<table>
<thead>
<tr>
<th>TABLE OF CONTENTS – REFERENCE DOCUMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Verity Knowledge Base Article “About Hart Official Ballot Paper” .......... 3</td>
</tr>
<tr>
<td>Verity Knowledge Base Article “Ballot Printing QA” ........................... 5</td>
</tr>
<tr>
<td>Polling Place Field Guide – Verity Scan &amp; Verity Touch Writer .............. 8</td>
</tr>
<tr>
<td>Verity Knowledge Base Article “Ballot Production Services” .................. 36</td>
</tr>
<tr>
<td>Verity Knowledge Base Article “Images and Rich Text” ........................... 39</td>
</tr>
<tr>
<td>Verity Knowledge Base Article “Risk Limiting Audits” ........................... 43</td>
</tr>
<tr>
<td>Verity Knowledge Base Article “Verity Security Features” ...................... 46</td>
</tr>
<tr>
<td>Verity Knowledge Base Article “Password Management” ........................... 50</td>
</tr>
<tr>
<td>Sample Verity Master Agreement ...................................................... 53</td>
</tr>
<tr>
<td>Verity Knowledge Base Article “Battery Best Practices” ........................ 68</td>
</tr>
<tr>
<td>Verity Knowledge Base Article “Equipment Handling Best Practices” ........ 71</td>
</tr>
<tr>
<td>Training Agenda – Polling Place Operations – Scan &amp; Touch Writer .......... 72</td>
</tr>
<tr>
<td>Training Presentation – Polling Place Operations – Scan &amp; Touch Writer ... 84</td>
</tr>
<tr>
<td>Training Agenda – Support Procedures .............................................. 206</td>
</tr>
<tr>
<td>Training Presentation – Support Procedures ....................................... 218</td>
</tr>
<tr>
<td>Case Study – Denton County, Texas ................................................. 325</td>
</tr>
</tbody>
</table>
This page intentionally blank
About Hart Official Ballot Paper

Overview and Specifications

Hart Official Ballot Paper is the stock we print ballots on here at Hart InterCivic. We use this paper due to its low dust content, excellent toner adhesion, durability and security features. This document describes the specifications for Hart Official Ballot Paper. Commercial printers who are printing ballots for Hart customers should use either Hart Official Ballot Paper, or another quality paper that meets all specifications listed below, that produces minimal dust and maximum toner adhesion.

Hart Official Ballot Paper is a number one grade bond, laser guaranteed, 28# basis weight meeting the following minimum specifications (please refer to reverse side for terminology definitions):

- **Basis Weight:** 28# Bond
- **Finish:** Smooth Xerography
- **Grain:** Short
- **Sheffield:** 100-120
- **Brightness:** 91-96
- **Content:** Virgin wood fiber, 100% non-recycled content
- **Florescent Level:** 4%
- **Moisture Content:** 4.5%
- **Packaging:** Moisture resistant ream wrap
- **Trim:** +/- .025”
- **Squareness:** +/- .0075”
- **Toner Adhesion:** Mill treatment that allows optimum binding of toner and paper fibers

**Standard Sizes (inches):** 8.5 x 11, 8.5 x 14, 8.5 x 17, 11 x 17

Custom cuts are available for stubs, if needed.

Only Hart Official Ballot Paper meets the above basic specifications, while also including the addition of a **Trademarked Watermark**. This original watermark “Official Ballot”, randomly repeating and readable in any orientation, securely identifies the paper as the original to assist in detecting fraud. Our trademarked paper is only available from Hart InterCivic.
Hart Official Ballot Paper Terminology Definitions

Grade Bond: Number1 - Number one grade paper is produced with 100% cellulose fibers. The process of creating a number 1 grade bond paper removes all impurities from the fibers that 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. 28 # paper is created with a thickness to allow enough flexibility without additional curl. The 28# bond, a lower basis weight paper, tends to have a smoother finish.

Finish: Smooth Xerography - The finish is the smoothness of the paper contour. Toner is fused to paper by a combination of heat and pressure. Lower smoothness levels prevent grainy images achieving acceptable toner adhesion.

Grain: Short – A paper’s grain is the direction in which most of the fibers lie. If a sheet of paper is folded across both the long and short dimensions, the fold with the grain will be smooth. The fold against the grain will be cracked and rough. Ballot paper grain should be short so that folded ballots (usually across the short dimension) do not flake toner or paper particles at these rough spots.

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 – 96 - Brightness is a measure of the amount of light in a specific wavelength that a sheet reflects. The more light it reflects, the higher the brightness. High brightness significantly improves image quality.

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

Florescent level: 4% - Florescent whitening agents improve paper quality by enhancing the visual appearance of the printed sheet. 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. Even a 1% variation of 4.5% can cause problems. The physical properties of the paper change as a result of variations in moisture content affecting 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 causing 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 the corners line up exactly.

If you have any questions regarding the information contained in this Knowledge Base Article, please contact our Customer Support Center at 866-275-4278.
Ballot Printing Quality Assurance

Introduction

Quality assurance of paper ballots is of utmost importance in any election where Verity Central and/or the Verity Scan are used to process paper ballots. If ballot printing is not performed correctly, scanners may not read the ballots properly. This Knowledge Base article describes the importance of ballot inspection, introduces the use of a Ballot QC Overlay, and describes systematic instructions to inspect ballots.

Prior to each election, it is essential that a full quality check be conducted on ballot printing equipment, including checking for proper toner supplies, toner adhesion, printer drivers, and printer setup. It is also crucial to create test ballots prior to initiating “live” ballot production. If an off-site contract printer is used, the same procedures outlined here should apply to that vendor. Jurisdictions should use only contract printers approved for ballot printing via Hart InterCivic’s Printer Acceptance Process in order to help with quality control.

Using Ballot QC Overlays

A Ballot QC Overlay is a clear film printed with targets for bar codes and margins. It is used to validate correct print dimensions for ballots printed directly from Verity Build, or by an offsite vendor. Hart InterCivic will supply one set of these film overlays at the time of implementation; additional system version overlays are available for purchase from Hart.

The Verity Voting System is designed to take into account digital printing variance, but any variance must be linear in nature. Allowable variance is defined by the three square targets, into which the upper left corner of all three barcodes must fit. Any ballot that does not meet this minimum specification should be rejected and reprinted. Sheet edge marks are for reference only. The ballot image should be centered on the sheet, but the critical reference point is the point of origin, and measurements should be made from this point. In addition, the ballot should be checked for skew (any rotation or tilting of the ballot printing), using the skew guides printed at the top and bottom of the overlay. See the following page for detailed guidelines for using Ballot QC Overlays with Verity ballots.

NOTE: Ballots printed with the Verity System use a separate set of overlays from those printed with the Hart Voting System (HVS). The overlays are clearly marked. Make certain that you use the correct overlay for the voting system that was used to print the ballots.
Ballot QC Overlay Guidelines

**Point of Origin**
The upper left corner of the upper left barcode is the point of origin for all measurements. Align the point or origin on the Ballot QC Overlay with the upper left corner of the upper left barcode on the ballot.

**Vertical Sheet Edge Guide**
The sheet edge must fall in the shaded area ± 0.125", using the point of origin to anchor the overlay.

**Horizontal Sheet Edge Guide**
The sheet edge must fall in the shaded area ± 0.060", using the point of origin to anchor the overlay.

**Sheet Edge Line**
The clear interior line represents the optimal sheet edge.

**Skew Guides**
0.040" between upper lines
0.020" between lower lines
Maximum front to back skew = 0.120"

**Image Size Variance**
The square target defines allowable image variance. With the upper left corner of the upper left barcode anchored at the point of origin, the upper left corners of the lower barcodes must fit within the target area of the large square. Optimal printing has the barcodes fitting within the smaller square as shown.
Ballot Inspection Best Practices

Even in the best environments, with well-maintained equipment, highly trained operators and the finest materials, defects in ballot printing can occur. Accordingly, inspection of the printed ballot is fundamental to optimal performance of the Verity Voting System. When a defect is suspected, it must be resolved. Test ballots should be printed and inspected before the first production run is printed. Recommended best practices for ballot inspection include:

- Make certain that folds will not pass within 5/8" of bar codes.
- Make certain that folds will not pass through any option boxes.
  
