Count will reject the vDrive.

   D) Select **Previous** to see a list of vDrives previously read.

   E) Select **Current** to return to the currently inserted vDrive.

   NOTE: *The Previous tab will only show vDrives read during the current session. For a list of all vDrives read in all sessions, see the vDrive Status report (page 426).*

   F) If you attempt to read a vDrive that was not properly closed on the device it came from, you will see the message below. A user name and password for a user with Full Access privileges for Verity Count is required to continue reading the vDrive. Enter the Full Access-level user's user name and password and click OK. Count will read it automatically.

4. Move the Tabulate slider to the **ON** position to begin tabulation.

   A) Change the tabulate slider at any time to start and stop tabulation.

   B) If vDrives are read in while the tabulation is **OFF**, they will be reflected as "not tabulated" in the vDrives Tabulated progress bar.

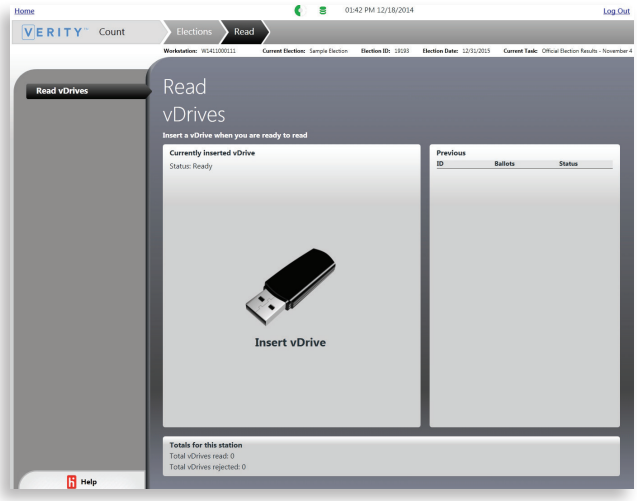
   C) Tabulation must be **OFF** in order to resolve write-ins.

tabulating election results, *continued*

Read vDrives Menu (vDrive Reader users)

Users with the role of vDrive Reader have more limited access to Verity Count features. vDrive Reader users have the following abilities only:

- Open elections & tasks
- Read (but not tabulate) vDrives



In place of the Dashboard menu, vDrive Reader users will instead see the Read vDrives menu. The Read vDrives menu allows users the ability to read vDrives, and to view previously read vDrives for that session.

The bottom panel of the Read vDrives screen lists the total vDrives read and rejected.

about recovery vDrives

A Recovery vDrive can be created for both voting devices and Central workstations if any of the following occurs:

- The original vDrive is lost
- The original vDrive is corrupt
- The original vDrive cannot be read

Administrator authorization is required to read a Recovery vDrive into Count. The recovery and the original cannot be read into a single Count task. Therefore, if the original vDrive has already been read into Count, a recovery vDrive made using the same source cannot be read into the same election task in Count.

A recovery vDrive can only be used to transfer ballots to Count, and cannot be used to continue voting on a device.

- To create a Recovery vDrive from a voting device, see page 341.
- To create a Recovery vDrive from a Central Workstation, see page 381.

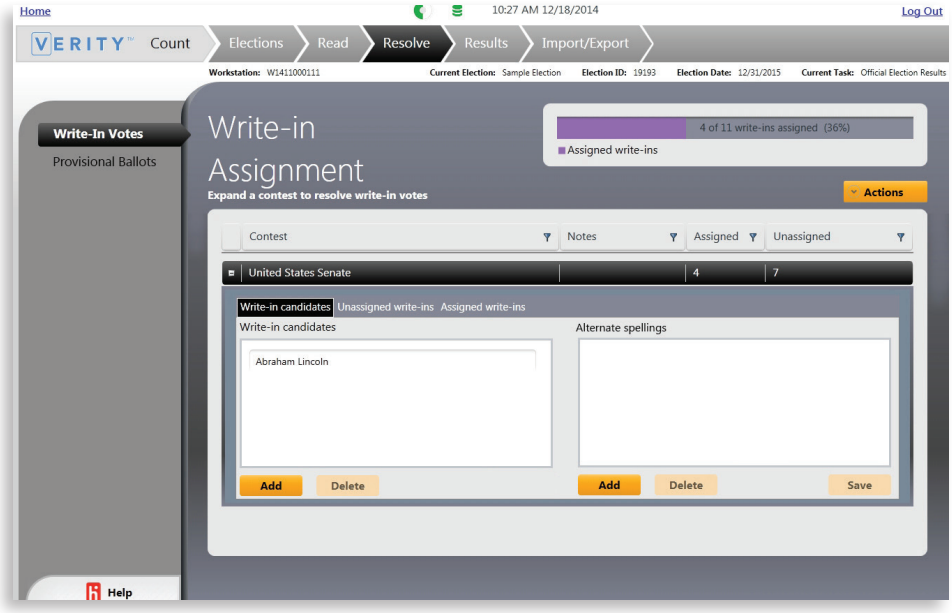
resolving write-in votes

Under the **Resolve** tab, you will manage write-in votes from paper and electronic ballots. The following menus are available in the Resolve tab:

Write-in Votes: Manage write-in candidates and resolve unassigned write-ins.

Provisional Ballots: Allows users to manage provisional ballots cast on the Verity Touch DRE device. Not used in the State of California.

managing write-in candidates



adding write-in candidates

NOTE: *You can also enter new candidates "on the fly" while resolving write-in votes (see page 412).*

1. Select the **Write-in Votes** menu.
2. Click the **+** sign to the left of the contest name to expand the contest and view the current write-in candidates for that contest.
3. Click **Add** to add a new write-in candidate.
4. Type the candidate name.
5. Click **Save**.

resolving write-in votes, *continued*

adding alternate spellings

You can add any acceptable alternate spellings for a write-in candidate in the window to the right.

1. Select **Add** under the Alternate spellings window.
2. Type the alternate spelling, and then click **Save**.

deleting write-in candidates and alternate spellings

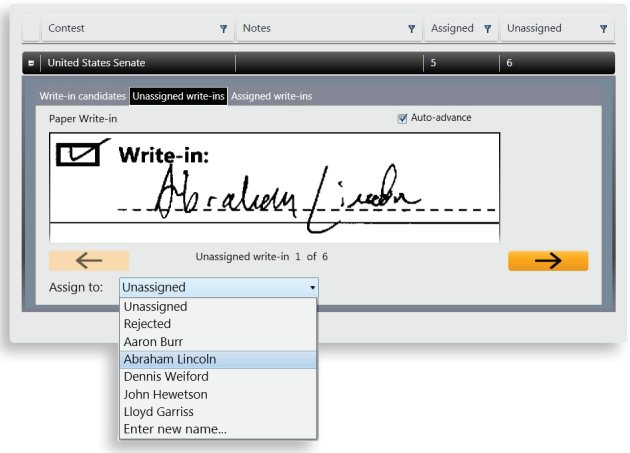
1. Select the candidate or alternate spelling you would like to delete.
2. Click **Delete** below the corresponding window.

! IMPORTANT: You cannot resolve write-in votes while the tabulation slider on the Dashboard is set to **ON** (see page 407). Change the tabulation slider to **OFF** to resolve write-in votes.

resolving unassigned write-in votes

If you have certified write-in candidates, you can define them first before proceeding (see page 411).

1. Select the **Unassigned Write-ins** tab.
   - **A)** The voting type (Electronic or Paper) is indicated in the top left corner.
   - **B)** Check the box next to **Auto-advance** in the top right corner to automatically advance to the next unassigned write-in after you resolve the first one.
   - **C)** Use the yellow arrows to manually navigate back and forth through the unassigned write-ins.

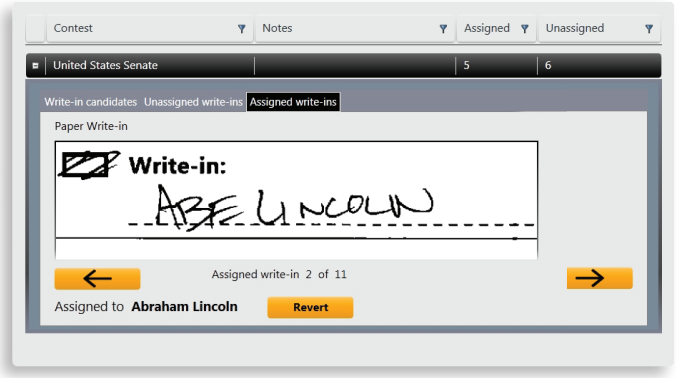


2. To assign the write-in, click the **Assign to** drop-down and choose the correct candidate from the list, or choose **Enter new name...** to enter a new candidate name. All write-in assignments you make are automatically saved.
    - To enter a new name, select **Enter new name...** from the drop-down menu, then type the name in the text box to the right. Click the **Assign** button to assign the write-in to the new name.

Using the **Assign To** drop-down menu, You can assign a write-in vote to any candidate already on the ballot for that contest, or to any write-in candidate already defined (to define new write-in candidates, see page 411). You can enter a new name by selecting **Enter new name...**, and then typing the name in the provided text box. You can also choose to leave the write-in as Unassigned, or mark it as Rejected. Unassigned and Rejected write-ins can be reported as separate categories in reports (see page 417).

viewing assigned write-in votes

To view assigned write-in votes, select the **Assigned Write-ins** tab.



A) The current assignment is indicated in the lower left-hand corner.

B) You can change previously assigned write-ins by clicking **Revert**; the assignment will be removed and the write-in will now appear under the Unassigned Write-ins tab.

printing write-in assignments

At any time, you can select **Print Report** under the Actions drop-down menu to view and print a report of write-in assignments.

generating reports (Verity Count)

Under the **Results** tab, you will set your reporting options for the current election and create, view, and print reports. You will also manage precincts and polling places reporting, set registered voter totals, perform manual vote recording if necessary, and export cast vote records for auditing purposes.

NOTE: *All Audit, System, and Device Log reports are automatically digitally signed. If you have chosen to digitally sign all reports, a separate signature file will be saved each time any report file is generated (see also page 398).*

The following menus are available in the Results tab:

Options: Set your reporting options for Count. Settings made in the Reporting Options menu affect all tasks for the current election.

Reports: Generate reports from the list of available options, create custom reports, and create reporting runs.

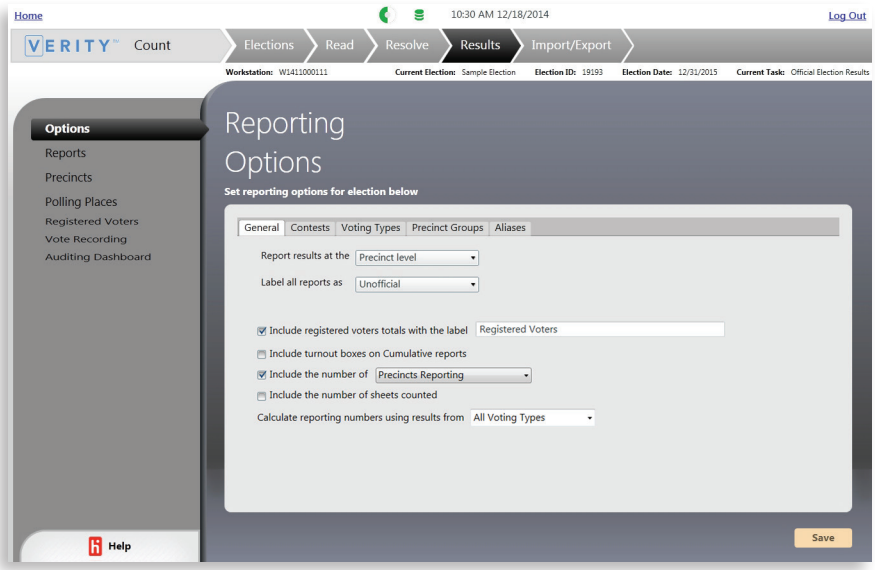
Precincts: View reporting precincts and manually change precinct reporting status.

Polling Places: View reporting polling places, set the number of vDrives expected per polling place, and manually change polling place reporting status.

Registered Voters: Set the number of registered voters for reporting voter turnout.

Vote Recording: Perform manual vote recording.

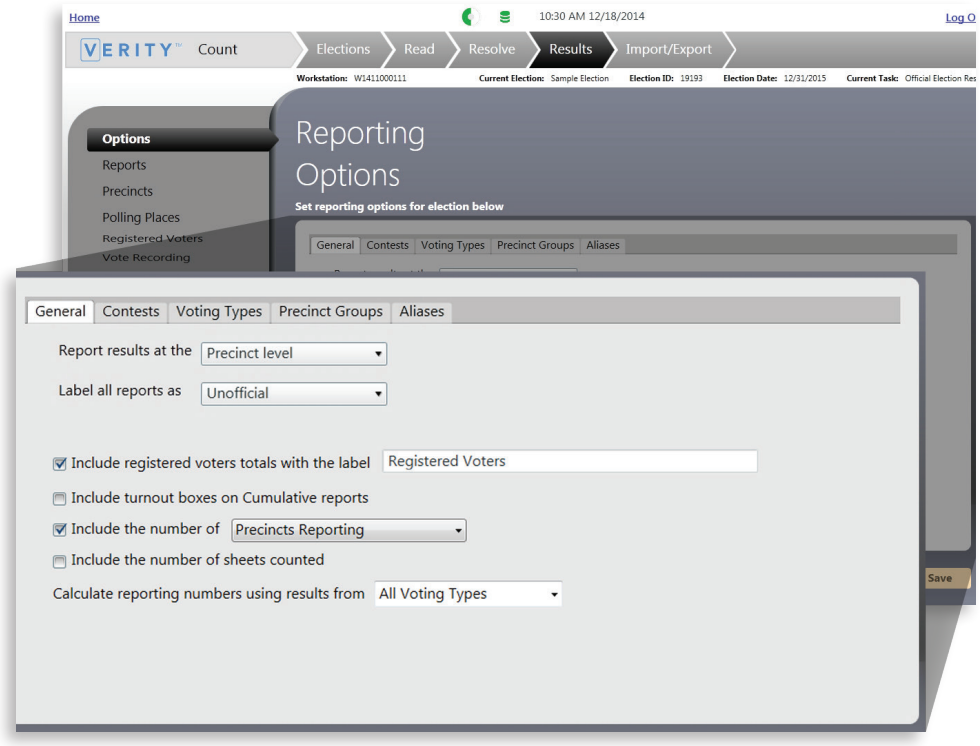
Auditing Dashboard: Filter ballot data to review and export cast vote records.



setting reporting options

general reporting options

Select the **General** tab under Reporting Options.



NOTE: *Settings made in the Reporting Options menu affect all tasks for the current election. If you have set your general preferences under the elections tab before you imported the election, you do not need to set them again; you can proceed to the Contests tab.*

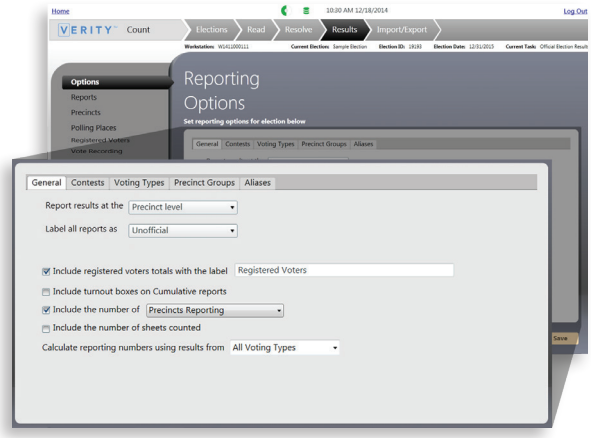
A) Choose whether to report results at the precinct or at the precinct split level.

- **At the precinct level** *(the Precinct and Canvass reports will show consolidated precinct results)*
- **At the precinct-split level** *(the Precinct and Canvass reports will show unconsolidated precinct results)*

B) Choose whether to label reports **Unofficial** or **Official**.

- Typically, reports are labeled Unofficial until the completion of final canvassing.

generating reports, *continued*



C) Check the box if you would like to include registered voter totals on report headers, and then enter a reporting label for registered voter totals.

- If checked, registered voter totals (turnout) will appear on reports where applicable.
- If you choose this option, you should enter your registered voter totals (page 436) before generating reports.

D) Check the box if you would like to include turnout boxes on all Cumulative reports.

E) Check the box if you would like to include either the number of precincts reporting or the number of polling places reporting on report headers.

- If checked, the number/percentage of precincts reporting (or polling places reporting) will appear in reports where applicable.
- For instructions on setting reporting status for Precincts and Polling Places, see page 431 and page 433.

F) Check the box if you would like to include the number of sheets counted (note that, in the case of multi-sheet ballots, this will differ from the number of ballots).