  **NOTE:** The Verity Build ballot preview toolbar allows you to check fold placement prior to printing (see the Verity Build Administrator's Guide, Chapter 3 for details).
- Inspect the first ballot of each precinct, or every 500 ballots, whichever is less.
- Check ballots printed before and after any paper jam.
- Verify that all ballots are printed on Hart Official Ballot Paper, or similar stock. For further information, see the Verity Knowledge Base article About Hart Official Ballot Paper.
- Verify grain direction – “Official Ballot” watermark must run in same direction as ballot copy.
- Validate correct position of rounded corner, if used.
- Match up proof information with printed ballots, front and back, and confirm that no components are missing.
- Using the appropriately sized ballot overlay, check the size of ballot area box (rectangular outline surrounding all election copy).
- On the same ballots, use the overlay to check barcode alignment and position. Use the overlay to check for the presence of skew. Check both the front and back of the ballot. See page 2 for details.
- Verify that all human-readable numbering is present.
- Inspect the ballot for obvious voids, smears, or toner that is too light or dark.
- Look for “ghosts” and double images.
- Check for toner spray or spots in white areas, especially inside option boxes.
- Check for toner voids, especially on the edges of option boxes.
- Look for paper defects, wrinkles, tears and creases.
- Inspect for toner spots in or near names, options boxes, or bar codes.
- If a defect is observed, make note of it. Check for a recurring problem by carefully inspecting the same area on the immediately preceding and following ballots.
- If a defect is confirmed, the ballot should be reprinted. Follow secure chain-of-custody procedures to ensure that the defective ballot is exchanged for the reprinted ballot.
- All defective and replaced ballots should be accounted for. Someone should be responsible for barcode strikethrough, retention, and/or destruction of replaced ballots, and for securing retained ballots so that no possibility exists for their re-introduction into the printed ballot supply for the election.

If you have any questions regarding any of the information contained in this document, please contact the Hart Customer Support Center at 866-ASK-HART (866-275-4278).
Hart InteCivic Quality and Information Security Policy

Hart InteCivic is committed to consistently providing high quality products and services for its customers through adherence to its established hardware and software Quality Management Systems, complying with customer, statutory and regulatory requirements, and a commitment to continual improvement. Hart InteCivic is also committed to the integrity and the security of the information used in the product development process, in the products themselves, and in our management of customer data during the implementation process.

This DOCUMENT and the SOFTWARE, HARDWARE, and FIRMWARE to which it pertains contain confidential and proprietary information belonging exclusively to Hart InteCivic, Inc. No part of this publication may be modified, reproduced, stored in a retrieval system, or transmitted in any form, distributed by any electronic or mechanical means, photocopied, recorded, or otherwise reproduced or distributed without prior written permission from authorized personnel at Hart InteCivic, Inc. Any person receiving this document has a duty to take reasonable precautions preventing unauthorized use or disclosure of the contents.

Trademarks

Hart InteCivic and Verity are registered trademarks of Hart InteCivic, Inc.

Hart InteCivic disclaims any proprietary interest in the marks and names of others.

7. Press the red power button on the back of the Verity Touch Writer to power it off.>

**IMPORTANT:** Wait for the Verity Touch Writer to be completely powered down and showing a black screen if you will be unlocking and removing the tablet. If stowing the tablet, make sure to lock it in with the key and pull the blue latch down to secure it in place.

**NOTE:** The Verity power cord has a locking connector. When inserting the connector into a Verity device, it will make a small “click.” To disconnect the 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 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. You may use the space below to document local transfer procedures.

**Local procedures**

about this guide

This Verity Polling Place Field Guide is a portable guide to polling place tasks using the Verity Scan and Verity Touch Writer devices.
4. Select **Yes, close the polls.**

   **IMPORTANT:** Once polls have been closed, they cannot be reopened on that Touch Writer.

5. Enter the Close Polls Code and select **Accept.** The Close Polls report will print automatically.

6. The polls are now closed. 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. You may use the space below to document local requirements.

   **local reporting requirements**
### closing polls

**IMPORTANT:** Wait until the close polls time to close polls. Once polls are closed they cannot be reopened on that 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 **Close Polls**.

---

**Contents**

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>setting up Verity Scan</td>
<td>5</td>
</tr>
<tr>
<td>setting up the ballot box</td>
<td>6</td>
</tr>
<tr>
<td>setting up the Verity Scan</td>
<td>6</td>
</tr>
<tr>
<td>screen orientation</td>
<td>9</td>
</tr>
<tr>
<td>polling buttons</td>
<td>9</td>
</tr>
<tr>
<td>Verity Scan orientation</td>
<td>11</td>
</tr>
<tr>
<td>infinity</td>
<td>11</td>
</tr>
<tr>
<td>instructions for hand-marking ballots</td>
<td>12</td>
</tr>
<tr>
<td>Verity Scan help and features</td>
<td>16</td>
</tr>
<tr>
<td>troubleshooting</td>
<td>16</td>
</tr>
<tr>
<td>undervotes, overvotes, and blank ballots on Verity Scan</td>
<td>16</td>
</tr>
<tr>
<td>provisional ballots</td>
<td>17</td>
</tr>
<tr>
<td>the emergency ballot bag and emergency ballot slip</td>
<td>17</td>
</tr>
<tr>
<td>multi-sheet ballots and Verity Scan</td>
<td>17</td>
</tr>
<tr>
<td>suspending polls</td>
<td>19</td>
</tr>
<tr>
<td>closing polls</td>
<td>19</td>
</tr>
<tr>
<td>Verity Touch Writer</td>
<td>20</td>
</tr>
<tr>
<td>setting up Touch Writer</td>
<td>20</td>
</tr>
<tr>
<td>setting up the ballot printer</td>
<td>20</td>
</tr>
<tr>
<td>setting up the voting booth</td>
<td>20</td>
</tr>
<tr>
<td>setting up the Verity Touch Writer</td>
<td>20</td>
</tr>
<tr>
<td>Touch Writer orientation</td>
<td>20</td>
</tr>
<tr>
<td>screen orientation</td>
<td>20</td>
</tr>
<tr>
<td>poll worker button</td>
<td>20</td>
</tr>
<tr>
<td>about Verity Access</td>
<td>20</td>
</tr>
<tr>
<td>installing headphones and tactile switches</td>
<td>20</td>
</tr>
<tr>
<td>report printer operation</td>
<td>20</td>
</tr>
<tr>
<td>opening polls</td>
<td>20</td>
</tr>
<tr>
<td>reopening polls</td>
<td>20</td>
</tr>
<tr>
<td>voting with Touch Writer</td>
<td>20</td>
</tr>
<tr>
<td>overview: Verity Touch Writer</td>
<td>20</td>
</tr>
<tr>
<td>activating a ballot</td>
<td>20</td>
</tr>
<tr>
<td>marking ballots with Verity Touch Writer</td>
<td>20</td>
</tr>
<tr>
<td>making write-in choices</td>
<td>20</td>
</tr>
<tr>
<td>printing blank ballots</td>
<td>20</td>
</tr>
<tr>
<td>substitutions in &quot;and or&quot; contests</td>
<td>20</td>
</tr>
<tr>
<td>voting session idle timeout</td>
<td>20</td>
</tr>
<tr>
<td>Verity Touch Writer help and features</td>
<td>20</td>
</tr>
<tr>
<td>troubleshooting</td>
<td>20</td>
</tr>
<tr>
<td>spoiling a ballot on Verity Touch Writer</td>
<td>20</td>
</tr>
<tr>
<td>spoiling printed paper ballots</td>
<td>20</td>
</tr>
<tr>
<td>printing a summary report</td>
<td>20</td>
</tr>
<tr>
<td>closing polls</td>
<td>20</td>
</tr>
</tbody>
</table>
5. The polls are now suspended. Print and file reports available on the screen as required by your jurisdiction. Available reports may vary and are configured by the election officials in your jurisdiction. You may use the space below to document local requirements.

**Local Reporting Requirements**

6. When you have finished printing reports, press the red power button on the back of the Verity Touch Writer to power it off. ▶

**IMPORTANT:** Wait for the Verity Touch Writer to be completely powered down and showing a black screen if you will be unlocking and removing the tablet. If stowing the tablet, make sure to lock it in with the key and pull the blue latch down to secure it in place.

7. Follow your local jurisdiction’s guidelines, including chain-of-custody procedures, 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. You may use the space below to document local transfer procedures.

**Local Procedures**

---

**Verity Scan**

**Verity Scan** is a polling place-based digital scanner for scanning and casting ballots. Verity Scan can be used with hand-marked ballots or with ballots marked and printed using Verity Touch Writer (see page 26). Verity Scan deposits scanned ballots into its ballot box for secure storage.

**vDrives** are used to transfer digital ballot styles from the Verity election definition software to Verity Scan, and to transfer voted ballots from Verity Scan to Verity software for tabulation. vDrives are inserted into a standard USB port located in a locked and sealed compartment; each Verity Scan has its own vDrive.

**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.
setting up Verity Scan

setting up the ballot box

1. Position the folded ballot box as shown.

2. Unlatch the four clips (two 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.

suspending polls

(Early Voting)

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.


4. Enter the Suspend Polls Code and select Accept. A Suspend Polls report will print automatically.
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.

5. Lower the bottom panel but do not press down.

6. Release the lid by unhooking the 3 straps.

7. Pull the string on the underside of the lid upward 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.

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.

IMPORTANT: Verity Scan will not accept provisional ballots printed from Touch Writer. Follow local procedures to process provisional ballots.
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 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 help and features

Each Verity Touch Writer is equipped with context-specific help text and settings that can be accessed from the touchscreen, or using Verity Access. To exit help or settings screens and resume voting, select Exit Help or Return to ballot on the bottom right.

- If multiple languages are available, a Language button is located at the top left of the screen. Voters can select this button to change the language of the instructions and ballot.
- Voters can select the Screen button to change the screen settings (contrast and text size), or to turn the screen off (if using headphones only).
- Voters can select the Audio button to change the audio settings (volume and speed) for the headphones.
- The Help button is at the top right of the screen. Voters can select this button to see help text for the voting step currently underway.

A  B  C  D

Language  Screen  Audio  Help

troubleshooting

If there is a problem with the Touch Writer, follow the error instructions on the screen (if applicable), and/or contact your elections office for assistance.

setting up the Verity Scan

1. Assemble the ballot box, if this has not been done already (see page 6).

2. Place the Verity Scan on the ballot box, aligning footpads with the indentations. The handle on the Verity Scan must face the front of the ballot box.

3. Reach inside the ballot box and pull the cord down and away from you to lock the lid and the Verity Scan in place.

4. Close and lock the front ballot box door.

5. Follow local procedures to remove the tamper seal from the Verity Scan handle, if applicable. 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.
6. Plug the power cord into the power brick, and then plug the power brick into the back of the Verity Scan (flat side up).

   IMPORTANT: Do not plug the power cord into the wall yet.

7. Open the Verity Scan case and lock the lid brace in 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 (A), unlatch (B), and remove (C) the tablet.

making write-in choices

To vote for a write-in candidate on the ballot (if applicable):

1. On the page for that contest, the voter selects To enter a write in, touch here.

2. The voter types the name of the desired write-in, using the touchscreen or Verity Access, and then selects Accept.

3. The voter’s write-in-choice will appear with a green box with check mark to its left, along with the write-in candidate name that the voter typed.

   NOTE: If a voter attempts to deselect a marked write-in choice, they will be asked to confirm before proceeding.

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 by election officials, 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.
9. The voter selects **Yes, print my ballot**.

10. The voter retrieves the printed ballot from the laser printer next to their Verity Touch Writer.
   - 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.

9. Seat the tablet in the cradle (A), tilt it back (B), and lock it in place (C).

10. Verify the Verity Scan device seals, per local procedure. Attach privacy screens to each side of the ballot box, if applicable.

11. Plug the power cord into AC power. A green light should illuminate on the power brick when AC power is present.

12. Press the red button on the back of the Verity Scan to power it on.
   - During the power on process, a Power-On Self Test report will print on Verity Scan's built-in 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.
Verity Scan orientation

screen orientation

When powered up for the first time the device is used during a voting event, Verity Scan should display the Print Zero Report screen.

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 16.

In addition to the date and time, the following appears at the bottom of the screen:

11:36 AM Fri 12/12/2014

- **Ballots**: The number of ballots scanned and cast on the Verity Scan for the current election; at the start of a voting event, this number should be zero.
- **Sheets**: The number of ballot sheets scanned on the Verity Scan for the current election; at the start of a voting event, this number should be zero.
- **Lifetime**: The number of ballots cast on the Verity Scan for the lifetime of the device (for all elections).
- **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.

NOTE: 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”. If a voting session is in progress, this message will not appear until the session is completed.

When battery power is low, and AC power is disconnected, a warning message will appear on the device screen. Reconnect the device to AC power.

5. The voter can start voting (by selecting Begin Voting), learn how to use the ballot, or view a list of contests on the ballot.

6. The voter makes their choices; The voter can make ballot choices using the touchscreen, or by using the Move wheel and Select button on the Verity Access.
   - A selected choice will display a green box with check mark to the left of the choice.
   - The voter can review ballot choices by selecting Review your choices.
   - The Next or Skip button advances to the next contest on the ballot.

7. 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, or select Return to ballot to go to the last contest visited.

8. After reviewing and confirming their choices, the voter selects Print to print the ballot.
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.
   - If the voter chooses to use both the screen and audio, they will then be walked through the audio settings and screen settings before proceeding. The voter selects **OK, it sounds good/OK, it looks good** in the bottom right to proceed.
   - If the voter chooses to use the screen only and turn off the audio, they will be asked to confirm before proceeding, by selecting **Yes, turn it off**. The voter will then be walked through the screen settings before proceeding. The voter selects **OK, it looks good** in the bottom right to proceed.
   - If the voter chooses to use the audio only, they will be asked to confirm before proceeding, by selecting **Yes, turn it off**. The voter will proceed through their ballot using the Access device with headphones. The voter can select **Touch here to enable the screen** to turn the screen display on at any time.

4. 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.
   - On the last page of instructions, the voter selects Start in the bottom right to begin marking their ballot.
   - The Language (if applicable), Audio, and Screen settings and the Help button are also available (see page 48).

### poll worker button

The blue poll worker button is located on the back of Verity Scan. This button is used when suspending or closing polls. In some jurisdictions, this button may be used when scanning ballots with undervoted or overvoted contests; see page 19.

### report printer operation

1. The thermal report printer is located on the right-hand side of Verity Scan.

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, and then lift up to open the paper compartment.

3. To replace paper: Place the new paper roll into the printer as shown. Paper must roll up 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

You must open polls on 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 16.

1. Set up and power on the Verity Scan. Confirm that you are running on AC power (see page 12).

2. Select Print Zero Report ▶

   **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 16.

3. Wait while the Zero report prints (on the built-in report printer). Using the Zero report, check the following:
   - Verify the ballot count total on the Zero report is ZERO and enter it in the Reconciliation Log.
   - Verify that the polling place on the report is correct.

   **IMPORTANT:** If these items are incorrect, contact your elections office.

4. Verify that the clock in the bottom left corner of the screen displays the correct time.

   **IMPORTANT:** If the clock is incorrect, contact your elections office.

marking ballots with Verity Touch Writer

Once a poll worker has activated a ballot (page 41):

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.
   - The language settings can be changed at any time by accessing the language menu (see page 48).

2. The voter chooses whether they would like to use the Verity Access accessibility features.
   - If the voter chooses **Yes, 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 (page 45, step 5)
4. Select **Activate ballot.**

If your jurisdiction has **Verity AutoBallot,** after activating the ballot, you can use the barcode reader attached to the Verity Touch Writer to scan barcode labels produced by your electronic pollbook. When using AutoBallot, you will scan the barcode, skipping steps 5-6 of this section.

5. Choose the correct precinct from the list and select **OK.**
   - *(Closed Primary Elections only)* After choosing the precinct, select the Party, if applicable.