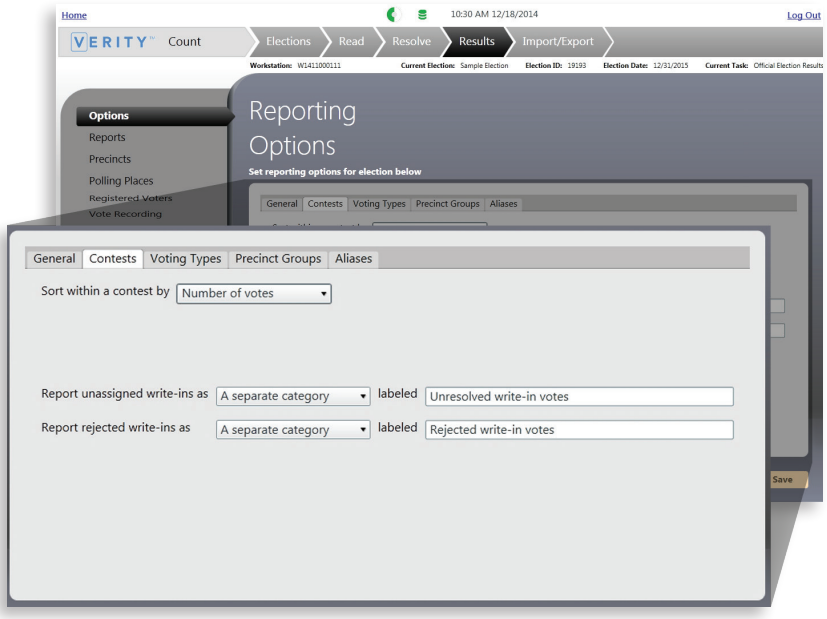
G) Choose how Count will calculate reporting numbers. This determines which voting types are included in the report header when displaying Precincts Reporting or Polling Places reporting (see option E).

- **EXAMPLE:** If you have previously chosen to include Polling Places Reporting on reports, and you select only 'Election Day" here, the report header (X of battery polling places) will include only Election Day polling places. Note that this ONLY affects the report header, and will not filter the data in the body of the report.

H) Click **Save** in the lower right corner.

contest reporting options

Select the **Contests** tab under Reporting Options.



NOTE: *If you have set your contests preferences under the elections tab, you do not need to set them again; you can proceed to the Voting Types tab.*

A) Choose how to sort contest results. The available options are:

- **By number of votes**
- **By ballot order** *(base ballot order, if using rotation)*
- **By rotated ballot order** *(if rotation is enabled)*

B) Choose how to report unassigned write-in votes, and enter a reporting label. The available options are:

- **A separate category**: Unassigned write-ins will be reported as a separate category, in which case you can define a label for that category.
- **Undervotes**: Unassigned write-ins will be reported as undervotes.

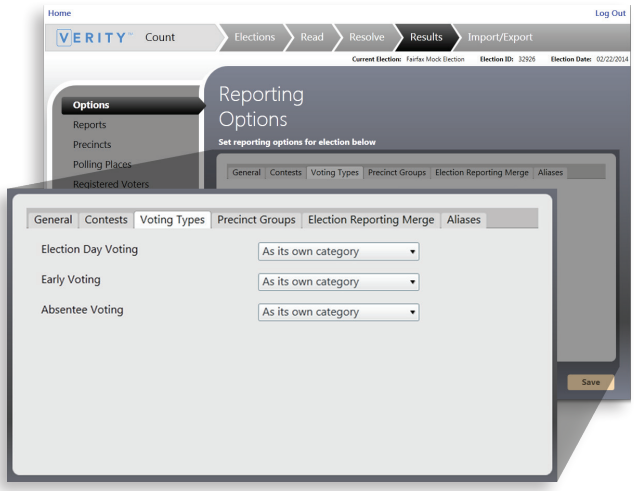
C) Choose how to report rejected write-in votes, and enter a reporting label. The available options are:

- **A separate category**: Rejected write-ins will be reported as a separate category, in which case you can define a label for that category.
- **Undervotes**: Rejected write-ins will be reported as undervotes.

D) Click **Save** in the lower right corner.

generating reports, *continued*

voting type reporting options



Select the **Voting Types** tab under Reporting Options.

A) Use the drop downs to choose whether to report results from each voting type separately ("As its own category") or combined.

B) Click **Save** in the lower right corner.

precinct groups

(optional) Select the **Precinct Groups** tab under Reporting Options to combine results on reports, and assign precincts to the groups you have created.

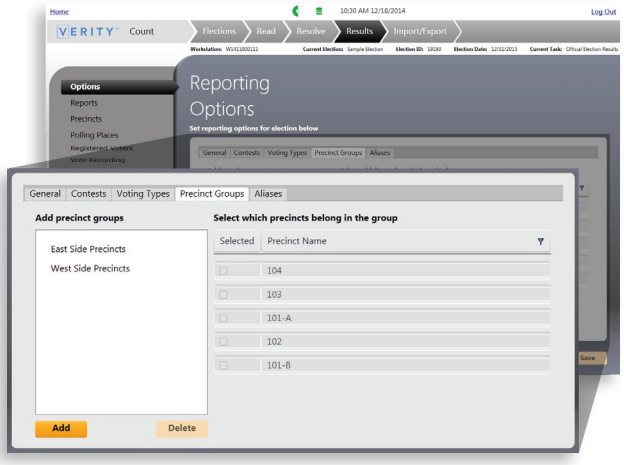
> **NOTE:** *Items under this tab are optional, for creating and managing precinct groups not created during the original election definition process.*

A) Click **Add** to add a new precinct group, or select an existing group.

B) Enter the new precinct group name, and then click **OK**.

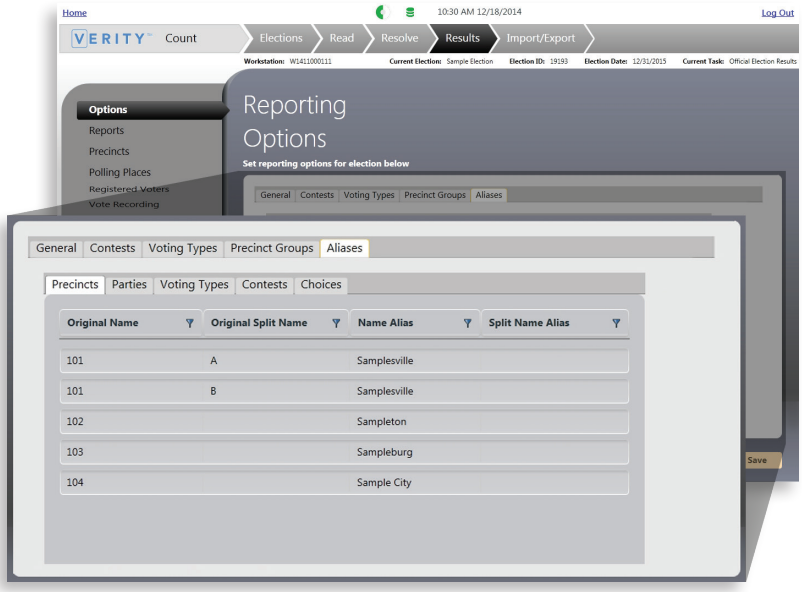
C) Check the box next to a precinct to assign that precinct to the selected group.

D) Click **Save** in the lower right corner.



aliases

Select the **Aliases** tab under Reporting Options to change the name that displays on reports for various elements (precincts, districts, parties, voting types, contests, or choices).



NOTE: *Aliases can be enabled only in custom cumulative, precinct, and canvass reports.* *See page 428.*

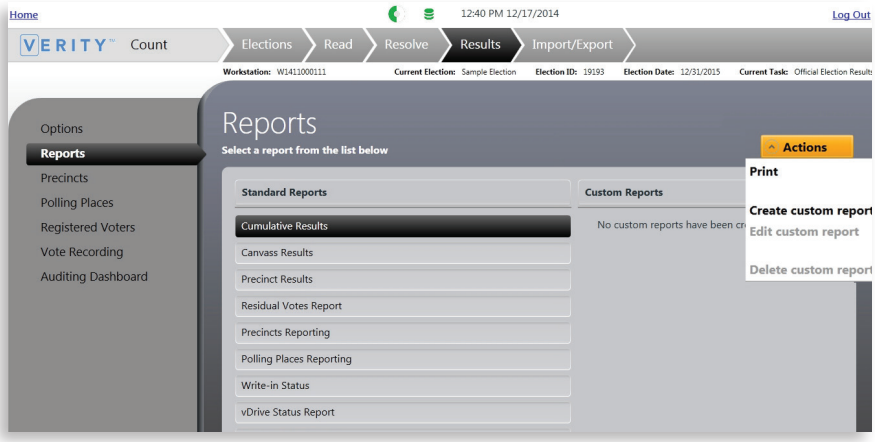
A) To create an Alias, first select the desired tab to display the original names. Locate the name that needs to be changed on reports.

B) Click in the Alias column for the corresponding item and type the updated name in the Alias column.

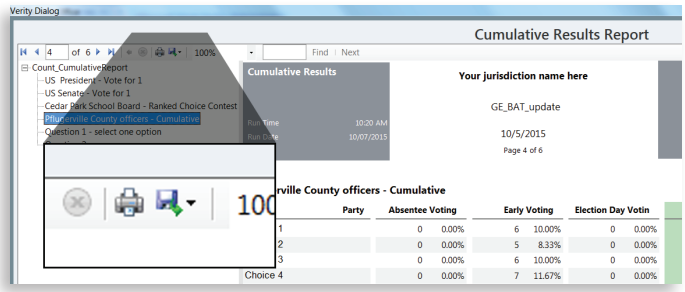
C) Click **Save** in the lower right corner.

generating reports, *continued*

viewing and printing standard reports



1. Select the **Reports** menu to view available reports. Standard reports are located in the left-hand column; custom reports (if any) are located in the right-hand column. See the following page for a list of available reports.
2. Select one of the standard reports from the left-hand column that you would like to view/print.
3. Click the **Actions** menu.
4. Select **Print**, and the report preview for that report will appear. You can also double-click the report name to bring up the preview.



5. View, Print or Save the report.
   - **A)** To Print: Click the printer icon to print the report to an attached report printer.
   - **B)** To Save to file: Click the disk icon to save the report to file. Choose the desired report format from the drop-down menu. File format options vary by report, but may include PDF, .csv, or Excel file formats.
     - You can view additional pages of the report using the blue arrow buttons.

available reports: Count

The reports listed below are available in Count; the contents of each report are listed below. These reports cannot be deleted or edited by the user. All Count reports contain the following information in their header:

- Report title
- Election title
- Election date
- Report label
- Jurisdiction name
- Official/Unofficial label
- Date/time the report was generated
- Total registered voters in the election (optional)
- Total tabulated ballots
- Turnout percentage *(optional)*
- Total precincts/splits reporting, *or* Total polling places reporting
- Total precincts/splits in the election, *or* Total polling places in the election
- Reporting percentage

NOTE: *Audit Log reports contain only the following information in the header: Report Title, Election Title, Date, and ID, Jurisdiction Name, and the Date and time the report was generated. System Log reports are not election-specific, and contain only the Report Title and Date and time the report was generated. The District Results report contains only the date/time, report title, and election date in the header*

Cumulative Results report

NOTE: *The Cumulative Results report lists each contest in ballot sequence order. Users can choose to display a separate results column for each voting type (e.g. Early Voting, Absentee, Election Day). Users can choose to include or exclude overvotes and/or undervotes.*

- Contest details:
  - Contest title
  - Contest party affiliations *(if the election is an open or closed primary)*
  - Number of valid choices for that contest
- Contest choice/candidate details:
  - Choice/candidate name
  - Choice/candidate party affiliations *(if the election is a general election)*
  - Vote counts for each voting type

generating reports, *continued*

- Write-in details:
  - Certified write-in name
  - Vote counts for each voting type
  - Number of unresolved write-ins in this contest for each voting type *(if "report unresolved write-ins as a separate category" is enabled)*
  - Number of rejected write-ins in this contest for each Voting Type *(if "report rejected write-ins as a separate category" is enabled)*
- Contest overvote total for each voting type *(optional)*
- Contest undervote total for each voting type *(optional)*
- Sum total of vote counts for each contest

Precinct Results report

NOTE: *Users can choose to display a separate results column for each voting type (e.g. Early Voting, Absentee, Election Day). Users can choose to include or exclude overvotes and/or undervotes.*

The Precinct Results report displays the same information and as the Cumulative Results report, with the exception that results for each precinct or precinct group are displayed as separate sections. Precinct sections are in sequence order, with each precinct beginning on a new page. All contests, counts, and totals are based only on the contests available and votes cast in that precinct or precinct-split. Turnout percentages are included for each precinct, if "Include registered voter totals on report headers" is selected under reporting options (see page 415).

District Results report

NOTE: *Users can choose to display a separate results column for each voting type (e.g. Early Voting, Absentee, Election Day).*

The District Results report lists results for each contest, summarized by each of the following categories:

- Cumulative totals for each contest, with subtotals for each precinct or precinct group
- Results for each contest by voting type, with subtotals for each district
- Cumulative totals for each contest, with subtotals for each district

Canvass Results report

NOTE: *Users can choose to display a separate results column for each voting type (e.g. Early Voting, Absentee, Election Day). Users can choose to include or exclude overvotes and/or undervotes.*

The Canvass Results report lists each contest in the election in ballot order. For each contest, the report displays the following information for each precinct or precinct split.

- Number of ballots cast for each voting type
- Total ballots cast
- Number of registered voters *(by party, if it is a primary election and you chose "Enter registered voter data by party")*
- Turnout percentage (based on number of ballots cast and # of registered voters)
- Vote totals for each contest choice/candidate *(including party, if it is a general election)*
- Vote totals for each certified write-in candidate
- Overvotes *(optional)*
- Undervotes *(optional)*
- Invalid votes *(optional; open primary elections or dependent contests only)*
- Number of unresolved write-ins *(if "report unresolved write-ins as a separate category" is enabled)*
- Number of rejected write-ins *(if "report rejected write-ins as a separate category" is enabled)*

HTML Cumulative, Precinct, and Canvass Results reports

NOTE: *Users can choose to display a separate results column for each voting type (e.g. Early Voting, Absentee, Election Day). Users can choose to include or exclude overvotes and/or undervotes.*

Cumulative, Precinct, and Canvass Results reports in HTML format.

generating reports, *continued*

Provisional Ballots report

The provisional Ballots report is for provisional ballots cast using DRE voting devices, and is not used in the State of California.

NOTE: *Users can choose to display a separate results column for each voting type (e.g. Early Voting, Absentee, Election Day).*

The Provisional Ballots report lists all Electronic Provisional ballots, and provides the following details for each ballot:

- Ballot code
- Status (Included/Excluded)
- Party (if applicable)
- Precinct
- Polling Place
- Voting Type

Residual Votes report

NOTE: *Users can choose to include or exclude overvotes and/or undervotes.*

The Residual Votes report displays the following information for each contest in the election:

- Total number votes counted for all ballot options combined
- Total number of undervotes
- Percentage of undervotes
- Total number overvotes
- Subtotals for each specific overvote pattern that exists in this contest
- Percentage of overvotes
- Total number of invalid votes
- Percentage of invalid votes

Precincts Reporting

The Precincts Reporting report provides the following information sorted by precinct or precinct split:

- Precinct or precinct split name
- Registered Voters in this precinct or precinct split
- Reporting Status
- Total ballots read for this precinct or precinct split
- Turnout percentage for this precinct or precinct split
- Total number of precincts or precinct splits reporting
- Total number of precincts or precinct splits not reporting
- Total number of ballots read

Polling Places Reporting report

The Polling Places Reporting report provides the following information for each Polling Place:

- Polling place name
- Reporting status
- Party associations (if the election is a closed primary)
- Total ballots read for this polling place
- Polling place totals
- Total number of Polling Places reporting
- Total number of Polling Places partially reporting
- Total number of Polling Place not reporting

Crossover Ballot Counts report

For Closed Primary Elections with non-partisan ballots, this report displays the total counts for each crossover ballot style, for each precinct. This report also provides a total count for each ballot style (all precincts). The report does not display precincts where no crossover ballots are defined.

generating reports, *continued*

Write-in Status report

The Write-in Status report provides the following information, sorted by contest in ballot order, and then by certified write-in name.

- Contest details (for each contest that includes a write-in ballot option)
- Contest title
- Certified write-in names entered for this contest
- Vote total for each certified write-in
- Number of unresolved write-ins for the Contest
- Number of rejected write-ins for the Contest
- Total votes assigned to certified write-ins
- Total unresolved write-ins
- Total rejected write-ins

vDrive Status report

NOTE: *Users can choose to display a separate column for each voting type (e.g. Early Voting, Absentee, Election Day). Users can choose to include or exclude unused vDrives.*

The vDrive Status report provides the following details for each vDrive created for the current election, sorted by polling place.

- Polling Place Name/Verity Central Workstation ID
- Status (read, read and tabulated, or rejected)
- If the vDrive was rejected, the reason for the rejection
- Total number of ballots read from the vDrive
- Voting type assigned to the vDrive
- Device type the vDrive was used with (Scan, Central, etc.)
- Device or workstation serial number
- vDrive ID (assigned by the device or Central workstation)
- Total ballots read (by polling place)
- Total vDrives read (by polling place)
- Total vDrives written in Build
- Total vDrives read
- Percentage of vDrives read
- Total number of ballots read

Device report

NOTE: *Users can choose to display a separate column for each voting type (e.g. Early Voting, Absentee, Election Day).*

The Device report provides the following information about the voting devices used in the election. The Device report includes both polling place voting devices and Verity Central scanning workstations. If a device was used in multiple polling places or voting types during the election, this report will contain multiple entries for the device.