6. Confirm the selections you have made, and then select **Yes, activate this ballot.**
   - If the precinct and/or party are incorrect, select **No, cancel** to return to the main menu.
   - To issue a provisional access code, select **Mark as provisional,** for more information on provisional voting, see page 50.

5. Select **Open the Polls.** You can also print a Configuration Readiness report, Precincts Enabled report, or additional copies of the Zero report, if your jurisdiction requires them.
   - **IMPORTANT:** Once you open polls, you can no longer print a Zero report.

6. Enter the Open Polls Code, and then select **Accept.** The Open Polls report will print.

7. Wait while the Open Polls report prints. File the Zero and Open Polls reports according to local guidelines.
reopening polls
(Early Voting)

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 Touch Writer

overview: Verity Touch Writer

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. The voter can then verify their choices using Verity Reader (if available). The voter will cast their ballot using Verity Scan, or into a ballot box to be processed centrally.

activating a ballot

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).

3. Enter the Poll Worker Code and select Accept.
reopening polls
(Early Voting)

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.

voting with Verity Scan

overview: Verity Scan

Verity Scan is a polling place-based scanner used to scan and cast paper ballots whether they are hand-marked, or marked using Verity Touch Writer (for Touch Writer instructions, see page 26).

instructions for hand-marking ballots

1. The voter fills in the selection box to the left of their choices completely using blue or black ink.

2. When the voter has finished marking their ballot, they take the ballot to Verity Scan to cast their ballot.

scanning ballots with Verity Scan

1. Verity Scan is ready to scan when you see the **Ready to Use** screen.

   **IMPORTANT:** In elections with multi-sheet ballots, voters must receive all sheets for their ballot. Voters should be instructed to scan all sheets of their ballot, even if they have made no choices on a particular sheet. See page 20 for more information.

2. The voter removes the ballot privacy sleeve (if applicable) and inserts the voted ballot into Verity Scan. Flashing green arrows indicate the location and direction of the scanner feed. Ballots must be fed short-edge first, but may otherwise be scanned in any orientation.
3. After scanning their ballot, the voter waits a moment while the ballot is processed.

4. The voter's ballot has been cast when Verity Scan displays the American flag. If enabled, an audible chime will also sound.

Verity Scan help and features
The Help button is located at the top right of the Verity Scan screen. This button provides the voter with help text for the voting step currently underway. Select Exit Help on the bottom right of the Help screen to return to scanning ballots. If multiple languages are available, Verity Scan will 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 any instructions or messages.

troubleshooting
If there is a problem with the Verity Scan, follow the error instructions on the screen (if applicable), and/or contact your elections office for assistance.

5. Select Open the Polls. You can also print a Configuration report, Precincts Enabled report, or additional copies of the Zero report, if your jurisdiction requires them.

IMPORTANT: Once you open polls, you can no longer print a Zero report.

6. Enter the Open Polls Code, and then select Accept. The Open Polls report will print.

7. Wait while the Open Polls report prints. File the Zero and Open Polls reports according to local guidelines.
opening polls

You must open polls on 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 40.

1. Setup and power on the Verity Touch Writer. **Confirm that you are running on AC power** (see page 35).

2. Select Print Zero Report ►

   **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 40.

3. Wait while the Zero report prints (on the built-in report printer). Using the Zero report, check the following:
   - Verify the ballot count total on the Zero report is ZERO and enter it in the Reconciliation Log.
   - Verify that the polling place on the report is correct.

   **IMPORTANT:** If these items are incorrect, contact your elections office.

4. Verify that the clock in the bottom left corner of the screen displays the correct time.

   **IMPORTANT:** If the clock is incorrect, contact your elections office.

spoiling printed paper ballots

To spoil a printed paper ballot, follow your local procedures (for example, filling out a spoiled ballot log and envelope).

undervotes, overvotes, and blank ballots on Verity Scan

If scanning hand-marked paper ballots, and the voter has overvoted (marked more than the allowed number of choices in a contest), Verity Scan may prompt the voter to choose whether to:

   - a) Remove their ballot and request a new ballot from the poll worker, or
   - b) Cast their ballot as-is (overvoted contests will not be counted)

If the voter has left a ballot or contest blank, the voter may be prompted to choose whether to:

   - a) Remove their ballot and make changes, or
   - b) Cast their ballot as-is (blank contests will not be counted)

The voter prompts that appear on Verity Scan will vary depending on how the election was set up (determined by your jurisdiction). Follow the directions on the Verity Scan screen. In some jurisdictions, the voter will be prompted to contact a poll worker, and the poll worker must press the poll worker button to accept a ballot as-is.

provisional ballots

   - **IMPORTANT:** Verity Scan will not accept provisional ballots printed from Touch Writer. Preprinted ballots used for provisional voting should never be scanned at the polling place using Verity Scan.
   - Follow your local jurisdiction’s guidelines for the issuing and handling of paper provisional ballots.
   - Procedures vary from jurisdiction to jurisdiction; a typical procedure may require that provisional ballots be placed in a provisional ballot envelope, which is then placed in the emergency ballot bag (see page 20).
the emergency ballot bag and emergency ballot slot

A separate, secure bag for unsanned 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.

multi-sheet ballots and Verity Scan

When issuing paper ballots with multiple sheets, voters must receive all sheets for each ballot. Voters should be instructed to scan all sheets of their ballot, even if they have made no choices on a particular sheet.

- The Verity Scan ballot counter will increment when a sheet 1 is scanned but not when a sheet 2 (or higher) is scanned. If sheet 2 of a 2-sheet ballot is scanned without a sheet 1, the ballot counter will not increment, but all votes on sheet 2 will be counted accurately.
- If the voter has not yet scanned any part of the ballot and the voter realizes that a sheet needs to be spoiled, it is generally considered best practice to spoil and replace all ballot sheets. While not necessary, this may assist in the location of all ballot sheets in the event of an audit or recount.
- If not all sheets can be spoiled (i.e., one sheet has already been scanned), spoil the remaining sheet(s) of the ballot, provide replacement sheet(s), and spoil the unused sheets from the replacement ballot.

report printer operation

1. The thermal report 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 and lift up to open the paper compartment.

3. To replace paper: Place the new paper roll into the printer as shown. Paper must roll up 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.
poll worker button

The blue poll worker button is located on the back of Verity Touch Writer. This button is used for certain actions such as printing reports and issuing access codes.

about Verity Access

Verity Access is intended for voters that cannot, or prefer not to, use the touchscreen. 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). With Verity Access, a voter can:

- Navigate through a ballot with the Move wheel
- Make selections on a ballot with the Select button
- Activate help text using the Help button

installing headphones and tactile switches

1. Lift the Verity Access from its cradle.
2. Plug the headphones into the headphone port on the top left of the Verity Access.
3. Plug the tactile switches, sip-and-puff, or any other dual-switch input device into the port on the top right of the Verity Access.

suspending polls
(Early Voting)

1. Press the *blue* poll worker button on the back of the Verity Scan.
2. Select Suspend Polls.
3. Enter the Suspend Polls Code and select Accept. A Suspend Polls report will print automatically.
4. Polls are now suspended. Print and file reports available on the screen as required by your jurisdiction. Available reports may vary and are configured by the election officials in your jurisdiction. You may use the space below to document local requirements.

**local reporting requirements**

5. When you have finished printing reports, press the red power button on the back of the Verity Scan to power it off.  

   **IMPORTANT:** Wait for the Verity Scan to be completely powered down and showing a black screen if you will be unlocking and removing the tablet. If stowing the tablet, make sure to lock it in with the key and pull the blue latch down to secure it in place.

6. Follow your local jurisdiction’s guidelines, including chain-of-custody procedures, 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. You may use the space below to document local transfer procedures.

**local procedures**

---

**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.

**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 40.

In addition to the date and time, the following appears at the bottom of the screen:

- **Ballots:** The number of ballots printed using the 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 the Verity Touch Writer for the lifetime of the device (for all elections).
- **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.

**NOTE:** 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”. If a voting session is in progress, this message will not appear until the session is completed.