- Device type
- Device serial number or Verity Central workstation ID
- Device firmware version
- Polling place
- Voting type
- Number of cast vote records recorded on this device
- Number of audits recorded on this device

CalVoter Mapping report

The CalVoter Mapping report lists the CalVoter choices and districts and the Verity choice or district that each item is mapped to. This report is used to proof the mapping of data for CalVoter exports; for more information on the CalVoter import and export process, see page 446.

Audit Log report

NOTE: *All Audit, System, and Device Log reports are automatically digitally signed (see page 398). Users can select the Date/Time range of entries before viewing the report.*

The Audit Log report is a comprehensive log of all activity that has occurred in the Count application on that workstation. Each entry includes the following detail:

- Date/time of event
- User logged in at time of event
- Application name and full version number
- Device serial number or workstation ID
- Event name (in plain text)
- Event detail data (in plain text)
- Election ID
- Tags

generating reports, *continued*

Device Logs report

NOTE: *All Audit, System, and Device Log reports are automatically digitally signed (see page 398). Users can select the polling place, device serial number, and the Date/Time range of entries before viewing the report.*

Device logs display all information contained in the selected voting device's application and system log entries. Entries are sorted by Date/Time.

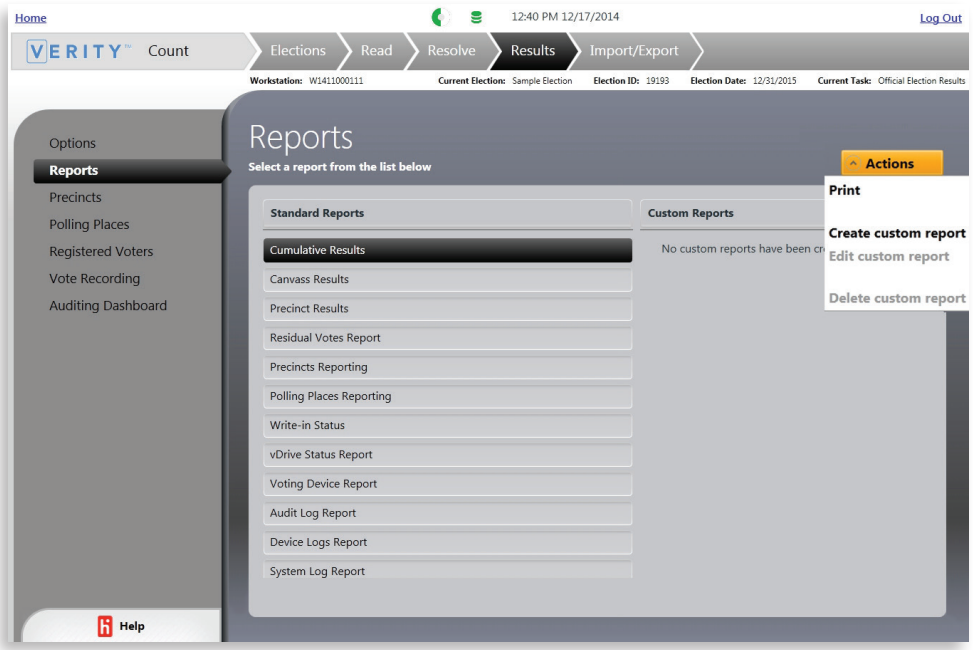
System Log report

NOTE: *All Audit, System, and Device Log reports are automatically digitally signed (see page 398). Users can select the Date/Time range of entries before viewing the report.*

The System Log report is a comprehensive log of all activity that has occurred on a *workstation or network*. Each entry includes the same details as the Audit Log, listed above.

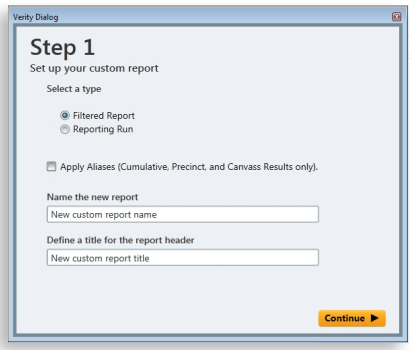
creating custom filtered reports

1. Under the actions menu, choose **Create Custom Report**. The custom report wizard will open.

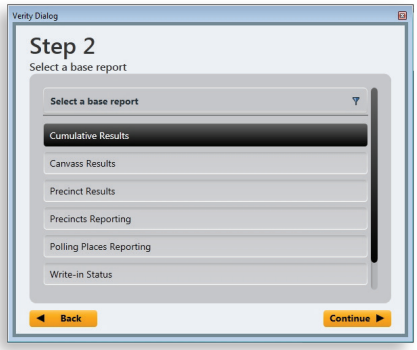


generating reports, *continued*

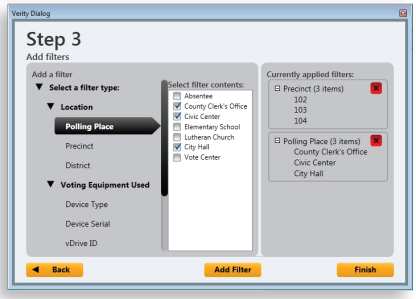
2. In the custom report wizard, select **Filtered Report** and choose settings.
   - **A)** Check the box if you would like to use aliases on the report.
   - **B)** Create a name for the custom report.
   - **C)** Define a title for the report to appear on the report header.
   - **D)** Click **Continue**.



3. Select a standard report to use it as a basis of the custom report.
   - **A)** Select a base report from the list.
   - **B)** Click **Continue** to proceed.
   - **C)** You can also click **Back** to go back to Step 2 of the custom report wizard.



4. Set filters for your custom report.
   - **A)** Select a filter type.
   - **B)** Choose the filter contents.
   - **C)** Click **Add Filter** for each filter you would like to add. Currently applied filters display on the right. Click the small arrow to expand an applied filter. Click the red **x** to remove an applied filter.
   - **D)** Click **Finish**. A confirmation message will display.
   - **E)** Click **Close**. The new custom report will now display in the Custom Reports list on the Reports screen.



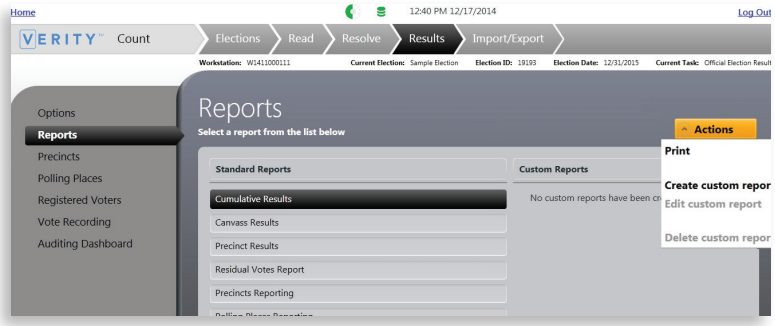
editing or deleting a custom report

1. On the main Reports screen, select the custom report (right column).
2. Click the **Actions** menu.
3. Select **Edit Custom Report**. The custom report wizard will open.
   - You can also select **Delete Custom Report** to permanently remove the custom report. A confirmation window will appear; click Yes to confirm. Once a custom report has been deleted it cannot be restored.

generating reports, *continued*

creating a reporting run

The custom reports wizard can also be used to create a reporting run. A reporting run is a collection of reports run as a batch. For example, you can group a set of reports that you usually run for every election into a reporting run to reduce the amount of time spent on generating reports.



1. Under the actions menu, choose **Create Custom Report**. The custom report wizard will open.
2. In the custom report wizard, select **Reporting Run** and choose settings.

   A) Select **Reporting Run.**

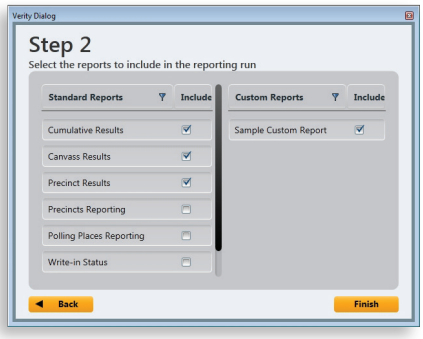
   B) Check the box if you would like to use aliases on the reports.

   C) Create a name for the reporting run.

   D) Define a title for the reporting run to appear on the report header.

   E) Click **Continue**.

3. Select the reports to include in the reporting run.



   NOTE: *You can select multiple reports; a reporting run can include both standard and custom reports.*

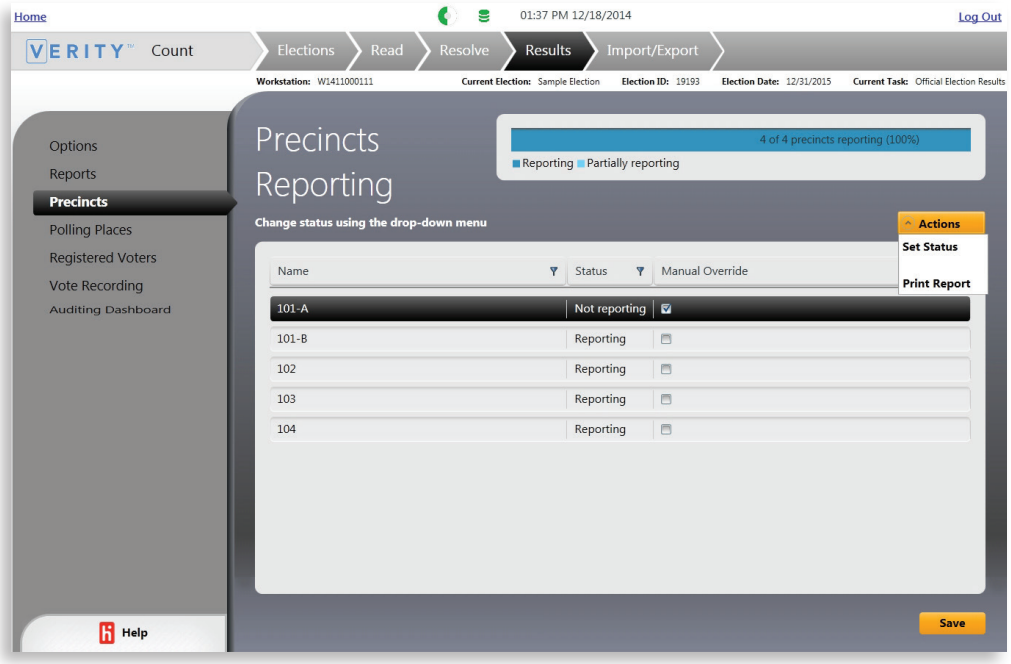
   A) Check the box in the Include column for each report you want to include.

   B) Click **Finish**.

   C) Click **Close** to close the wizard. Your reporting run will now appear in the list of available reports under the custom reports column.

managing precincts reporting

The **Precincts** menu allows you to view which precincts are reporting and manually update the reporting status for each precinct. Precinct name is in the leftmost column; current reporting status is in the rightmost column. The status bar at the top provides an overview of the precincts reporting.

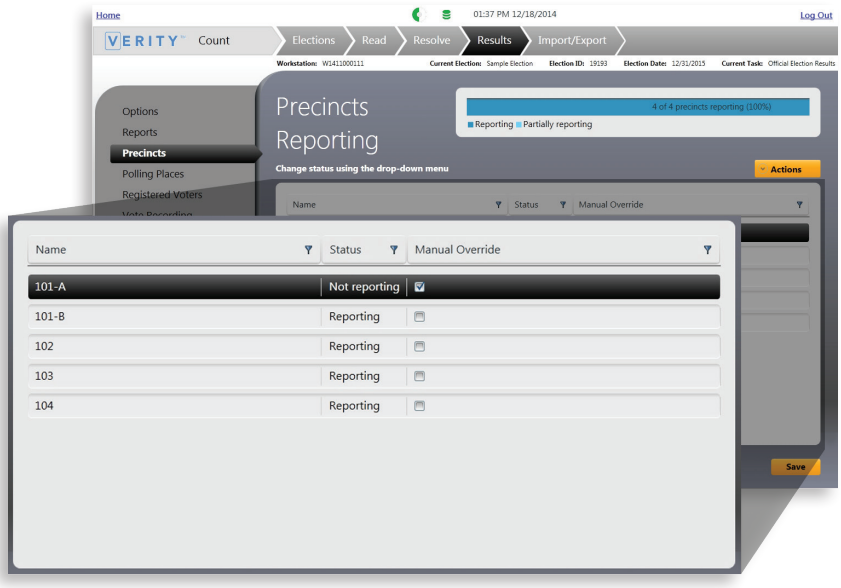


viewing and printing a list of precincts reporting

1. Select the **Precincts** menu to view a list of precincts and their reporting status.
2. To print a report of Precinct reporting status, click the **Actions** menu, then select **Print Report**.

managing precincts reporting, *continued*

manually overriding precinct reporting status



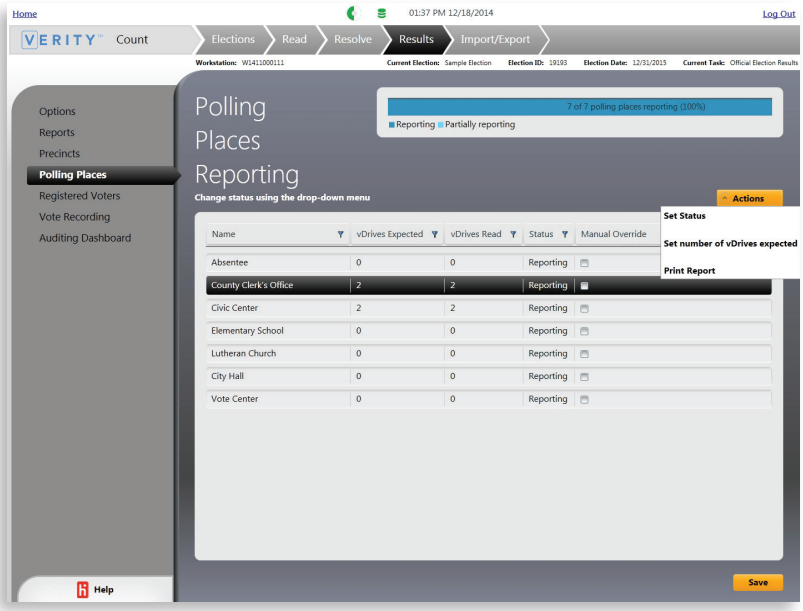
1. Select the **Precincts** menu.
2. Check the box corresponding to the precinct in the Manual override column.

   NOTE: *You can set status for multiple precincts by checking the boxes next to each precinct.*
3. Under the Actions menu, choose **Set Status**, or double-click the status column in the table.
4. Choose the status to apply to the selected precincts. The following status options are available:
   - Not Reporting
   - Reporting
   - Partially Reporting

   NOTE: *Select* **Automatic (set by application)** *if you would like the Count application to automatically update reporting status for you as each vDrive is read.*
5. Click **OK**.
6. Click **Save** in the lower right corner when you have finished making changes.

managing polling places reporting

The **Polling Places** menu allows you to view which polling places are reporting and manually update the reporting status for each polling places. You can also set the expected number of vDrives for each polling place and view the number of vDrives that have been read. Polling place name is in the leftmost column; current reporting status is in the rightmost column. The status bar at the top provides an overview of the polling places reporting.

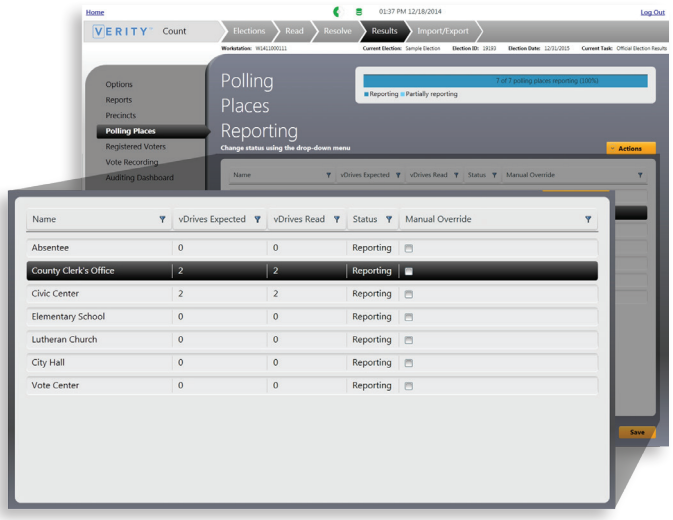


viewing and printing a list of polling places reporting

1. Select the **Polling Places** menu to view a list of precincts and their reporting status.
2. To print a report of Polling Place reporting status, click the **Actions** menu, and then select **Print Report**.

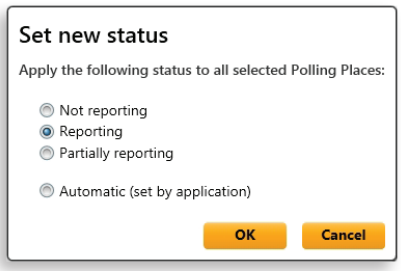
managing polling places reporting, *continued*

manually overriding polling place reporting status



1. Select the **Polling Places** menu.
2. Check the box corresponding to the polling place in the Manual override column.

   NOTE: *You can set status for multiple polling places by checking the boxes next to each polling place.*
3. Under the Actions menu, choose **Set Status**, or double-click the status column in the table.

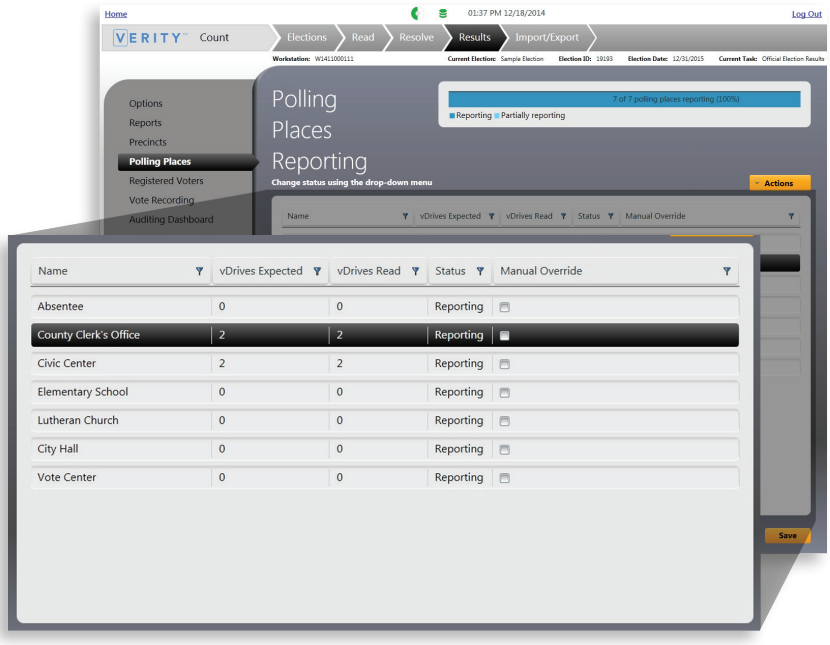


4. Choose the status to apply to the selected polling places. The following status options are available:
   - Not Reporting
   - Reporting
   - Partially Reporting

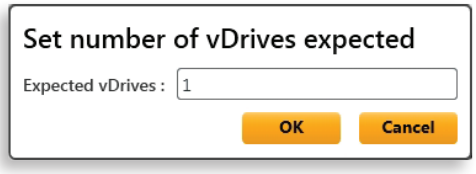
   NOTE: *Select Automatic (set by application) if you would like the Count application to automatically update reporting status for you as each vDrive is read.*
5. Click **OK**.
6. Click **Save** when you have finished making changes.

setting the expected number of vDrives for a polling place

You can set the number of vDrives expected from each polling place; this data is used to update the Polling Place reporting status if your status reporting is set to Automatic (page previous page). If the number of expected vDrives is 2 or more, a polling place's status (and any associated precincts) will be set to "partially reporting" after the first vDrive is read and until all expected vDrives are read.

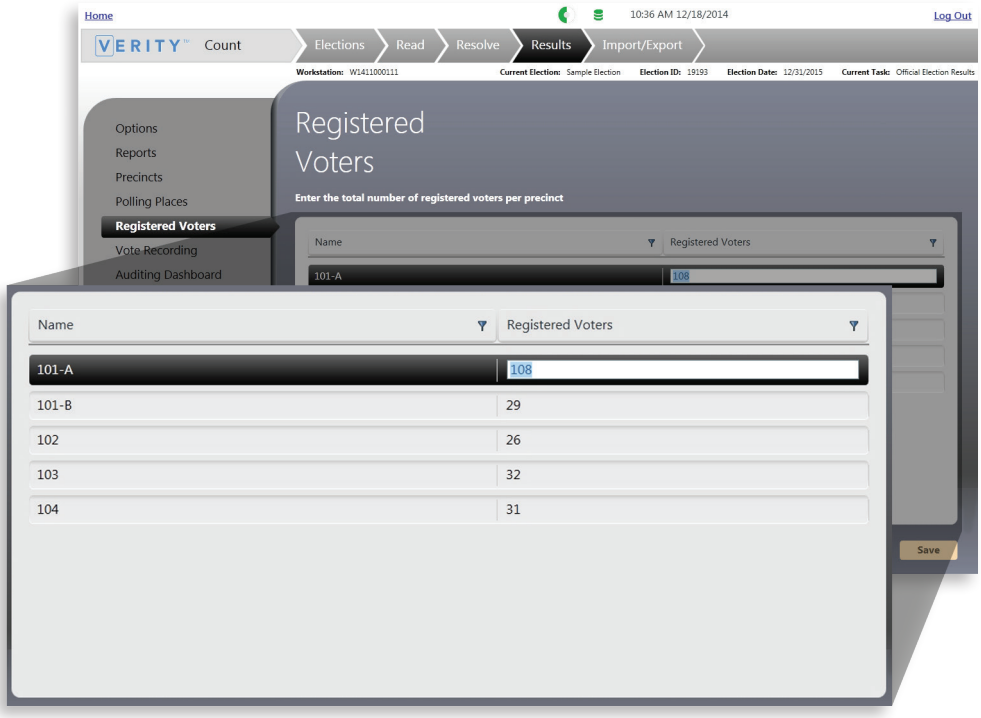


1. Select the **Polling Places** menu.
2. Check the box corresponding to the polling place in the **Manual override** column.
3. Click the **Actions** menu.
4. Choose **Set vDrives Expected**.
5. Type the number of vDrives.
6. Click **OK**.
7. Click **Save** in the lower right corner when you have finished making changes.



updating registered voter numbers

Use the **Registered Voters** menu to update the number of registered voters. These numbers will be used to report voter turnout. The precinct name is displayed in the left-hand column; the number of registered voters appears in the right-hand column. For instructions on importing registered voter data automatically, see page 441.



1. Select the **Registered Voters** menu.
2. Double-click the number in the right-hand column to select the number of registered voters and enter the new total.
3. Click **Save** in the lower right corner when you are finished.

manual vote recording

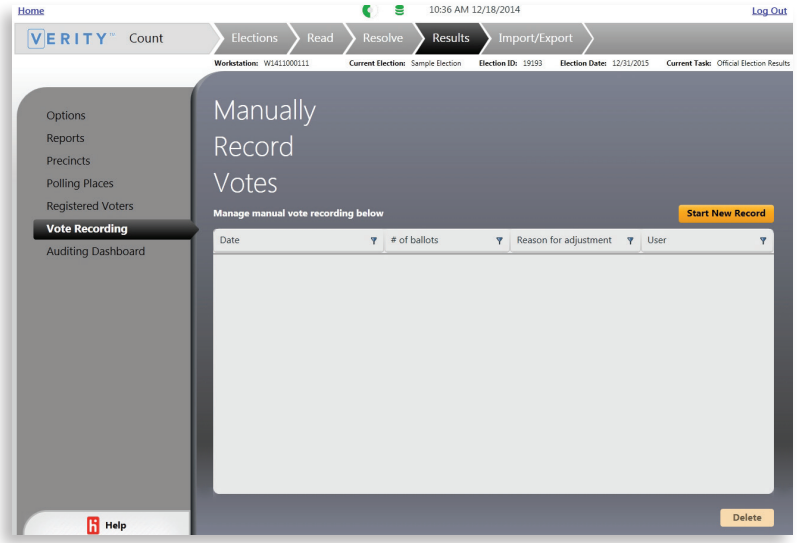
The **Manual Vote Recording** menu allows you to perform manual vote recording (**MVR**) if needed.

best practices for manual vote recording

- Record the presence of observers or poll watchers.
- Take notes indicating the beginning time of the process and other relevant data such as who the participants and witnesses are, what political party or organization they represent, and, if appropriate, have individuals sign any logs. Record this information on the audit log report from Count after completing the vote adjustment process.
- Archive the election and print reports for the election *before* performing Manual Vote Recording. Label these with a note such as "before starting manual recording".
- Manually write on the reports, perform necessary calculations, and ensure any changes reconcile properly before entering the manual adjustments in the Manual Vote Recording wizard.
- After performing Manual Vote Recording, print a new report and compare against the one produced before MVR. Have all observers and staff present sign all reports.

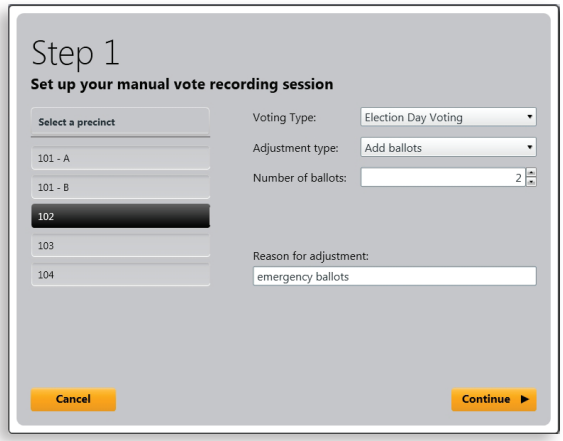
performing a manual vote recording session

1. Select the **Vote Recording** menu.
2. Click **Start New Record** to enter the Manual Vote Recording wizard.

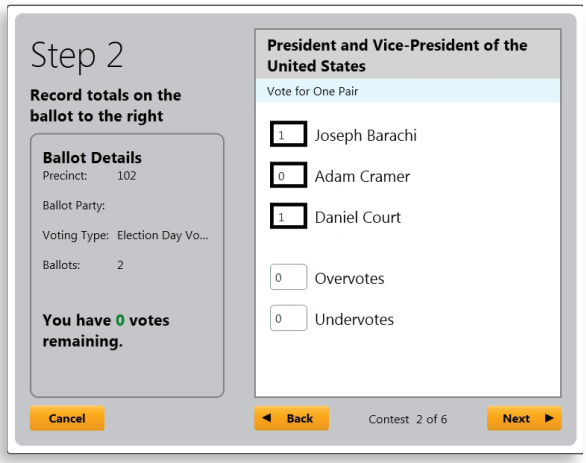


manual vote recording, *continued*

3. Set up your manual vote recording session.
   - **A)** Select the precinct.
   - **B)** Select a voting type (and Party, for primary elections).
   - **C)** Select an adjustment type.
   - **D)** Enter the number of ballots.
   - **E)** Enter the reason for the adjustment.
   - **F)** Click **Continue**. You will be prompted for a Full Access-level user's user name and password. Click **OK**.



4. Record the vote totals for the session.
   - **A)** The precinct, voting type, and number of votes remaining to be cast are indicated on the left.
   - **B)** Enter the vote totals for your recording session in the appropriate boxes on the right. Be sure to include totals of overvotes and undervotes as well.
   - **C)** Click **Next** to go to the next contest on the ballot.
5. Click **Close** to end the manual recording session.



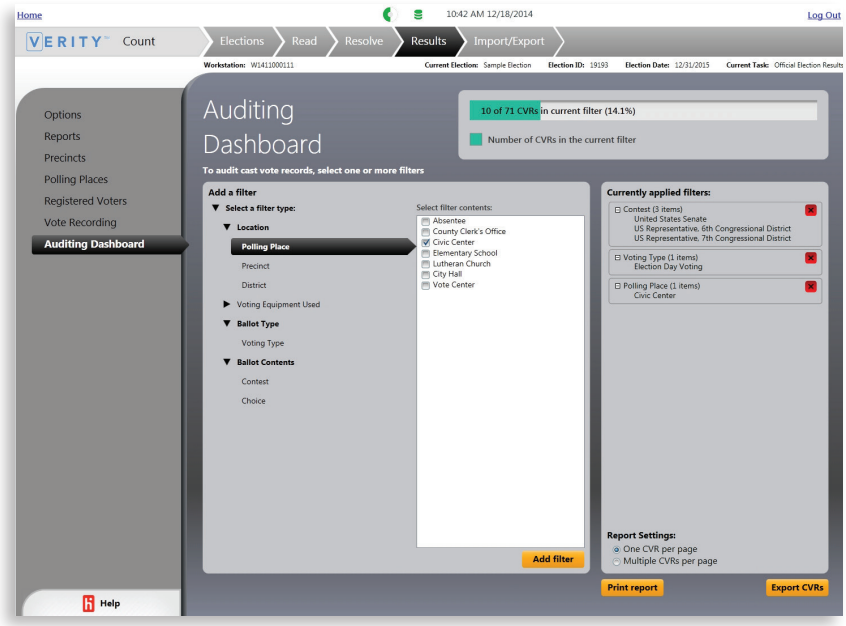
! IMPORTANT: Totals of any overvotes and undervotes must be included in any manual vote recording session.

deleting an existing recording session

1. Select a vote recording session from the list.
2. Click **Delete** to delete the selected recording session. When a session is deleted, vote totals will revert to the state prior to the session.

the auditing dashboard: exporting cast vote records

The **Auditing Dashboard** menu allows you to filter, review, and export Cast Vote Records (CVRs). You can filter and sort ballot data to see the records exactly how you need to see them. The status bar in the upper right displays the number of ballots included using the current filter(s); currently applied filters are shown on the right-hand side.



1. Select the **Auditing Dashboard** menu.
2. Select desired filters.
   - **A)** Filter types include Location, Voting Equipment Used, Ballot Type, and Ballot Content.
   - **B)** Click the ▶ next to each filter type to see expanded options.
   - **C)** Check the boxes to select filter contents.
3. Click **Add filter**.
4. Print/View a report, or Export CVRs.
   - **A)** Click **Print Report** to create a report of the filtered results that can be saved and/or printed.
   - **B)** For reports, you can choose whether to show 1 ballot or multiple ballots per page.
   - **C)** Click **Export CVRs** to export the CVRs to removable media.

the auditing dashboard, *continued*

about cast vote records (CVRs)

A Cast Vote Record is a record of the contest options that a voter selected on his/her cast ballot (otherwise known as the voter's choice set). A Cast Vote Record is the permanent record of all votes produced by a single voter whether in electronic, paper or other form. Cast Vote Records are anonymous (they contain no voter identity information). In the Verity voting system, Cast Vote Records are stored in electronic format, and accessible in Verity Count using the Auditing Dashboard. Cast Vote Records may be accessed for recount purposes (see page 461), or as part of a risk-limiting audit (RLA).

Cast Vote Records and CVR IDs

In Verity, Cast Vote Records are identified by a CVR ID; the filename of a CVR exported from the Auditing Dashboard matches the filename of that CVR on the source vDrive. CVR IDs are also included in CVR reports generated using the Count Auditing Dashboard (see previous page).

Cast Vote Records In Verity Central

Once a Cast Vote Record is written to vDrive, the ID used in the CVR filename is associated with the ballot in Central. The CVR ID information is also included In Central's Scanned Ballot Information Export, and displayed on the left hand side of the Ballot Review screen, along with Batch and Sequence information.

Exported ballot images default to a naming convention that includes the ballot page number and CVR ID. Using the Search Ballots menu in Central, you can search for a specific ballot image by CVR ID.

Note that each ballot sheet has its own CVR ID, so a multi-sheet ballot can have multiple associated CVR IDs.

Cast Vote Records and Verity Scan

If you have chosen to save ballot images on Verity Scan vDrives (see page 180), the filename of the ballot image (PNG format) includes the CVR ID.

importing and exporting data in Count

Under the **Import/Export** tab, you can import election data from external sources into Count, and export data from the current election in CSV format. The following menus are available in the Import/Export tab:

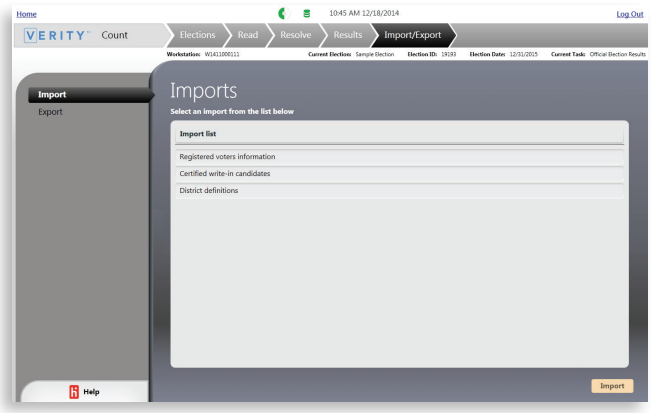
Import: Import data into Count, such as registered voter data.