When battery power is low, and AC power is disconnected, a warning message will appear on the device screen. Reconnect the device to AC power.
12. Press the red button on the back of the Verity Touch Writer to power it on.

- During the power on process, a Power-On Self Test report will print on Touch Writer’s built-in report printer. This report will indicate any hardware or connection issues; if any issues are noted, check connections and power off the printer and the Touch Writer. Power the printer on first before powering on the Touch Writer.

13. (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.

closing polls

IMPORTANT: Wait until the close polls time to close polls. Once polls are closed they cannot be reopened on that Scan 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.

IMPORTANT: Once polls have been closed, they cannot be reopened on that Scan device.
4. Enter the Close Polls Code and select **Accept**. The Close Polls report will print automatically.

5. The polls are now closed. 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. You may use the space below to document local requirements.

**local reporting requirements**

8. Seat the tablet in the cradle (A), tilt it back (B), and lock it in place (C).

9. Verify the Verity Touch Writer device seals, per local procedure. Attach privacy screens to both sides of the booth.

10. Plug the power cord into AC power. A green light should illuminate on the power brick when AC power is present.

11. Press the switch on the bottom right side of the ballot printer to power it on.
5. Plug the flat end of the USB printer cable from the ballot printer into the back of the Verity Touch Writer, with the notch facing up. ▼

6. Open the Verity Touch Writer case and lock the lid brace in 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 (A), unlatch (B), and remove the tablet (C). ▼

6. When you have finished printing reports, press the red power button on the back of the Verity Scan to power it off. ►

   IMPORTANT: Wait for the Verity Scan to be completely powered down and showing a black screen if you will be unlocking and removing the tablet. If stowing the tablet, make sure to lock it in with the key and pull the blue latch down to secure it in place.

   NOTE: The Verity power cord has a locking connector. When inserting the connector into a Verity device, it will make a small “click.” To disconnect the 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 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. You may use the space below to document local transfer procedures.
Verity Touch Writer

Verity Touch Writer is an accessible ballot marking device; any voter may use Touch Writer to make their ballot selections using either the touchscreen, 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. The voter then retrieves and casts the ballot, either using Verity Scan, or into a ballot box to be processed centrally.

Verity Access is an Audio-Tactile Interface (ATI) intended for voters that cannot, or prefer not to, use the touchscreen. 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).

vDrives are used to transfer digital ballot styles from the Verity election definition software to Verity Touch Writer, and to transfer device audit log data from Verity Touch Writer to Verity software (vote data is not stored on Verity Touch Writer). vDrives are inserted into a standard USB port located in a locked and sealed compartment; each Verity Touch Writer has its own vDrive.

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.

setting up the Verity Touch Writer

1. Set the Verity Touch Writer on top of the 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. Stand at the front of the booth. Reach under the front of the booth top and push the latch away from you to secure the Touch Writer to the booth.

3. Follow local procedures to remove the tamper seal from the Touch Writer handle, if applicable. 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 into the power brick, and then plug the power brick into the back of the Verity Touch Writer (flat side up).

IMPORTANT: Do not plug the power cord into the wall yet.
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 each leg and lock them into place.

5. Turn the booth over to set up the Verity Touch Writer.

---

**setting up Touch Writer**

**setting up the ballot printer**

1. Set up the ballot printer table and set the ballot printer on the table.

2. Plug in the square end of the USB printer cable into the printer. (The flat end will be plugged into the Verity Touch Writer.)

3. Insert the printer power cord into the printer and the other end into an outlet or UPS/battery backup.

4. Load the ballot printer with appropriate ballot paper. Note that the paper size will vary by election, and that the printer tray used may vary depending on the types of printers and accessories used in your jurisdiction. Follow local procedures.

   **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 (not available in all jurisdictions).
c) The main 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) Reinsert and close the paper tray.

**Loading ballot paper in the manual paper tray (MPT)**

In some jurisdictions, the manual paper tray must be used for larger paper sizes; follow local procedures.

a) Open the front Manual Paper Tray (MPT) and extend the tray as shown.

b) If applicable, place the optional tray extender in the tray.

c) Load ballot paper in the tray. Ensure the paper guides on the sides of the tray are set snug to the paper.

5. Do not power on the printer at this time.

---

**setting up the 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. Release bungee cords holding the booth legs, if present. Unfold the legs from booth table. Pull on the handle and lift to lock the legs into place.
Hart Ballot Production Services

About Hart Ballot Production Services

This document outlines the ballot ordering and proofing process for customers using Hart’s Ballot Production Services and the Verity Voting system.

Hart Ballot Production Service customers will work with a Hart Ballot Production Specialist to submit blank vDrives, Keys and written ballot information forms to Hart. Then, using the federal, state, and local information, Hart creates the election and returns ballot proofs to the customer. After approval of the ballots, Hart creates audio files and sends them to the customer for proofing. Once the customer approves the audio files, Hart sends the customer all of the materials needed to run a live election.

Ballot ordering and proofing process

1. Approximately 2-3 weeks before the filing deadline for a scheduled election, customers using Hart Ballot Production Services will receive a packet of forms, including the following:
   - Verity Ballot Production Service Request Form
   - Verity Ballot Order Form (if applicable)
   - Verity Grid Sheet Form
   - Verity vDrive Planning Worksheet

2. Election officials will fill out the Verity ballot information forms they receive and return them to Hart Ballot Production Services.

3. The election officials will decide how many vDrives they will need for the election. Election officials will use the vDrive Planning Worksheet to plan the number of vDrives needed for an election, then return the completed worksheet to Hart Ballot Production Services.

4. The election officials send the actual vDrives and Keys (quantity determined in step 3) to Hart for programming. The USB drive sent for the previous election (containing the Finalized Verity Build election) should also be returned at this time.

5. Using the data provided by the customer, a Hart Ballot Production Specialist will create the election. Hart will email PDF previews of the ballots so the elections officials can proofread the ballot content and layout. In addition, Hart will send the following reports, to be used for proofing ballot content for accuracy and spelling:
   - Billing and shipping confirmation.
   - Ballot proofs (copy of each ballot format/style).
   - Polling Place List – This report list all of the polling locations and their associated precincts and districts by name. It also designates the voting type (Early Voting, Vote Centers, Election Day, etc.) associated with each polling place.
- **All Contests report** – A report of all contests in the election, including all contest options/candidates for each contest, and party associations.
- **Contest Associations report** – This report lists every contest on the ballot and the precincts associated with them, as well as district associations. It can be useful for assigning the appropriate precincts to your Verity voting devices during the predefinition process. You can find instructions for predefining Verity voting devices in the Verity Support Procedures Guide.
- **Proof Letter** (customer approval of ballot content and permission to proceed).
- **Audio Proof Letter** (customer approval of ballot audio and permission to proceed).
- **A Ballot Production Plan**, listing the number of ballots to print by precinct (if applicable).

6. Election officials will submit any corrections needed to their ballot proofs. If needed, a Hart Ballot Production Specialist makes any necessary corrections and repeats step five.

7. Election officials approve the ballot and return the signed Proof Letter.

8. The Hart Ballot Production Specialist will create the audio files and send to the customer.

   *NOTE:* Typically, the audio production process takes 2-3 business days.

9. Election officials review and approve the audio files, returning the signed Audio Proof Letter.

10. Hart Ballot Production Specialist ships the **Verity Election Materials Package** to the customer (see page 3 for details).

11. If the customer has ordered printed ballots, ballots will be shipped to the requested location.

   *NOTE:* Ballot production typically takes between 5-7 business days from the time of final approval.

### A note about ballot printing in Verity Build

For jurisdictions using unique identifiers and/or ballot numbering on your printed ballots: If your jurisdiction orders printed ballots from Hart, and you also intend to print ballots from your own Build workstation, you must coordinate your additional printing with Hart Ballot Production services to avoid the possibility of duplicate unique identifiers and/or ballot numbers on your printed ballots. For more information, please contact your Hart Ballot Production Specialist.
The Verity Election Materials Package

Once Hart Ballot Production Services receives written approval from the customer for a ballot, they will prepare and ship an Election Materials Package to the customer. This set of materials will include the following:

- **vDrives** – contain ballot information and audio for Verity voting devices.
  - **Test vDrives** – for Logic and Accuracy testing (LAT) and training.
  - **Official vDrives** – for live voting events.