Export: Export data from Count, such as detailed vote totals.

importing data into Count

NOTE: *For instructions on importing CalVoter templates, see page 446.*

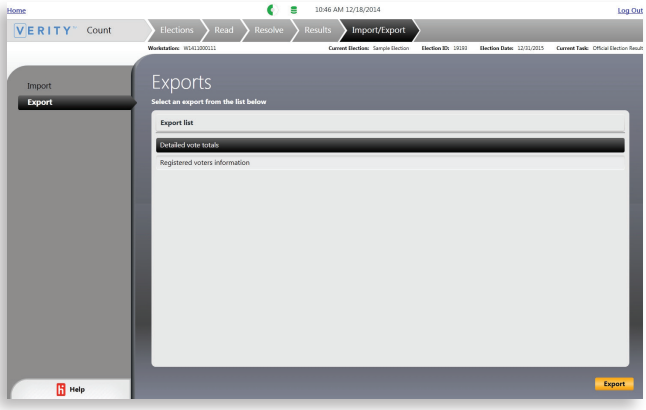
1. Select the **Import** menu. For a list of acceptable imports with descriptions, see the following page.
2. Select the data set to import from the list, and then click **Import**.
3. Browse to locate the file to be imported, and then click **OK**.



exporting data from Count

NOTE: *If you have chosen to digitally sign all exports, a separate signature file will be saved each time an export is generated (see also page 398). For instructions on exporting CalVoter data, see page 449.*

1. Select the **Export** menu. For a list of each available export with descriptions, see the following page.
2. Select the data to export, and then click **Export**.
3. Browse to the location where you would like the exported data to be saved, and then click **OK**.



importing and exporting data in Count, *continued*

available imports: Count

Registered Voters Information

Used to import voter registration numbers for reporting voter turnout. Import format is a .csv file, with the following data in columns, left to right:

NOTE: *If data already exists, importing new data will overwrite existing data*

- Precinct name
- Precinct split name
- Party code (if the "Register voters by party" enabled)
- Number of registered voters

Examples:

101	A		2800
101	B		1748
201			4200
314			1233

101,A,,2800
101,B,,1748
201,,,4200
314,,,1233

Certified Write-in Candidates

Used to import a list of certified write-in candidates for each contest that includes a write-in option; import format is a .csv file, with the following data in columns, left to right:

NOTE: *If data already exists, importing will overwrite existing data.*

- Write-in candidate name
- Contest title (must match the exact format used when defining the contest title, including \n used for line breaks)
- Party association of the contest (if a primary)

Examples:

Nikolai Tesla	President of the United States	DEM
Marie Curie	President of the United States	REP
George Carver	United States Senator, District 33	LIB
Theodore Roosevelt	Sampleville School Board\nPlace 1	GRN

Nikolai Tesla,President of the United States,DEM
Marie Curie,President of the United States,REP
George Carver,"United States Senator, District 33",LIB
Theodore Roosevelt,Sampleville School Board\nPlace 1,NP

District Definitions

Used to import additional district definitions not included in the original election definition; import format is a .csv file, with the following data in columns, left to right:

NOTE: *If data already exists, importing will overwrite existing data.*

- District name
- Precinct name
- Precinct split name

Examples:

Clearwater School District	100	
Clearwater School District	101	A
Clearwater School District	101	B
Clearwater School District	201	
Clearwater School District	304	
Clearwater School District	305	
Wells Branch Municipal Utility District	100	
Wells Branch Municipal Utility District	114	
Wells Branch Municipal Utility District	205	
Wells Branch Municipal Utility District	206	
Wells Branch Municipal Utility District	207	A

Clearwater School District,100,
Clearwater School District,101,A
Clearwater School District,101,B
Clearwater School District,201,
Clearwater School District,304,
Clearwater School District,305,
Wells Branch Municipal Utility District,100,
Wells Branch Municipal Utility District,114,
Wells Branch Municipal Utility District,205,
Wells Branch Municipal Utility District,206,
Wells Branch Municipal Utility District,207,A

CalVoter

Three types of CalVoter templates may be imported:

- Election
- SOV (Statement of Votes)
- SSOV (Supplemental Statement of Votes)

CalVoter templates are provided by the State; A template of the appropriate type must be imported before CalVoter data can be exported; each template type must be imported separately. Once an import type is selected, you will be prompted to map the imported data to your Verity election definition data. The import procedure is outlined on page 446. The CalVoter imports contain the following data in columns, from left to right:

NOTE: *If data already exists for a specific import, importing will overwrite existing data.*

*Empty fields are populated when the CalVoter data is exported; see page 449.

- Header row:
  - Record Number
  - County ID
  - (Empty)*
  - (Empty)*
- Vote detail rows:
  - Record Number
  - County ID
  - Contest Category
  - Contest ID
  - Candidate ID
  - Yes/No Indicator (restricted value: Y or N)
  - Jurisdiction ID
  - (Empty)*
  - (Empty)*
  - (Empty)*
  - Contest Name (in the SSOV template, this is District Name)
  - District Number
  - Division Number
  - Ballot Name

importing and exporting data in Count, *continued*

CalVoter Import Template Example (SOV):

NOTE: *The CalVoter template file will be provided by the State; the data below is shown as an example only.*

1,41,SOV,,
2,41,PRES,010000000000,25,Y,200003000,,,,President,,,John Quincy Adams
3,41,PRES,010000000000,20,Y,200003000,,,,President,,,James K. Polk
4,41,PRES,010000000000,51,Y,200003000,,,,President,,,Abraham Lincoln
5,41,PRES,010000000000,22,Y,200003000,,,,President,,,Harry Truman
6,41,PRES,010000000000,2,Y,200003000,,,,President,,,George Washington
7,41,PRES,010000000000,696,Y,200003000,,,,President,,,Aaron Burr (W/I)
8,41,PRES,010000000000,698,Y,200003000,,,,President,,,Alexander Hamilton (W/I)
9,41,STWD,100000000001,85,Y,200003009,,,,US Senate - 1,,,John James Audubon
10,41,STWD,100000000001,289,Y,200003009,,,,US Senate - 1,,,John Muir
11,41,DIST,110000140000,69,Y,200000153,,,,United States Representative District 14,14,,Eleanor Roosevelt
12,41,DIST,110000140000,626,Y,200000153,,,,United States Representative District 14,14,,Martha Washington
13,41,DIST,110000180000,106,Y,200000157,,,,United States Representative District 18,18,,Clara Barton
14,41,DIST,110000180000,147,Y,200000157,,,,United States Representative District 18,18,,Thurmond Thomas
15,41,DIST,120000110000,23,Y,200000108,,,,State Senate District 11,11,,Calvin Coolidge
16,41,DIST,120000110000,284,Y,200000108,,,,State Senate District 11,11,,William H. Harrison
17,41,DIST,120000130000,257,Y,200000110,,,,State Senate District 13,13,,John Tyler
18,41,DIST,120000130000,426,Y,200000110,,,,State Senate District 13,13,,Thomas Jefferson
19,41,DIST,130000190000,279,Y,200002019,,,,State Assembly Member District 19,19,,Benjamin Franklin
20,41,DIST,130000190000,105,Y,200002019,,,,State Assembly Member District 19,19,,Jim Thorpe
21,41,DIST,130000220000,516,Y,200002022,,,,State Assembly Member District 22,22,,Albert Einstein
22,41,DIST,130000220000,304,Y,200002022,,,,State Assembly Member District 22,22,,Marie Curie
23,41,DIST,130000240000,236,Y,200002024,,,,State Assembly Member District 24,24,,Nikolai Tesla
24,41,DIST,130000240000,388,Y,200002024,,,,State Assembly Member District 24,24,,Martin Van Buren
25,41,BLLT,190000000051,51Y,Y,1,,,,Community College Facilities,,,Community College Facilities
26,41,BLLT,190000000051,51N,N,1,,,,Community College Facilities,,,Community College Facilities
27,41,BLLT,190000000052,52Y,Y,1,,,,Hospital Fee Program,,,Hospital Fee Program
28,41,BLLT,190000000052,52N,N,1,,,,Hospital Fee Program,,,Hospital Fee Program
29,41,BLLT,190000000053,53Y,Y,1,,,,Voter Approval of Revenue Bonds,,,Voter Approval of Revenue Bonds
30,41,BLLT,190000000053,53N,N,1,,,,Voter Approval of Revenue Bonds,,,Voter Approval of Revenue Bonds

importing and exporting data in Count, *continued*

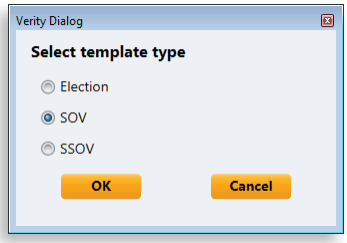
importing and configuring a CalVoter template

When importing a CalVoter template, follow the procedure below to map the CalVoter template data to your Verity election data.

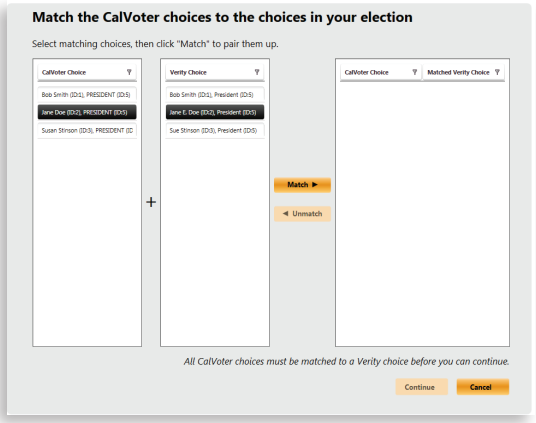
- For all import types, you need to map Ballot Names from the imported data to Choices in your Verity election definition.
- For the SOV import, you will also map Ballot Names for write-in candidates to your Verity write-in candidates.
- When prompted, you must also map District Names from the imported data to your Verity district names.

To import a template:

1. Load the template (provided by the State) to removable USB media. Insert the USB media into the Count workstation.
2. Select the **Import** menu.
3. Select CalVoter from the list, and then click **Import**.
4. Select the type of template you need to import, and then click **OK**.
5. Browse to locate the file to be imported, and then click **OK**.



6. Match the Ballot Name data from the CalVoter import to the Verity Choice data:
   - **A)** Select a CalVoter data item in the leftmost column.
   - **B)** Select the matching item in the Verity column.
   - **C)** Click the **Match** button. (To revert a previously matched item, select the item in the rightmost column, and then click **Unmatch**.)



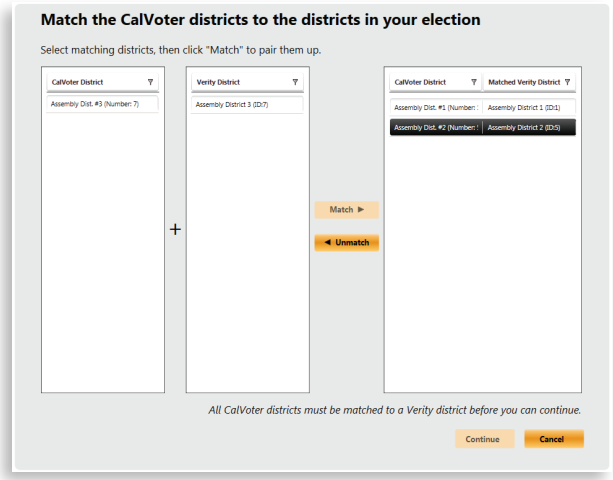
NOTE: *Verity will automatically match items where the data matches exactly* **and** *only one exact match is present.*

importing and exporting data in Count, *continued*

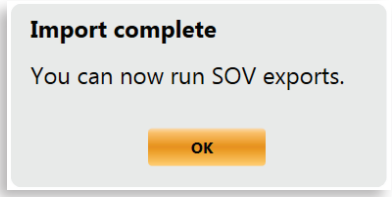
7. All distinct items from the CalVoter template must be matched to an item in the Verity data; if items are already mapped for a previous import type, if those same items occur in the current import type, they will be automatically mapped. When finished, click **Continue**.

   NOTE: *There may be items in the Verity data that are not mapped to any item.*

8. If applicable, match the District Name data from the CalVoter import to the Verity District data. When finished, click **Continue**.



9. A confirmation message appears; click **OK**.
   - Once you have imported a CalVoter template type, you may run exports of that type.



10. You can proof CalVoter mapping for each template using the CalVoter report (available under the Reports menu, see page 427).

importing and exporting data in Count, *continued*

available exports: Count

Detailed Vote Totals

This export provides a detailed view of results for each ballot option, certified write-in candidate, rejected write-in, and unassigned write-in. Results are grouped by precinct and then by contest. The following data is provided for each:

- Precinct or precinct split information:
  - Precinct or precinct split name
  - Precinct reporting status
  - Registered voters
  - Ballots cast
  - Turnout Percentage
- Contest information:
  - Contest
  - Contest party affiliation
  - Choice/Candidate name
  - Choice party affiliation
- Total votes
- Total Overvotes
- Total Undervotes
- Total Invalid Votes
- Votes (by voting type)
- Overvotes (by voting type)
- Undervotes (by voting type)
- Invalid Votes (by voting type)

Registered Voters Information

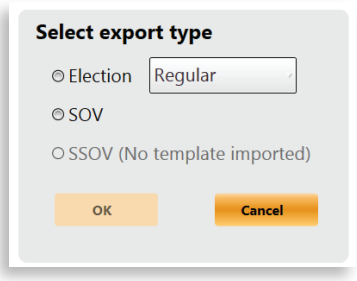
This export is identical to the format of the Registered Voters import, and includes the following data:

- Precinct name
- Precinct split name
- Number of registered voters
- Party code (if "Register voters by party" is enabled)

CalVoter

When exporting CalVoter data, you will be prompted to choose one of three export types:

- Election *(When you select the "Election" export, you must also choose a subtype; these are listed below)*
  - REGL – Regular election night report
  - FINL – Final election night report
  - UPDT – Post-election night report
- SOV (Statement of Votes)
- SSOV (Supplemental Statement of Votes)



These exports match the format of the CalVoter import templates, described on page 444. A template corresponding to the export type must be imported before it will be available for export.

When CalVoter data is exported, Verity populates the empty fields present in the template (see page 444):

- The header row of the CalVoter exports will now include:
  - Export type
  - Total number of ballots counted
- The vote detail rows will now include:
  - Precincts reporting
  - Total contest ballots counted
  - Votes cast

chapter 8

official canvass and post-election procedures

8

official canvass and post-election procedures

overview

This chapter provides a summary of required guidelines and recommendations for the post-election process. Any recommendations or requirements contained in the following are superseded by local and state elections law, rule and code.

parallel monitoring

The Secretary of State reserves the right to monitor activities before, during, and after the election at any precinct or Registrar of Voters' office, and may, at his or her discretion, conduct a random parallel monitoring test of voting equipment.

election observer panel

Each candidate (or, in the case of a ballot measure, each side) is allowed no more than two observers for each election results board, in accordance with jurisdiction procedures, which must be established and published prior to the election. Observers may not touch nor handle the transport media, ballots or voting equipment. All questions must be directed to the elections official in charge of the election results. Any jurisdiction using this voting system must, prior to such use in each election, file a copy of its Election Observer Panel plan with the California Secretary of State.

canvassing

canvassing precinct returns

The Verity Count Canvass report provides precinct returns. For each precinct, the jurisdiction must perform a full reconciliation of the ballots voted, spoiled, or voided against the ballots supplied and the poll book.

canvassing absentee ballots

The Count Canvass report provides absentee returns. After the jurisdiction determines ballot eligibility, ballots can be scanned into Central or Scan and CVRs can be written to the vDrive for transfer to Verity Count for tabulation. A separate unused vDrive for the election must be used in Central to collect the Cast Vote Records from such ballots.

canvassing provisional ballots

Provisional paper ballots voted at a polling place should not be scanned in the Verity Scan device, but should instead be labeled as provisional and returned to the elections office per local procedures. After the jurisdiction determines the eligibility of the paper provisional ballots, those ballots can be scanned into Central or a Scan and the CVRs will be written to a vDrive for transfer to Count for tabulation.

canvassing write-in votes

The names of certified write-in candidates for each contest may be entered into Count prior to Election Day. On Verity Scan, voter submissions of write-in candidate names on paper ballots are recorded as images in the Cast Vote Records written to the vDrive. The Count operator uses the Resolve functionality to view images of write-ins from paper ballots so that the corresponding certified write-in name can be assigned to each image.

When canvassing paper ballots scanned by Central, a jurisdiction can choose whether to resolve write-in images in the Central application or to defer resolution of write-in images to Count. If the jurisdiction chooses to resolve write-in images in Central, that assignment is recorded with the Cast Vote Record when the Central vDrive is written. If the jurisdiction chooses to resolve the write-in image in Count, the Count operator will use the same Resolve functionality that is used to resolve write-in images from Scan devices.

1% manual recount procedures

NOTE: *Verity contains features and functionality designed to support election recounts; these features are discussed in chapter 9.*

NOTE: *Election officials must comply with requirements set forth by the Secretary of State in the document entitled "Post-Election Manual Tally Requirements" and any successor document.*

In accordance with California Election Code §15360, for the purpose of validating the accuracy of the computer count, a public manual recount of the ballots cast in at least one percent of the precincts, chosen at random, shall be conducted as to all candidates and ballot measures voted on in each of the precincts. If the random selection of precincts results in an office or ballot measure not being manually recounted, as many additional precincts as necessary shall be selected and manually recounted as to any office or ballot measure not recounted in the original sample.

The date and time for selection of random precincts should be posted publicly prior to the election, and this process should be observable by interested parties, based on established jurisdiction procedures. Furthermore, the method for selection of the precincts must be observably random.

The actual manual recount shall be conducted in accordance with the California Elections Code §15360 and the prevailing Uniform Vote Counting Standards established by the Secretary of State. The recount of votes cast on paper ballots shall be based on the actual paper ballots.

handling ballot exceptions

NOTE: *Instructions for using Verity Central to manage ballot exceptions and assign voter intent for centrally-cast ballots are found in chapter 6.*

In general, all ballot exceptions shall be resolved in accordance with the prevailing Uniform Vote Counting Standards established by the Secretary of State.

undervotes

Verity Scan can be set, in Verity Build, to require the voter's approval for scanning a blank ballot or page, or a ballot with undervotes. In such a case, if the voter scans a ballot with undervotes, the ballot is rejected and a message appears on the Scan screen explaining what is wrong with the ballot. The voter can then:

1. Remove the ballot from the feeder tray, make changes to the ballot, then re-scan the ballot, or
2. Press the button on the Scan screen to cast the ballot as-is.

Undervotes on Touch Writer are highlighted on the Ballot Summary screen. The voter can choose to print a ballot with undervotes.

On ballots scanned by Central, undervoted contests must be accepted. The procedure for accepting undervoted contests in Central is described in Chapter 6 of this document. Undervoted contests may be accepted by batch, by ballot, by page, or individually.

Undervote counts should be included in Count reports.

overvotes

Overvoting is not possible on the Touch Writer, as the device interface will not permit a voter to make more than the allowable number of valid choices for a given contest.

Verity Scan must be set, in Build, to initially reject ballots containing overvotes. In such instances, Scan will present a message to the voter advising him/her of the overvote(s). The voter may choose to either (a) cast the ballot as voted, or (b) remove the ballot and receive a new blank ballot from the poll worker to vote. In the latter case, the poll workers must spoil the original incorrect ballot and supply the voter with a new blank ballot.

handling ballot exceptions, *continued*

If Verity Scan is programmed in Build so that poll worker assistance is required to cast an overvoted ballot, the poll worker must inform the voter of the overvote, explain the consequences of casting an overvoted ballot and explain the voter's options to cast the ballot as voted, or to spoil the overvoted ballot and vote and cast a new ballot. The poll worker will then take the appropriate action to cast or spoil the ballot based on the voter's preference.

In Central, during review of the scanned ballot, all overvoted contests shall be accepted as overvotes, unless a valid voter choice can be determined based on voter intent in accordance with the prevailing Uniform Vote Counting Standards established by the Secretary of State. If a valid choice is determined, the contest shall be resolved to that choice.

torn and damaged ballots

Ballots that are torn or otherwise damaged so that they cannot be read by either Central or Scan shall be replaced with ballots that have been marked by authorized election officials to duplicate the voter's choices.

post-election logic and accuracy testing

General procedures for conducting logic and accuracy testing are discussed beginning on page 220. Due to the ballot imagining technology employed in Scan and Central, a traditional post election logic and accuracy test is not required. Nor is one required for Touch Writer, since ballots are printed and verified by the voter before being cast on Scan.

final reporting and official canvass

NOTE: *General instructions for generating reports of election results are found in chapter 7.*

The data for final reporting of the Official Canvass is derived from Verity Count. Before the data for the election is considered final in Count:

- All vDrives for the election must have been read into Count.
- All vDrive data must have been tabulated by Count.
- All included provisional ballots must have been scanned and tabulated.
- All write-in votes must be assigned or rejected.
- The Canvass Report or Results by District Report can then be generated to serve as the Official Canvass for the election.
- The Canvass Report or Results by District Report must be printed from Count. Include all Absentee, Early, and Election Day results. A jurisdiction can use Alias functionality to name the voting types as applicable.
- Customized Canvass or Results by District Reports can be created to generate subsets of the reports.

back-up and retention of election material

General instructions for exporting election archives using the Election Management application are found on page 49. Best practices for election backup and recovery are provided on page 51. All removable media and records shall be archived for 22 months. Care must be taken to seal and archive materials in a climate-controlled and secure environment.

chapter 9

recount procedures

9

recount features

overview

Recount procedures will vary by jurisdiction, local rule and code, and by the type and extent of the recount ordered. Verity's design gives election officials the flexibility to perform recounts in several ways, each of which is discussed briefly below:

recount features

! 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.

retabulation of vDrives in Verity Count

vDrives may be retabulated in Verity Count; Verity Scan vDrives may be read into a new Count task and retabulated (for instructions on creating tasks in Count, see page 403).

hand counting paper ballots

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

tabulation of CVRs 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 more information, including instructions on using the Auditing Dashboard, see page 439.

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, see page 354 (Verity Central) and page 403 (Verity Count).

Verity Scan recount mode

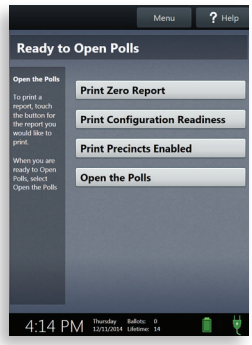
Verity Scan Recount Mode functionality allows election officials to rescan ballots on the Verity Scan. Election officials may also use this feature to limit a recount to a specific contest or contests.

enabling recount mode (Verity Scan)

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.

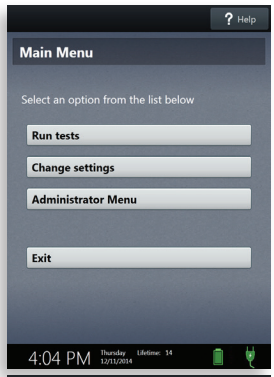
The Verity Scan recount mode is only available when the Scan has been predefined using a vDrive for the current election (for recount mode, the Scan must also be in a Ready to Open Polls state). In Recount Mode, you can configure a Scan device to report only results for a particular contest (or contests).

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

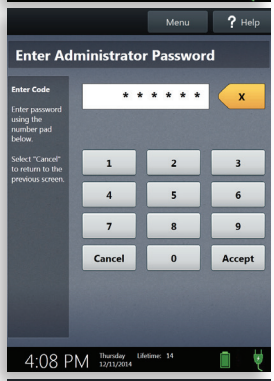


recount features, *continued*

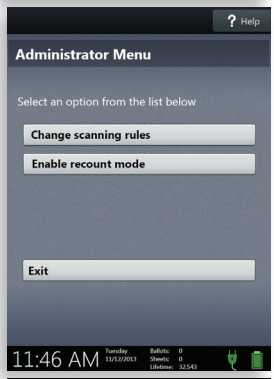
2. Select **Administrator Menu**.



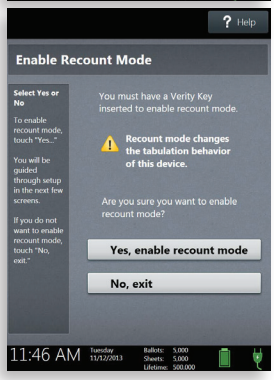
3. Enter the device Administrator passcode and select **Accept**.



4. The Administrator Menu displays. Insert a Verity Key for the election into the device.
5. Select **Enable recount mode**.

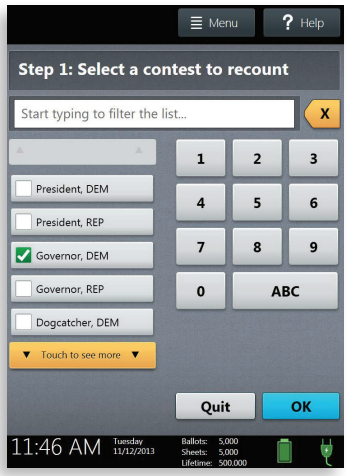


6. Select **Yes, enable recount mode** to confirm.

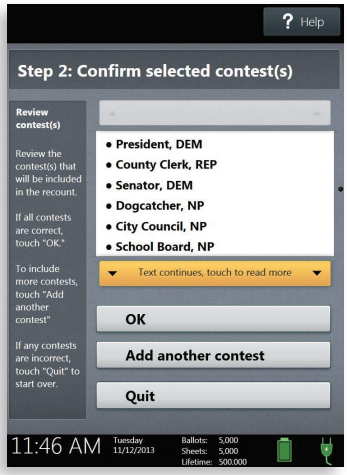


recount features, *continued*

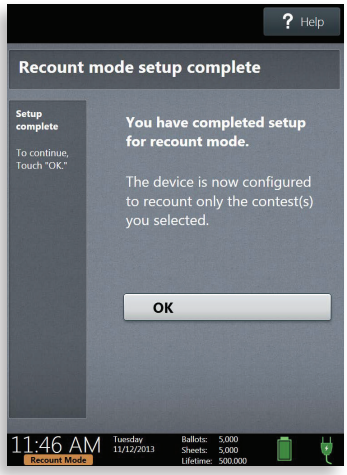
7. Choose the contest(s) that you would like to recount from the list, and then select **OK**.
   - **A)** A green check mark will display next to the contest when you have selected.
   - **B)** Touch the yellow bar to see additional contests.
   - **C)** Use the keypad to search; select **ABC** to type using an alphabetic keypad.



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.



chapter 10
security

10

security

overview

Voting System security is a broad topic that involves voting system software and hardware, each jurisdiction's workflow and local procedures, chain of custody, personnel procedures, and training. This chapter discusses security features of Verity software and hardware, as well as recommended procedures and best practices designed to ensure a secure election process. It should be noted that, although the voting system's "defense-in-depth" architecture provides multiple layers of technical features to secure the system, such as Secure Boot, whitelisting (which prevents the execution of untrusted code), two-factor authentication, and data validation, physical security and sound administrative procedures are also essential to preserve the overall security of the voting system.

physical security of components

The Verity Voting system EMS workstations and devices are deployed with a variety of security measures to protect their integrity. This section of the Use Procedures addresses:

- Physical locks and tamper-evident serialized labels that are installed when the system is configured for use in the field.
- Best practices to prevent tampering.
- How to identify when attempts to tamper with voting system components may have taken place.

These physical security measures and tamper-evident seals are a critical part of ensuring and documenting a secure chain-of-custody for voting system components, in accordance with your local documentation practices.

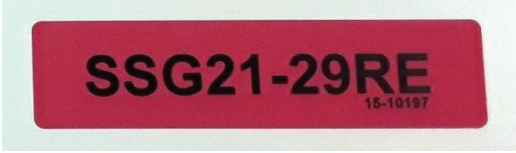
computer workstation physical security

Verity Voting EMS workstations are shipped to end-user jurisdictions with tamper-evident seals and combination padlocks applied in critical places. The seals are intended to remain intact during all normal operations and may be broken by authorized personnel only in exceptional circumstances, described below.

The tamper-evident seals used with Verity workstations have the following features:

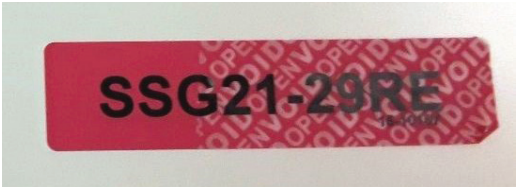
- Seals are self-adhesive, heat-resistant, and freeze-resistant.
- Seals are applied to critical points on the workstation chassis and on the padlocks to prevent and detect unauthorized opening of voting system components.
- All workstation tamper-evident seals have unique identification numbers that are recorded by Hart InterCivic prior to delivery and shall be recorded in each jurisdiction's chain-of-custody documentation.
- Uniquely numbered seals cannot be removed and re-applied to component surfaces without leaving indications of tampering. When lifted or removed from EMS workstation a hidden "VOID" indicator is revealed and can be detected at a glance, as shown below. Note that actual seals will be show the Hart InterCivic logo, a unique serial number, and barcode.

Pristine Workstation Seal Example



physical security of components, *continued*

Seals with Labels Partially Removed



All seals on EMS workstations must remain in place during normal operations, and should be removed only in exceptional circumstances, described on page 477, Exceptional situations – opening seals and/or locks.

Required: Chassis Tamper-Evident Seal – EMS workstations

The chassis seal for EMS workstations is placed at the following location before shipping and recorded by Hart InterCivic. Be sure to record the serial numbers of the seal. To ensure a secure chain of custody, the seals described must be present on your EMS workstations, in the designated (diagonal) orientation.

Workstation Case Seal

Required: Tamper-Evident Sealed Metal padlocks (2) – EMS workstations

The housing of all Verity Voting EMS workstations is further protected from unauthorized access to hard disk drives and other sensitive system components. When workstations are configured and shipped to end-user jurisdictions, a four-tumbler combination padlock is attached to the housing in the rear of the unit protecting entry into the system chassis, and at the front of the unit protecting access to the hard drives. The hard drives are also individually locked with a keyed lock.

Each lock is protected with two tamper-evident seals as described above, one on the hasp of the lock and another across the tumblers preventing combination access. Front and rear locks and seals are recorded by Hart InterCivic and shall be recorded in each jurisdiction's chain-of-custody documentation.

The sealed padlocks must remain in place during normal operations, and should be removed only in exceptional circumstances, described below in "Exceptional situations – opening seals and/or locks."

Workstation Back Padlock with Seal

physical security of components, *continued*

Close-Up of Rear Padlock with Seal over Combination Tumblers

Close-Up Front Padlock, after seals have been removed, indicating intrusion may have been attempted

Optional: theft-prevention cable for EMS workstations

In addition to the required physical security measures described above, which are applied at the time of manufacturing, EMS workstations also have an additional hasp that supports the attachment of a theft-prevention cable. Jurisdictions should use such a cable, by looping it through the hasp, and securing the workstation to a table, desktop, or other secure fixture. Hart InterCivic recommends a Desktop and Peripheral Locking Kit from Kensington, such part number: K64615US (shown below).

Kensington Lock attached

physical security of components, *continued*

device physical access controls

Non-standard physical connections are used for external ports on Verity devices, including the USB ports used for Verity Touch Writer and Verity Print printers. The use of nonstandard port connections prevents unauthorized users from inserting any standard or commercial off-the-shelf cables or devices. In addition, the physical ports use non-standard wiring, which prevents any non-Verity device from being recognized. In addition, keyed locks are used to prevent unauthorized access to the vDrive compartment, ballot box, device cases, and lock the tablet into place when deployed.

Verity Voting devices are shipped to end-user jurisdictions with tamper-evident seals and a security tamper-evident and serialized metal tie seal that secures the rear access door on the tablet. The seals are intended to remain intact during all normal operations and may be broken by authorized personnel only in exceptional circumstances, described below.

The tamper-evident and serialized metal tie seal used with Verity devices have the following features:

- Seals are heat-resistant and freeze-resistant.
- Seals are serialized.
- Seals cannot be removed without tools, fray when cut, and cannot be reapplied once cut.
- Seals secure rear door and clamshell plastic enclosure of the tablet device.

The tamper-evident seals used with Verity devices have the following features:

- Seals are self-adhesive, heat-resistant, and freeze-resistant.
- Seals are applied to critical points on the devices to prevent and indicate tamper evidence.
- Seals have cuts to be destructible if removal is attempted. Seals cannot be removed and re-applied to component surfaces without leaving indications of tampering. When lifted or removed from devices a hidden “VOID” indicator is revealed and can be detected at a glance

Required: Tamper-Evident and Serialized Metal Tie Seal

The serialized metal tie seal is placed on the top rear of the tablet device, in a recessed compartment. The serial number on this seal is recorded by Hart InterCivic and shall be recorded in each jurisdiction's chain-of-custody documentation.

Tamper-Evident and Serialized Metal Tie Seal

Required: Chassis Tamper-Evident Seal – Verity Devices

The custom tamper-evident seal is placed at the following locations before shipping on all Verity devices:

- Rear screw on base unit of the Verity device.
- Top of tablet clamshell
- Bottom of tablet clamshell

Fully intact seal

Seal partially removed

Seal fully removed

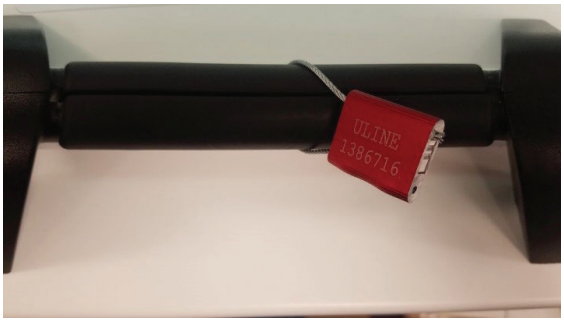
physical security of components, *continued*

device physical access controls (warehouse, storage, and deployment)

Integral sliding port covers on the rear of the Verity Touch Writer and Verity Printer are included that should be secured with tamper-evident seals by the jurisdiction when the ports are not in use. Tamper-evident seals should also be fastened to the Verity device handles during storage and transportation, and on the device vDrive compartments and the external doors on the Verity Ballot Box. All serial numbers should be recorded in each jurisdiction's chain-of-custody documentation, such as a ballot and seal certificate.