- **Verity Keys** – used to perform critical actions using Verity devices and software.

- **Finalized Verity Build election** – on USB; contains the database used to run the election in Verity Central and/or Verity Count.
  
  **Hart will send you a new USB drive with your vDrives every election.**

- **Reports** – the following final reports are included; these can be used to verify that any requested changes were made:
  - **Jurisdiction Configuration report** – This report provides jurisdictional details, including lists of precinct names, district names, and precinct/district associations.
  - **Polling Place List** – This report list all of the polling locations and their associated precincts and districts by name. It also designates the voting type (Early Voting, Vote Centers, Election Day, etc.) associated with each polling place.
  - **All Contests report** – A report of all contests in the election, including all contest options/candidates for each contest, and party associations.
  - **Contest Associations report** – This report lists every contest on the ballot and the precincts and districts associated with them. It can be useful for assigning the appropriate precincts to your Verity voting devices during the predefinition process. You can find instructions for predefining Verity voting devices in the *Verity Support Procedures Guide*.
  - **vDrives Created report** – This report summarizes the quantity, type and ID numbers of vDrives and Keys associated with your election.
  - **Ballots Printed report (if applicable)** – This report provides a detailed list of all ballot print jobs that have been created.

- **Standard Test Deck** - The standard test deck contains Test ballots that have one vote for every option, one blank ballot, and one overvote. This test deck may be used for Logic and Accuracy Testing (see note below), and for general testing purposes with Verity voting devices and software.

  **NOTE:** The test deck prepared by Hart Ballot Production Services may not be sufficient for all jurisdictions. You can find Hart-recommended Logic and Accuracy Test procedures in the Verity Administrator's Guide; however, it is the responsibility of the jurisdiction to create a Logic and Accuracy test deck, and perform Logic and Accuracy Testing, that meets the election law and code requirements of their state or other governing body.
**Using Images and Rich Text with Verity Ballots**

**Introduction**

Verity Layout and Verity Data provide the capability to use images and rich text to fulfill jurisdictional ballot requirements as well as enhance the ballot aesthetics. Images and rich text may be included in the ballot in two ways:

- Manually uploading images and typing rich text, using the appropriate menus within the **Edit Data** tab.
- Importing images and rich text via the **Import** menu

This document will discuss both methods, as well as provide some basic recommended guidelines for including images and rich text in your ballot.

**Overview: using images in ballots**

Using images is an easy way to include complex formatting and fonts that cannot otherwise be duplicated using basic text formatting. However, excessive use of images will increase the size of your ballot files and may result in longer processing times when you export ballots to PDF.

**General recommendations**

- Avoid using an image for your entire ballot instruction or proposition text. Verity has flexible instruction creation features that allow for a mix of images with real text.
- When creating images, use the minimum resolution and bit depth necessary to achieve acceptable quality. Recommended image specifications are:
  - **Resolution**: no more than 300 dpi
  - **Bit Depth**: no more than 16 bit for color/grayscale, 8 bit for monochrome images
- Convert color images to grayscale, if color images are not needed

**Image dimensions**

Image dimensions on the final ballot are determined differently for different elements:

- **Parties** (the party image appears in different locations, depending on the election type):
  - In the ballot header (**closed primary elections**): Verity automatically resizes the image to fit the available area, according to the ballot template chosen.
  - In Party Selector contests (**straight party voting**): The original size determines the display size (e.g., a 1"x1" image will appear 1"x1" on the ballot). If the image size exceeds the available space in the image area or column, the image will be cut off.
- **Contest Titles**: The original size determines the display size (e.g., a 1"x1" image will appear 1"x1" on the ballot). If the image size exceeds the available space in the image area or column, the image will be cut off.
• **Ballot Instructions**: Verity automatically resizes the image to fit the available area, according to the ballot template chosen.

• **Additional Text**: The original size determines the display size (e.g., a 1"x1" image will appear 1"x1" on the ballot). If the image size exceeds the available space in the image area or column, the image will be cut off.

• **Ballot Header**: Verity automatically resizes the image to fit the available area, according to the ballot template chosen.

• **Ballot Stub**: Verity automatically resizes the image to fit the available area, according to the ballot template chosen.

  *NOTE: pixel widths of the available image areas and columns on a ballot depend on the ballot template chosen; for assistance with choosing or editing ballot templates, contact Hart Support.*

**Manually uploading images and typing rich text**

Verity supports manual uploading of images via the appropriate menus under the **Edit Data** tab in Verity Layout and 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 in the **Administrator's Guides** for Verity Layout and Verity Data.

**Adding images in ballot instructions**

In the **Ballot Instructions** menu, you may create multiple ballot instruction elements, and alternate instruction images with instruction text. You can set the order of these elements as well.

**Typing rich text for ballot instructions and propositions**

You can manually enter ballot instructions and proposition text in the Verity application, using the **Ballot Instructions** and **Contest Titles** menus, respectively. 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.
Importing images and rich text

In addition to the manual upload method described above, for certain elements, you may also directly import images and rich text via the Import menu.

You can include images in the following import files:

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

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

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

**IMPORTANT:** When importing rich text files, the RTF files must only contain the Segoe UI typeface.

**How to import images and rich text**

1. Gather/create image(s) and rich text file(s) on a non-Verity workstation.
   - Image files must be one of the following formats: *.jpg, *.gif, *.png, *.bmp
   - Rich text files must have the file extension *.rtf (e.g. BallotInstructions.rtf)

2. On the same non-Verity workstation, create the appropriate import file(s) - these files must have the file extension *.txt. Instructions and specifications for creating importable *.txt files can be found in the Administrator's Guide.

3. In the appropriate field(s) of the import file, enter the file name (with file extension) for the image or rich text file you would like to import.

4. In the root folder (called “Imports” in the example shown) containing your import file(s), create two subfolders:
   - Images
   - RTFs
5 Copy image files into the **Images** folder; copy rich text files into the **RTFs** folder.

6 Copy the entire root folder, containing the import file (*.txt) and the **Images** and **RTFs** folders onto a removable USB drive.

7 Insert the USB drive into your Verity Layout or Verity Data workstation and follow the steps outlined in the *Administrator's Guide* to import the files.

**Including images within rich text files**

In addition to importing images and rich text files separately, you may also paste images for ballot instructions and proposition text *within* the rich text files themselves. If you paste an image into a rich text file, you do NOT need to import the image file itself. Certain elements (bullets, additional fonts, some symbols) cannot be formatted as real text within a rich text file, and must be included as images.

**Importing data: general recommendations**

Whenever you import any data, Verity will give you the option to **Append** to or **Replace** the data currently in the election. Append will *add* the imported data to the existing data, while Replace will *overwrite* the existing data. In most cases, you will want to replace data to avoid duplicating existing items. However, using the import feature to replace data for a single item (e.g., Parties) will cause you to lose any associations/affiliations related to that item that you have already made. Therefore, it is recommended that you import data files *in the order that they appear in the application* (top to bottom). Start with election data (voting types, parties, etc.), then jurisdiction data (precincts, districts, polling places, and their associations), then contest data (contests, choices, contest and choice associations, etc.), then ballot data (instructions, additional text, ballot order, etc.). Alternatively, you can export an *entire* data set ("Full Election Dataset"), make the desired changes to each file on a non-Verity workstation (including adding images, rich text, etc.), then import the full dataset at once.
Risk Limiting Audits: Recommended Procedures for Verity Voting

Introduction

From the outset, Verity Voting was designed and architected to support risk limiting audits (RLAs). Verity Voting does support risk limiting audits, by allowing users to easily compare human interpretations of individual ballots with machine interpretations of those same ballots, to assess the risk of whether the outcomes are wrong.

What is a risk limiting audit?

A risk-limiting audit is a method to ensure that at the end of the canvass, the hardware, software, and procedures used to tally votes found the real winners. Risk-limiting audits do not guarantee that the electoral outcome is right, but they have a large chance of correcting the outcome if it is wrong. They involve manually examining portions of an audit trail of (generally paper) records that voters had the opportunity to verify recorded their selections accurately.