Hart recommends the ULINE brand S13699 cable seal for all locations shown below. **All seals should be pulled as tight as possible, with remaining cord slack snipped off with wire cutters.** Wire cutters will be required for removal. The seal should be applied at the following locations:

Device Handle

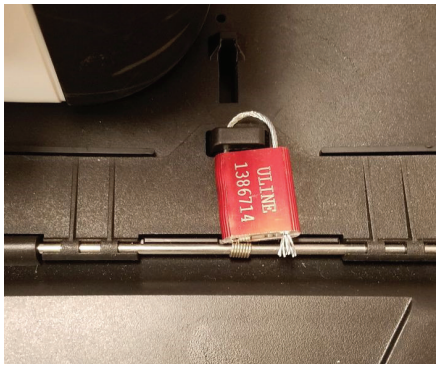


Sliding Port Cover (Verity Print and Verity Touch Writer)

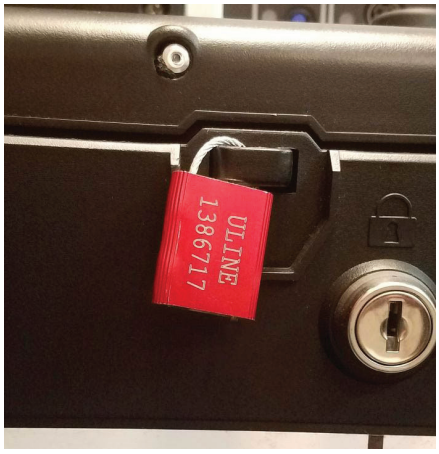
physical security of components, *continued*

Ballot Box Door

Ballot Box Emergency Ballot Slot



Ballot Box Emergency Ballot Door



physical security of components, *continued*

Hart recommends the McMaster Carr brand 21075T21 Pull-Tight Loop seal for the vDrive door. The seal should be cut and applied as shown:

vDrive Door

detecting evidence of tampering

As noted above, all locks and seals should remain in place during normal operations and should not be removed, except in exceptional circumstances. To detect evidence of tampering, be sure to pay close attention to the following:

- Changes in serial numbering on labels, compared to chain of custody documentation.
- Changes in placement of seals (i.e. different from locations and orientation shown above).
- Any seals that appear to be missing, compared to chain of custody documentation.
- Missing padlock(s) on EMS workstation case.
- Metal hasp on workstation chassis that appears bent or tampered with.
- Broken seal on EMS padlock.
- Lifted edges of any seals.
- Discoloration in any tamper-evident seal – either white color showing through the base color, stray marks, or even portions of letters (i.e. "VOID"/"OPEN").
- Subtle cuts through the labels, particularly along seam lines.
- Seals that appear to be mis-aligned.

exceptional situations – opening seals and/or locks

Although seals and locks should remain in place during normal operations, it may be necessary for authorized personnel to unlock EMS workstation hard drives, or to remove seals on workstations or voting devices, in the following circumstances:

- Hard drives can be removed from EMS workstations by authorized personnel for disaster recovery purposes.
- The workstation RAID feature allows authorized Hart personnel to replace a single drive without interrupting operation, which provides security from a business continuity perspective.
- EMS workstations and/or voting devices may require opening of seals to allow service by authorized personnel, for repair or upgrade purposes.

If seals must be opened by authorized personnel in exceptional circumstances, follow these steps to ensure secure chain of custody:

1) Before opening a seal, compare it to serial number logs in your local chain of custody documentation.
2) If serial numbers match, remove the existing seal and store it in a secure location. Document in your logs the reason for removing the seal, the date, and the personnel that authorized opening of the seal.
3) After service is completed, ensure that a new seal is applied by authorized personnel at your onsite location, or at the authorized manufacturing facility. Seals must be applied in the same location and orientation as the previous seal.
4) Update chain of custody documentation with the unique numerical ID of the new seal.

if a device is lost or stolen

If a device is lost or stolen, you should notify the Secretary of State's Office and Hart InterCivic immediately. If the device or workstation is returned or found, that device or workstation (or media from that device or workstation) should not be used until you have verified the device or workstation's hash and verified that all physical security protections are still in place.

logical security of system and components

Computer workstation digital security

All Verity workstations and voting devices operate in what is known as kiosk mode. In kiosk mode, users can only work in the Verity voting applications, thus preventing access to the desktop or operating system of the computer or device. This prevents introducing unauthorized applications to the computer, prevents malicious changes to the operating system itself, and enhances overall system security. Because of this enhanced security, all tasks that involve transfer of data to or from an external source (importing data, exporting data, saving archives, etc.) must be completed using external USB data storage devices. All computer workstations hard drives are encrypted and will not function if moved to another workstation or enclosure. Hard drives may be removed from EMS workstations and returned to Hart for disaster recovery purposes, as noted in the section beginning on page 477: Exceptional situations – opening seals and/or locks.

device digital security

Software startup for each Verity voting device may take several minutes, due to security and data integrity checks performed by the Verity software. This process is included in the design of the Verity voting system to verify the authenticity of the software before allowing it to operate on the device, and is known as a secure boot process. The secure boot process includes write-protection technologies to prevent the installation of viruses and malware, and employs integrity checks on all software applications before they are allowed to run. These integrity checks validate that the software is in fact the trusted, authorized program (and not a malicious program with the same name).

whitelisting

The Verity system uses the whitelisting method to block all unauthorized applications from running on the system. Whitelisting is the practice of limiting the applications that are permitted to run on a system. If a particular application attempts to execute on a system that uses whitelisting, the system checks the application against a list of permitted applications (the 'whitelist'). If the application is not on the list, the system prevents it from running.

NOTE: *Whitelisting is the opposite of blacklisting, which is the method used by many antivirus programs. In blacklisting, certain applications that appear on a list (the 'blacklist') are blocked, while any that do not appear on the blacklist are allowed to run. The blacklist must be constantly updated as new threats emerge, and often cannot provide protection until after the system may already be infected. The disadvantage of blacklisting is that it is 'reactive' (responding only to viruses, applications, and malware that are already known to be a threat), while whitelisting is proactive (responding to any new threat that may occur, and eliminating the need to constantly update the list of malicious applications that must be blocked).*

Whitelisting allows the Verity system to protect itself both against the threats that exist today, as well as those that may exist in the future, without the need for the computer to be updated via the Internet or any other means.

using USB media in the Verity Voting system

As discussed above, commercial USB media are used in the Verity system to export data from and import data to Verity computer workstations. Since these USB media can become compromised through the process of connecting them to non-Verity workstations, it is recommended that the following steps be taken, when possible:

- Use only new or reformatted USB media to transfer data between Verity components and non-Verity components.
- Clear and re-format used USB media between elections. For more information, see CVSS air gap procedures, page 487.

These additional security steps are to ensure that data is not corrupted on the USB media itself—keep in mind that, because of Verity's security controls and whitelisting (discussed above), any compromised USB media will not run on a Verity component,.

logical security of system and components, *continued*

vote security and auditability of vote records

The ballot choices of each voter are stored in the Verity System as Cast Vote Records (CVRs). To protect voter privacy, CVRs are not stored in any discernible order. In addition, CVRs do not contain voter information connecting a ballot (or CVR) to a specific voter. The use of digital signatures makes CVRs tamper-evident. CVRs are stored in multiple locations for security and auditability, risk mitigation, and disaster recovery. Users can filter and export CVR data for external auditing purposes using the Verity Count Auditing Dashboard (see page 439). CVR data may be filtered by any one or a combination of several criteria, including location (polling place, precinct, or district), voting equipment type, voting type, and ballot content (contest or choice).

digital tamper evidence and hash testing

All Verity software on Verity workstations and voting devices is tamper-evident; any attempts to alter the function of the software would be evident when tested. Testing may be performed at any time, using built-in functionality that allows the user to export the Hash Values of the installed software on both Verity workstations and voting devices. A Hash Value is the digital 'fingerprint' of a software application; Hash Values can be externally compared to the trusted software build on file with the certifying body, to ensure that the installed software is identical to the software certified.

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.

exporting hash values from computer workstations

Verity Desktop allows Full Access-level 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. Instructions for exporting computer workstation hash values using the Desktop application can be found on page 46.

exporting file hashes from Verity voting devices

Hash values can also export file hashes from the Touch Writer, Print and Scan devices themselves:

1. 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 device (Scan, Touch Writer, Reader, or Print) 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.
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 "**Calculating and saving file hashes**". This may take some time.

   NOTE: *If you do not see the above message, this may mean 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, power down the device and repeat steps 4-6.*
7. Remove the USB drive. Repeat the process with fresh USB flash drives for any additional devices.

comparing exported hash values to the trusted software build

Below are general instructions for finding and downloading a third-party hash value generation tool and using that tool to verify Hart's Verity Voting System software application hash values.

This information is being shared as a courtesy of Hart InterCivic. Contact your Secretary of State's office for additional information concerning hash testing requirements in your state. Consult your Information Technology department for assistance with hash tools. For an independent explanation of SHA-1 Hash Testing, go to www.dmares.com/maresware/hash_faqs.htm

logical security of system and components, *continued*

Hart InterCivic has tested the following Hash verification tool described below.

NOTE: *This tool is NOT endorsed by Hart InterCivic, but Hart has validated and verified its functionality.*

Hash Compare: http://www.securityxploded.com/download.php#hashcompare

The following steps guide you through the use of the Hash Compare hash tool. Similar steps will be used for any hash verification tool. For specific directions for other tools, refer to the associated website and the documentation that accompanies the tool.

On a non-Verity computer workstation, go to

www.securityxploded.com/download.php#hashcompare

Click the Download link to download the Hash Compare utility.

The following steps provide guidance to perform file (hash) comparisons on Verity's Validated Manifest file (generated by your Verity Workstation or Device) against the Validated Manifest files provided by your certifying body:

1. Contact your certifying body, and request the Verity Validated Manifest files.
2. Request the Verity_v3.1_Production_Validated_Manifest.zip file archive. The certified Validated Manifest file for each of the Verity components is archived in the zip file. The Verity Validated Manifest files include:
3. Store the files received in a convenient location on your non-Hart computer workstation.
4. On a Verity Device (Verity Scan, Touch Writer, Print, or Reader) or computer workstation, follow the steps on the preceding pages to export the hash values for those components.

logical security of system and components, *continued*

5. Use the Hash Compare tool and compare the file generate by the workstation or device to the appropriate file received from your certifying body:
   - **A)** Insert the USB drive containing the Validated Manifest file from your Verity device or workstation into the non-Hart PC where the Certified Validated Manifest files are located.
   - **B)** Run the Hash Compare utility.
   - **C)** Select the appropriate Certified Validated Manifest file as the first file to be compared. Choose the one that matches the device or workstation configuration you are testing.
   - **D)** Select the "ValidatedManifest.csv" or "ValidatedManifest.txt" file on the USB drive as the second file to be compared.
   - **E)** Select the **SHA-1** button in the application
   - **F)** Select the **Compare Files** button
   - **G)** The "Result" should indicate "Both Files are Identical."

6. Repeat step 5 for each manifest file from each of your Verity devices/ workstations.

security procedures for polling places

Verity provides state-of-the-art voting system security. In addition to the security provided by the system, Hart also recommends jurisdictions follow standard election security procedures. Some examples of these standard security recommendations 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 activate Touch Writer ballots or issue paper ballots until the 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 (e.g. the Ballot & Seal Certificate, or equivalent).
- Report any suspicious activity to the local election officer.

security procedures for central processing

vDrive processing and Election Night procedures using Verity Count for Central Processing are described in detail in Chapter 7. vDrives, Scans, paper ballots, and their associated logs from the polling places are delivered to Central Processing. Only Jurisdiction personnel may have custody of any devices, paper ballots, and documentation from the polling places. Upon return to the jurisdiction, all equipment is to remain in the custody of at least two persons until secured against undetected tampering.

Public access to Central Processing areas shall be limited to viewing only. The public, including official observers, shall not be permitted physical access to ballots, vDrives, polling place records, voting equipment or any computer or closed direct connection network running components of this voting system.

A number of jurisdiction personnel should be engaged to remove the vDrives from the Scans so they can be read into Count. When removing the vDrive from a Scan, the integrity of the tamper-evident seals must be verified before the security seal is removed, and then the vDrive is removed. Different jurisdiction personnel are engaged to review the reconciliation logs and reports from the Scans from each polling place. Each group of jurisdiction personnel is responsible for ensuring the security of the devices and documents they manage during these procedures.

audit logs

Audit logs of each software component, and system logs of each workstation environment, can be generated as needed from the reporting menu found in each software application. Audit logs for each device are available in the reporting menu in Verity Count once the vDrive associated with that device has been read. General instructions for generating reports are discussed on the following pages:

- **Verity Data:** page 146
- **Verity Build:** page 169
- **Verity Central:** page 382
- **Verity Count** (including device audit logs): page 414

Each Verity component writes two logs:

- **Audit log:** Contains election-specific logging events, such as any changes to an election and any exceptions or errors encountered in the application.
- **System log:** Contains events pertaining to system actions such as logins, password changes, etc.

reading audit and system logs

Verity Audit and System logs use plain language, and are designed to be clear and easy-to-read. Audit logs allow the auditor to clearly see a list of events, the time the events occurred, and the user logged in when the event occurred. Log data includes the following information:

- The Verity application name and full version number (in header)
- The election ID (in header)
- Information for each event:
  - The date and time when the event occurred
  - The voting device serial number or workstation ID
  - The user logged in at time of event
  - The event name (in plain text)
  - The event details (in plain text)

Users may export application Audit Logs and System Logs at any time, for the desired date/time range, from the appropriate workstation. Users may filter and export Device Audit Logs from Verity Count. Users can export logs as comma-separated values (CSV) to allow for external data searching and additional filtering.

CVSS air gap procedures

Verity is tested according to the standards set forth by the California Voting System Standards (CVSS). CVSS requires that voting systems provide for an "air gap," or segregated dual-installation architecture, in order to prevent the propagation of viruses. According to the CVSS, the air gap is provided by the following:

- **Permanent Installation** – used to lay out the ballot, define the election, create election media, and print ballots. In Verity, the Data/Build workstation is the permanent installation.
- **Sacrificial Installation** – used to accumulate and tabulate election results, produce reports, and calculate the official election results. In Verity, Central and Count are sacrificial installations.

procedures for implementing the air gap using Verity

1. On the Data/Build workstation, after accepting the election and creating election media, save a signed election export onto a USB drive with a hardware read-only switch (see page 196). The read-only switch should be sealed with a tamper-evident seal per local procedures.
2. Use the USB media containing the signed election export to import the election into Verity Central to initiate high-speed scanning activities (see page 351).
3. Use the USB media containing the signed election export to import the election into Verity Count for tabulation activities (see page 397).
4. After the election, all Verity Central and Verity Count workstations must be re-imaged using the master image(s) supplied at the time of implementation. Note that each individual workstation will have its own unique image.
5. After an election has been held and before the next election, all Verity Scan CFAST cards must be rewritten, using a CFAST duplicator or similar device, from a master CFAST supplied at the time of implementation.
6. After the canvass is completed, all vDrives that have been used in Verity Central or in Verity devices must be erased and reformatted prior to reuse with the permanent installation, using a separate computer or USB drive duplicator to erase/reformat all vDrives. Likewise, all USB drives used to transfer data (exports, etc.) from the permanent installation to the sacrificial installation throughout the election cycle must be erased and reformatted prior to reuse with the permanent installation.

chapter 11

biennial hardware certification & notification

11

biennial hardware certification & notification

California Election Code §19230 requires jurisdictions to examine voting systems every two years and certify the results to the Secretary of State.

By order of the Secretary of State, voting systems qualified for use in California must comply with all applicable state and federal requirements, including, but not limited to, those voting system requirements as set forth in the California Elections Code and the Help America Vote Act of 2002 and those requirements incorporated by reference in the Help America Vote Act of 2002. Furthermore, voting systems must also comply with all state and federal voting system guidelines, standards, regulations and requirements that derive authority from or are promulgated pursuant to and in furtherance of the California Elections Code and the Help America Vote Act of 2002 or other applicable state or federal law when appropriate.

Where circumstances require it, the Secretary of State may adjust or amend any of the conditions of recertification for a vendor or a jurisdiction, as the Secretary of State deems prudent and necessary to facilitate successful election administration. Such adjustments or suspensions shall be deemed to be incorporated herein as if set forth in full. In order to complete the biennial system tests, jurisdictions should follow established system acceptance test procedures (discussed in Chapter 2 of this document) and logic and accuracy test procedures (outlined in Chapter 4).

appendices

Verity Data import file specifications

The tables on the following pages provide the required specifications for each available import file in Verity Data.

additional texts

file name: ***AdditionalTexts.csv***

Field No.	Field Name	Data Type *(character limit)*	Description
1	ID #	unique number	ID number
2	ballot text	free text (50)	additional text to appear on the ballot
3	ballot type	restricted value	**Paper**, **Electronic**, or **Both**
4	layout forcing	restricted value	**None**, **NextColumn**, or **NextPage**
5	image file (paper)	file name with extension	file name (paper ballot image)
6	image file (electronic)	file name with extension	file name (electronic ballot image)

additional text to district association

file name: ***AdditionalTextDistrictAssociation.csv***

Field No.	Field Name	Data Type *(character limit)*	Description
1	Additional Text ID #	unique number	defined in the Additional Text import
2	District ID #	unique number	defined in the Districts import

additional text to party association

(Closed Primary elections only)

file name: ***AdditionalTextPartyAssociation.csv***

Field No.	Field Name	Data Type *(character limit)*	Description
1	Additional Text ID #	unique number	defined in the Additional Text import
2	Party ID #	unique number	defined in the Parties import
3	**Cross Party ID #**	**unique number**	

additional text to precinct/split association

file name: ***AdditionalTextPrecinctSplitAssociation.csv***

Field No.	Field Name	Data Type *(character limit)*	Description
1	Additional Text ID #	unique number	defined in the Additional Text import
2	Precinct/split ID #	unique number	defined in the Precinct/splits import

import file specifications, *continued*

ballot instructions

file name: ***BallotInstructions.csv***

NOTE: *The ID # assigned in field 1 is the ID of that individual instruction element, not the ID # of the entire grouping of ballot instructions. If both a ballot image and ballot RTF are included within the same instruction element ID, the ballot template will determine the order in which they appear.*

Field No.	Field Name	Data Type *(character limit)*	Description
1	ID #	unique number	ID number for the instruction element
2	RTF file	file name with extension	file name (ballot instructions RTF file)
3	image file (paper)	file name with extension	file name (paper ballot image)
4	sequence #	number	Order in which individual instruction element will appear within the grouping of ballot instructions. Sequence numbers should be unique, contiguous, & start at 1.