- Mark Lindeman & Philip B. Stark, A Gentle Introduction to Risk-Limiting Audits

Implementing risk-limiting audits

Working assumptions

Hart InterCivic designed Verity Voting to support risk-limiting audits according to the following foundational assumptions, which are consistent with best practices and numerous scholarly articles on RLAs:

- **Risk limiting audits are highly adaptable**, and there are multiple methods to implement risk-limiting audits; methods of implementation are not (and should not) be exclusive.

- **Any jurisdiction can conduct a risk limiting audit**, provided that the following preconditions are met:
  1. There is a durable, voter-verified audit trail of the voter’s selections (such as a physical paper ballot, for example).
  2. The audit trail has been preserved inviolate, through appropriate chain of custody procedures.
  3. The subtotals used in the audit are the same subtotals reported by the voting system (i.e. the hand tabulation of the totals from the audit should add up to the subtotals reported by the voting system).
  4. There must be explicit standards and guidance for determining voter intent, and for determining what constitutes a valid vote.

- **Tradeoffs are a natural outcome of the fact that there are diverse methods to conduct RLAs.** Given the fact that risk limiting audits are highly adaptable, they come in several varieties, with various benefits and requirements. Accordingly, the methods to implement RLAs must be weighed against other competing values, such as voter privacy.

- Hart InterCivic believes that displaying a machine interpretation of voter selections should be done in a manner that protects voter privacy. Accordingly, the Verity Voting system was designed to support an election administrator’s ability to trace from machine interpretations of voter marks back to specific physical ballots, while also randomizing the manner in which ballots are ultimately recorded in flash memory. In this way, even if jurisdictions administering the election do not employ appropriate procedures to prevent reconstruction of the sequence in which ballots were cast, privacy is protected.

- **In sum, the Verity Voting system supports ballot-level risk limiting audits while simultaneously protecting voter privacy.**
Verity Central support of RLAs

Verity Central supports ballot level audits by meeting the following requirements:

- Ballot level audits require knowing the number of ballots in each batch – **Verity Central’s Ballot Summary Report provides this information.**
- Ballot level audits require a method to locate each batch – **When using Verity Voting, as each batch is scanned, affixing the Ballot Summary Report to the physical batch allows users to locate each batch.**
- Ballot level audits require a manifest or “map” that allows users to identify each ballot within each batch uniquely – **The scan order for any ballot that appears in Verity Central’s “Ballot Review” window traces to the Ballot Summary Report, which, combined with the Batch ID, allows users to trace each ballot record back to a unique physical ballot.**
- Ballot level audits require a method of displaying the machine interpretation of marks on individual ballots – **Verity Central allows users to export plain-language, annotated ballot records that display this information (i.e. target areas that are “marked” or “not marked”), with corresponding batch ID and scan order information.**

Steps to perform an RLA with Verity Central

1. Identify the ballots that you wish to review.
2. Apply filters in Verity Central to see the ballot records that correspond to the class of ballots you wish to review.
   
   Note: Assuming the audit is being conducted post-election, batches that have been written to vDrive flash memory will be identified in the “Review Images” window with a locked “v” icon, indicating that the records are recorded and cannot be changed. Because the ballots have been recorded, the process of filtering on specific ballots, reviewing the graphic annotated records, and tracing those back to the physical ballot will result in a human-readable review of the CVRs that were written to the vDrive.
3. Double-click on the specific ballot for review. This will produce the “Ballot Review” window, where the ballot is represented with annotations (i.e. a record of the machine interpretation of the marks; see Actions>>Show Annotations).
4. For each ballot, print or export a copy of the annotated ballot record that shows the machine interpretation of the marks; the annotated ballot record includes overlays of the target areas that the machine and ballot adjudication counted as marks.
5. Each digital ballot record corresponds to a batch ID and a scan order within the batch. (If exporting the records, this information is indicated in the export filename.) You may also use the batch report to identify the physical location of the original ballot and use the scan order to trace back to the physical ballot within the batch.
6. Perform a human interpretation of the same ballot, and compare it to the annotated record from Verity Central that you printed or exported in Step 4, above.
7. When the vote shares in the sample give sufficiently strong evidence that the reported winner really won, the audit stops.

**OPTIONAL ADDITIONAL STEPS – After vDrives from Verity Central are read into Verity Count**

8. As an additional check, users can verify that the number of ballots counted in the selected group/batch from Verity Central matches the number of ballots tabulated in Verity Count, for that same sample.
- Use the same filters in Verity Count custom reports, or in the Auditing Dashboard, to compare the number of ballots counted.

9 As yet another check, users can compare the tabulated subset of totals of Verity Count CVRs from that specific sample against the hand tabulation based on the annotated records from Verity Central (i.e. the human interpretation of the individual ballots).

- In Verity Count, apply the same filters used for the Verity Central sample to produce custom reports that will show subtotals for that same sample.

10 Finally, the user can hand tabulate the Cast Vote Record exports from Verity Count and compare those results to the hand tabulation from the Verity Central annotated records.

- In Verity Count, apply the same filters used for the Verity Central sample and print cast vote records (e.g., hand count a random batch from Central and then hand count that same batch from the Count CVR export).

  **Note:** You may also use a process similar to Step 10 to compare Count CVR exports to ballots from Verity Scan devices. In Verity Count, you may compare the CVR export by vDrive (or polling place, or precinct, etc.) to a hand count of paper ballots associated with the same Scan device.
Verity Security Features

About this Document

Verity system security was designed following the most current best practices in voting and computer technology. In addition, Verity has been thoroughly tested by a voting system test laboratory (VSTL) accredited by the U.S. Election Assistance Commission (EAC), to ensure proper security and software functionality. The Verity system provides security in depth, with multiple, overlapping levels of physical and digital security features combined with comprehensive auditing capabilities. This document explains several of the most important security features of the Verity system, including:

- Device Physical Access Controls
- Kiosk Mode
- Device Secure Boot Process
- Whitelisting
- Tamper Evidence
- User Authentication
- Audit Logging
- Vote Security

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 printers, and the Verity Controller & Touch DRE booth connection cables. The use of non-standard 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.

As an added security measure, integral sliding port covers are included that may be secured with tamper-evident seals by the jurisdiction when the ports are not in use. Tamper-evident seals may also be fastened to the Verity device handles, and on locations that store ballots or vote data (for example, the vDrive compartments on Verity Scan or Controller and the external doors on the Verity Ballot Box). In addition, keyed locks are used to prevent unauthorized access to the vDrive compartment, ballot box, and device cases.

Kiosk Mode

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.
Device Secure Boot Process

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

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. Verity workstations and devices use a whitelisting process to block all unauthorized applications from running on the system.

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.

Tamper Evidence

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 Election Assistance Commission (EAC), to ensure that the installed software is identical to the software certified by the EAC. For more information on Hash Testing, see the Verity Knowledge Base article Hash Testing for Verity Software and Devices.

In addition to the tamper-evidence of the software itself, Verity digitally signs certain data (e.g. election definition files, vDrives, etc.) to provide tamper evidence while maintaining transparency.
User Authentication

Verity applications are designed to ensure that they are accessible only by authorized users. Authorized users, in turn, are required to identify themselves using a login name and password prior to gaining system access.

Authorization

Role-based permissions determine the operations that each user can perform. Only users with the proper privileges can view or change data. Administrators assign a user role to each user, ensuring that each user has access only to the abilities and information authorized by the administrator.

Passwords and Authentication

In addition to an assigned user role, each Verity user also has a unique login name and password. Verity password management rules are modern and flexible. When each user logs in, Verity ensures that the user name and password are valid before the user can access the software. An administrator can configure user accounts for Verity in each jurisdiction. Hart recommends that all jurisdictions follow standard security best practices in regards to password complexity and the storage of user credentials.

Verity Key

Verity Key is a small security device that election staff program for each election. An authorized user must write a Verity Key for each new election, making the Key specific to that election. User passwords for Verity Key may be election-specific and user-specific.