ballot order

file name: ***BallotOrder.csv***

NOTE: *The instructions ID # refers to the entire grouping of ballot instructions; this ID number is always 1.*

Field No.	Field Name	Data Type *(character limit)*	Description
1	Additional Text ID #	unique number	defined in the Additional Text import
2	Contest ID #	unique number	defined in the Contests import
3	Instructions ID #	restricted value	1 (there is always only 1 instruction ID)
4	sequence #	number	Order in which the element will appear on the ballot. Sequence numbers should be unique, contiguous, and start at 1.

choices

file name: ***Choices.csv***

Field No.	Field Name	Data Type *(character limit)*	Description
1	ID #	unique number	ID number
2	Contest ID #	unique number	defined in the Contests import
3	choice name	free text (50)	choice name as it will appear on the ballot
4	**short name**	**free text (25)**	**for printed vote records (DO), not used**
5	sequence #	number	Base order in which the choice will appear within the contest. Sequence numbers within a given contest should be unique, contiguous, and start at 1.

choice to party association

file name: **ChoicePartyAssociation.csv**

Field No.	Field Name	Data Type *(character limit)*	Description
1	Contest ID #	unique number	defined in the Contests import
2	Choice ID #	unique number	defined in the Choices import
3	Party ID #	unique number	defined in the Parties import

choice-additional text associations

file name: ***ChoiceAdditionalTextAssociations.csv***

NOTE: *Choice-Additional Text elements are used to display additional information about choices and are not related to Additional Text elements (page 494).*

Field No.	Field Name	Data Type *(character limit)*	Description
1	ID #	unique number	ID number
2	additional text	free text (50)	additional text to be associated with the choice
3	sequence #	number	Order in which the choice additional text element will appear within the choice. Sequence numbers should be unique, contiguous, and start at 1.
4	Choice ID #	unique number	defined in the Choices import
5	Contest ID #	unique number	defined in the Contests import

import file specifications, *continued*

contests

file name: **Contests.csv**

Field No.	Field Name	Data Type *(character limit)*	Description
1	ID #	unique number	ID number
2	contest title	free text (100)	Name of the contest as it will appear on the ballot
3	contest type	restricted value	***Office***, ***Proposition***, or ***Party***
4	party abbreviation	restricted value	3 character party abbreviation, defined in the Parties import; required for Primary elections
5	notes	free text (500)	for display in the application only; does not appear on the ballot
6	contest instructions	free text (50)	instruction text for the contest (e.g. Vote for One)
7	layout forcing	restricted value	***None***, ***NextColumn***, or ***NextPage***
8	# of valid choices	number	number of valid choices
9	# of write-in options	number	number of write-in options; must not exceed number of valid choices
10	voting logic	restricted value	***Normal***, ***Ranked Choice***, or ***Cumulative***
11	include on non-partisan ballots	restricted value	***TRUE*** = include; ***FALSE*** = do not include
12	include in straight party	restricted value	***TRUE*** = include; ***FALSE*** = do not include
13	include in rotation	restricted value	***TRUE*** = include; ***FALSE*** = do not include
14	image file (paper)	file name w/ extension	file name (paper ballot image)
15	image file (electronic)	file name w/ extension	file name (electronic ballot image)
16	proposition text RTF file	file name w/ extension	file name (proposition text RTF file)
17	short title	free text (40)	short contest title for printed vote records (Duo). Not used.
18	include two write-in lines	restricted value	***TRUE*** = include; ***FALSE*** = do not include
19	write-in line 1 label (paper)	free text (20)	Label for 1st write-in line (paper)
20	write-in line 1 label (elec.)	free text (100)	Label for 1st write-in line (electronic)
21	write-in line 2 label (paper)	free text (20)	Label for 2nd write-in line (paper)
22	write-in line 2 label (elec.)	free text (100)	Label for 2nd write-in line (electronic)

contest to district associations

file name: ***ContestDistrictAssociation.csv***

Field No.	Field Name	Data Type *(character limit)*	Description
1	Contest ID #	unique number	defined in the Contests import
2	District ID #	unique number	defined in the Districts import

contest to party association

(Open and Closed Primary elections only)

file name: ***ContestPartyAssociation.csv***

Field No.	Field Name	Data Type *(character limit)*	Description
1	Contest ID #	unique number	defined in the Contests import
2	Party ID #	unique number	defined in the Parties import

contest to precinct/split associations

file name: ***ContestPrecinctSplitAssociation.csv***

Field No.	Field Name	Data Type *(character limit)*	Description
1	Contest ID #	unique number	defined in the Contests import
2	Precinct/split ID #	unique number	defined in the Precinct/splits import

import file specifications, *continued*

contest precinct/split rotation

file name: ***ContestPrecinctSplitRotation.csv***

Field No.	Field Name	Data Type *(character limit)*	Description
1	Contest ID #	unique number	defined in the Contests import
2	Precinct/split ID #	unique number	defined in the Precinct/splits import
3	Rotation Index #	number	the rotation index for the contest (i.e. 1 = Base Rotation, 2 = First Rotation, 3 = Second Rotation)

districts

file name: ***Districts.csv***

Field No.	Field Name	Data Type *(character limit)*	Description
1	ID #	unique number	ID number
2	district name	free text (40)	district name as it will appear on the ballot
3	district notes	free text (500)	for display in the application only; does not appear on the ballot
4	sequence #	number	Order in which the districts appear in the list. Sequence numbers should be unique, contiguous, and start at 1.

district to precinct/split associations

file name: ***DistrictPrecinctSplitAssociation.csv***

Field No.	Field Name	Data Type *(character limit)*	Description
1	District ID #	unique number	defined in the Districts import
2	Precinct/split ID #	unique number	defined in the Precinct/splits import

election basic information

file name: ***ElectionBasicInfo.csv***

Field No.	Field Name	Data Type *(character limit)*	Description
1	election title	free text (50)	title of the election as it will appear on the ballot
2	date	restricted value	date of the election, formatted as follows: "Month dd, yyyy" (e.g. "October 21, 2017"). Date text must be enclosed in double quotes.
3	jurisdiction	free text (50)	name of the jurisdiction
4	short title	free text (50)	for printed vote records (Duo). Not used.
5	short jurisdiction	free text (50)	for printed vote records (Duo). Not used.

parties

file name: ***Parties.csv***

Field No.	Field Name	Data Type *(character limit)*	Description
1	ID #	unique number	ID number
2	party name	free text (50)	Name of the party as it will appear in party selector contests and within the application
3	party ballot text	free text (50)	party name as it will appear with affiliated candidates on the ballot
4	party ballot label	free text (50)	label for the party that will appear in the header of Closed Primary election ballots
5	party abbreviation	free text (3)	3 letter abbreviation of the party, must be unique
6	non-partisan	restricted value	***TRUE*** or ***FALSE***
7	image file (paper)	file name with extension	file name (paper ballot image)
8	image file (electronic)	file name with extension	file name (electronic ballot image)
9	sequence #	number	Order in which the party will appear in reports and within the application. Sequence numbers should be unique, contiguous, and start at 1.

import file specifications, *continued*

polling places

file name: ***PollingPlaces.csv***

Field No.	Field Name	Data Type *(character limit)*	Description
1	ID #	unique number	ID number
2	polling place name	free text (50)	polling place name
3	Voting Type ID #	unique number	defined in the Voting Types import
4	notes	free text (500)	order in which the districts appear in the list
5	sequence #	number	Order in which the polling places appear in the list. Sequence numbers should be unique, contiguous, and start at 1.

polling place to party association

(Closed Primary elections only)

file name: ***PollingPlacePartyAssociation.csv***

Field No.	Field Name	Data Type *(character limit)*	Description
1	Polling Place ID #	unique number	defined in the Polling Places import
2	Party ID #	unique number	defined in the Parties import

polling place to precinct/split association

file name: ***PollingPlacePrecinctSplitAssociation.csv***

Field No.	Field Name	Data Type *(character limit)*	Description
1	Polling Place ID #	unique number	defined in the Polling Places import
2	Precinct/split ID #	unique number	defined in the Precinct/splits import

precincts/splits

file name: ***PrecinctSplits.csv***

Field No.	Field Name	Data Type *(character limit)*	Description
1	ID #	unique number	ID number
2	precinct name	free text (40)	Name of the precinct as it will appear on the ballot
3	split name	free text (10)	Name of the split as it will appear on the ballot
4	sequence #	number	Order in which the precinct will appear in reports and within the application. Sequence numbers should be unique, contiguous, and start at 1.

voting types

file name: ***VotingTypes.csv***

Field No.	Field Name	Data Type *(character limit)*	Description
1	ID #	unique number	ID number
2	voting type name	free text (40)	Name of the voting type
3	duration	restricted value	***SingleDay*** or ***MultipleDay***
4	sequence #	number	Order in which the voting type will appear in reports and within the application. Sequence numbers should be unique, contiguous, and start at 1.

APPENDIX
B

system limits & access

The tables on the following pages list the Verity system limits for user names and passwords, supported English characters, maximum limits for election data, character limits for text elements, and device passcode access requirements.

user names and passwords

Item	Character Range
User Name	1-50
User Password	1-50
Device and Application Passcodes	6 (numeric)

English character support

0 1 2 3 4 5 6 7 8 9

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

a b c d e f g h i j k l m n o p q r s t u v w x y z

! " # $ % & ' ( ) * + , - . /

: ; < > = ? @ [\ ] ^ _ ` { | } ~ ¢ § °

¡ Á á ¿ É é Í í Ó ó Ú ú Ü ü Ñ ñ « »

Tab, Line feed, Space, Delete

election data limits

Item	Upper Limit
External ID (maximum value for any ID field)	2,147,483,647
Languages in a single election (including English)	11
Precincts in an Election	3,000
Splits per Precinct	20
Total Precincts and Splits in an Election	3,000
Districts in an Election	400
Polling Places in an Election	3,050
Parties in a General Election	24
Parties in a Primary Election	10
Contests (incl. Propositions) in an Election	2,000
Contest Choices (voting positions) in a Contest	300
Total number of Contest Choices in an Election (independent from ballot size)	5,000
Write-in Options in a Contest	75
Voting Types in an Election	5
Tasks per Election (Central, Count)	15
Maximum Sheets per ballot	4
Ballot Stubs per ballot	2
Ballots per vDrive: Scan (1 sheet ballot)	9,999*
Ballots per vDrive: Central	20,000
Ballots per *election*: Central & Count	1,750,000
vDrives per *election*: Count	3,050
Ballot Sizes - Build, Central, Print, Touch Writer, Scan	8.5”x11”, 8.5”x14”, 8.5”x17”, 8.5”x20”
Ballot Sizes - Build, Central (also includes)	11"x17"

NOTE: *Language support includes: English; Spanish, Chinese, Japanese, Korean, Khmer, Thai, Vietnamese, Tagalog, Ilocano, Hindi.*

NOTE: *The ballot limit for Verity Scan is a recommended limit for the number of single-sheet ballots scanned on an individual Verity Scan during a single election. For a two-sheet ballot, divide this number by 2; For a 4-sheet ballot, divide this number by 4.*

system character limits

Item	Character Limit
Election ID	99,999 (digits)
Election Name	50
Election Title	100
Jurisdiction Name	100
Touch Writer printing notification label	500
Blank Page label	40
Precinct Label	20
"Read both Sides" label	40
Write-in Label	20
Sample and Official Ballot Labels	20
Party Name	50
Party Ballot Text (Affiliation)	50
Party Abbreviation	3
Precinct Name	40
Precinct Split Name	10
District Name	100
District Description	500
Polling Place Name	50
Polling Place Notes	1,000
Voting Type Name	50
Ballot Header Label	100
Ballot Header Additional Information	100
Ballot Instruction Text	10,000
Ballot Additional Text	1,000
Contest Title	100
Contest Instruction Text	50
Proposition Title	100
Proposition Text	10,000
Proposition Notes	500
Contest Choice Name	100
Contest Choice Details	100
Write-in Choice Name (Touch Writer)	25
Ballot Stub Free Form Fields (4)	50 each

device pass code 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 Reader & Scan)	
Scanner Speed Calibration (Verity Reader & Scan)	
Change Report Settings	
POLL WORKER TASKS MENU (Touch Writer)	
Activate Ballot	Poll Worker Code
Spoil Current Ballot	
Print Ballot Marking Session Summary	
ADMINISTRATOR MENU	
Change Ballot Rules (Verity Reader & Scan)	Administrator Code
Enable Recount Mode (Verity Scan 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

ballot box characteristics and limits

Item	Limit
Ballot box capacity	4000 8.5″ x 11″ sheets
Emergency ballot bin	1000 8.5″ x 11″ sheets

data field character restrictions

NOTE: *The degree sign ° (Unicode 0xB0) may only be used in ballot instruction text and proposition text elements.*

Field	Characters Allowed	Add. Character Restrictions
party abbreviation	only upper/lowercase Latin alphabet, and **/**	1. If forward slash is used, field must be three characters. 2. Forward slash can only be used as the second character.
write-in labels (all)	all characters except **&**	
precinct name	all characters except: **/ $ % * :**	
split name	all characters except: **/ $ % * :**	

APPENDIX
C

personnel requirements

Verity Data

Verity Data performs pre-election functions.

Personnel operating Verity Data workstations must receive training from Hart on both application and hardware in order to obtain the skill level required to successfully operate Verity Build.

- The number of personnel required to operate Verity Build is 1 person per workstation.

Verity Build

Verity Build performs pre-election functions.

Personnel operating Verity Build workstations must receive training from Hart on both application and hardware in order to obtain the skill level required to successfully operate Verity Build.

- The number of personnel required to operate Verity Build is 1 person per workstation.

Verity Central

Verity Central performs central count facilities functions.

Personnel operating Verity Central workstations must receive training from Hart on the application and hardware in order to obtain the skill level required to successfully operate Verity Central.

- The number of personnel required to operate Verity Central is 1 person per workstation.

- The number of personnel required to scan ballots or adjudicate ballots with Verity Central is 2 persons per workstation/scanner.

Verity Count

Verity Count performs central count facilities functions.

Personnel operating Verity Count Workstations must receive training from Hart on the application in order to obtain the skill level required to successfully operate Verity Count.

The number of personnel required to operate Verity Count is 1 person per workstation.

- The number of personnel required to resolve (adjudicate) ballots with Verity Count is 2 persons per workstation.

Verity Print

Verity Print performs pre-election functions.

Personnel operating Verity Print must receive training from Hart on both application and hardware in order to obtain the skill level required to successfully operate Verity Print.

- The number of personnel required to operate Verity Build is 1 person per device.

Verity Scan, Touch Writer, and Reader

Polling place devices Verity Touch Writer, Verity Scan, and Verity Reader perform polling place functions.

Warehouse technicians and field technicians' personnel operating Verity devices must receive training from Hart or Hart-trained personnel on the device in order to obtain the skill level required to successfully operate Verity Touch Writer, Verity Scan, and Verity Reader.

- The number of warehouse technicians or field technicians' personnel required to prepare and operate Verity devices for deployment to the polling place is 2 persons per 50 devices per day.
- The number of poll workers required to operate the devices at the polling place is 1 person per device.

personnel requirements, *continued*

Ballot Box deployment

The Verity Ballot Box, for use with Verity Scan, performs polling place functions.

Personnel deploying and setting up Verity Ballot Boxes must receive training from Hart or Hart-trained personnel on the device in order to obtain the skill level required to successfully deploy the ballot box.

- The number of personnel required to prepare the ballot box is 1 person per box.

Verity Accessible booth deployment

The Verity Accessible Booth, for use with Verity Touch Writer, performs polling place functions.

Personnel deploying and setting up Verity Booth must receive training from Hart or Hart-trained personnel on the device in order to obtain the skill level required to successfully deploy the booth.

- The number of personnel required to prepare the booth is 1 person per booth.

Verity Reader booth deployment

The Verity Reader Booth, for use with Verity Reader, performs polling place functions.

Personnel deploying and setting up Verity Reader Booth must receive training from Hart or Hart-trained personnel on the device in order to obtain the skill level required to successfully deploy the booth.

- The number of personnel required to prepare the booth is 1 person per booth.

Verity Key usage

The Verity Key performs pre-election, polling place, and central count facility functions.

Personnel using Verity Keys must receive training from Hart or Hart-trained personnel in order to obtain the skill level required to use the Verity Key.

- The number of personnel required is 1 person per Key.

vDrive

The vDrive performs pre-election, polling place, and central count facility functions.

Personnel installing Verity vDrives must receive training from Hart or Hart-trained personnel in order to obtain the skill level required to install the vDrive.

- The number of personnel required is 1 person per device.

preventative and corrective maintenance

Personnel maintaining Verity components must receive training from Hart or Hart-trained personnel on the device in order to obtain the skill level required to successfully maintain the device.

- The number of personnel required to maintain a Verity device is 1 person per device, the maintenance person can maintain 2-4 devices per hour.

troubleshooting and verification

Verity equipment troubleshooting personnel must receive training from Hart or Hart-trained personnel on the components in order to obtain the skill level required to successfully troubleshoot equipment and verify that the equipment issue/error has been corrected.

Personnel who are troubleshooting issues should contact the Hart Customer Support Center, 866.275.4278, to ensure proper diagnosis and resolution of the issue.

- The number of personnel required is 1 person per piece of equipment.

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