Verity Key is part of the Verity Voting two-factor authentication process. Two-factor authentication requires that each user have something (a programmed Verity Key, inserted into the workstation or device) and know something (a relevant passcode associated with the Key). Verity must authenticate both the user passcode and the Verity Key together. Each Verity Voting application requires the Key before allowing certain operations to occur. Critical operations within the Verity Voting system require the user to insert the Verity Key and enter the passcode. Only when the Verity system authenticates the Verity Key and password will it allow the operation to continue.
Audit Logging

Verity records comprehensive logs for all activity performed in the Verity Voting system, as it occurs. Each Verity component (application or device) maintains its own log. Logs are a critical part of maintaining security by providing an audit trail. Logs are created uniformly across applications and voting devices.

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 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.

Vote Security

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 discernable 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. 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).
Verity Password Management

The Verity voting system requires the use of passwords and passcodes to ensure security throughout the election definition, voting, ballot processing, and tabulation processes. Verity password management falls into three categories:

User passwords (Verity workstations)

Usernames and passwords for Verity software workstations (Build, Central or Count) are created and managed in the Users application.

The Users application allows an administrator-level user to add users, define user roles for each installed application, disable or remove users, and manage rules that apply to all users. Administrators can manage all user passwords, but other users can only update their own passwords.

**IMPORTANT: DO NOT LOSE THE ADMINISTRATOR USERNAME OR PASSWORD.** If the Verity Workstation Administrator username and/or password is lost or forgotten, it cannot be retrieved. It is critical to log all passwords securely to prevent this from happening. In the event that the Administrator user name or password is lost, the workstation must be reimaged by Hart personnel (either on-site, or shipped for repair), and **ALL ELECTION DATA ON THAT WORKSTATION MAY BE LOST.**

Verity voting device passcodes

Voting device passcodes are set in Verity Build for administrators, maintenance and warehouse personnel, and poll workers. These passcodes allow you to manage your staff’s ability to access different menus and functions on the voting devices themselves (Touch, Touch Writer, Scan, etc.).

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

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

**IMPORTANT:** If device passwords are lost or forgotten, they can be retrieved by an Administrator using the Build application. For customers using Hart Ballot Production Services (BPS), Election Officials can call BPS to retrieve a lost device password.
Verity device pass code access requirements

The table below lists each device menu or action requiring a pass code, and the pass code(s) required.

<table>
<thead>
<tr>
<th>MENUS/ACTIONS</th>
<th>CODE(S) REQUIRED</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CHANGE SETTINGS MENU</strong></td>
<td></td>
</tr>
<tr>
<td>Set Clock</td>
<td>Maintenance Code</td>
</tr>
<tr>
<td>Touchscreen Calibration</td>
<td></td>
</tr>
<tr>
<td>Set Alert Volume (Verity Scan only)</td>
<td></td>
</tr>
<tr>
<td>Scanner Contrast Calibration (Verity Scan only)</td>
<td></td>
</tr>
<tr>
<td>Scanner Speed Calibration (Verity Scan only)</td>
<td></td>
</tr>
<tr>
<td><strong>POLL WORKER TASKS MENU</strong></td>
<td></td>
</tr>
<tr>
<td>Create Ballot Access Code</td>
<td>Poll Worker Code</td>
</tr>
<tr>
<td>Deactivate an Access Code</td>
<td></td>
</tr>
<tr>
<td>Spoil Current Ballot</td>
<td></td>
</tr>
<tr>
<td>Print Access Code Summary</td>
<td></td>
</tr>
<tr>
<td><strong>ADMINISTRATOR MENU</strong></td>
<td></td>
</tr>
<tr>
<td>Change Ballot Rules (Verity Scan Only)</td>
<td>Administrator Code</td>
</tr>
<tr>
<td>Enable Recount Mode* (Verity Scan Only)</td>
<td></td>
</tr>
<tr>
<td>Change Report Settings* (Verity Scan Only)</td>
<td></td>
</tr>
<tr>
<td>Create Recovery vDrive</td>
<td></td>
</tr>
<tr>
<td><strong>OTHER ACTIONS</strong></td>
<td></td>
</tr>
<tr>
<td>Load Election (upon inserting a vDrive for a new election)</td>
<td>Maintenance Code; Verity Key Device Password</td>
</tr>
<tr>
<td>Open Polls</td>
<td>Open Polls Code</td>
</tr>
<tr>
<td>Suspend Polls (Verity Touch Writer)</td>
<td>Poll Worker Code; Suspend Polls Code</td>
</tr>
<tr>
<td>Suspend Polls (Verity Scan)</td>
<td>Suspend Polls Code</td>
</tr>
<tr>
<td>Close Polls (Verity Touch Writer)</td>
<td>Poll Worker Code; Close Polls Code</td>
</tr>
<tr>
<td>Close Polls (Verity Scan)</td>
<td>Close Polls Code</td>
</tr>
</tbody>
</table>

*if available in your jurisdiction

Verity Key passcodes

Finally, there are passcodes associated with Verity Key. These include an administrator passcode for the Key itself, and device and application passcodes. Passcodes for Verity Key are created and managed in Verity Build.

- The Verity Key administrator passcode is required to write the new 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 signed elections from the Build workstation. If device or application passcodes are lost or forgotten, they can be retrieved by an administrator using the Build application. For customers using Hart’s Ballot Production Services (BPS), Election Officials can call BPS to retrieve a lost device password.
- A complete list of actions requiring the use of the Verity Key is found in the Verity Administrator’s Guide (6641 series).
**IMPORTANT:** If the Verity Key administrator password is lost or forgotten, it cannot be retrieved, and the Key cannot be re-written. The Key must be discarded and replaced with a new Key with a known administrator password.

**Conclusion**

It is important to manage these passwords and passcodes carefully to ensure that authorized personnel know the required information when needed. Store all passcodes in a secure location and limit access to them.

It is important to note that device passcodes can be unique, or they can be shared across functions. For example, you can use the same passcode for opening polls across all voting types, or you can create a unique passcode for each voting type. You can create a new set of passcodes for each election, if desired, or reuse the same passcodes more than once. Remember that creating unique codes increases security, but also requires more careful management.
Exhibit A

Schedule A or Customer Signed Quote for Initial Order
Exhibit C

Definitions
This page intentionally blank.
Rechargeable Battery Best Practices

overview

This document outlines the best practices for the use of rechargeable system batteries in Verity devices. If you have any questions regarding these procedures, please contact the Hart Customer Support Center at 1-866-ASK HART.

battery specifications

Hart rechargeable batteries are lithium-ion Smart Batteries. Smart Batteries constantly communicate with the processor to determine voltage and discharging rate when active, and have built-in over voltage/over current protection. Hart system batteries are fully rechargeable (up to 500+ cycles) and include an integrated tester. Batteries are not shipped with a full charge. Batteries should be charged fully before their first use in an election. Battery life specifications are listed below:

- 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.
- **IMPORTANT:** Avoid allowing batteries to completely discharge to less than 10%; A completely depleted battery may become damaged to the point where it can no longer be recharged.

**IMPORTANT:** Do not expose system batteries to temperatures above 60C (140F). Do not mishandle or disassemble battery modules. Failure to follow these instructions may present risk of explosion, fire, or high temperatures.

proper shut down procedures

**IMPORTANT:** When powering off a Verity device, it is important to press the red power button on the back of the Verity device to power it down, and wait for the Verity device to be completely powered down and showing a black screen before unlocking the tablet and removing it from the cradle.

Removing the Verity tablet before the device has completely shut down will cause the Verity tablet to enter a ‘hibernation’ mode, which will deplete the system battery if the battery is left connected. If a battery becomes fully depleted, the battery may become permanently damaged, and unable to be recharged.

general use recommendations

When properly installed, and fully charged, a system battery will provide not less than 2 hours of backup power. Verity devices will automatically switch to available backup battery power if the device is disconnected from AC/wall power.

The relative charge of the system battery is displayed via a green battery icon on the Verity device screen, in the lower right corner (except during voting sessions). This icon shows only the approximate charge of the battery; the current charge level is displayed as a percentage on each device’s Power-On Self-Test report.
If the device does not have access to backup battery power (the battery is disconnected, depleted, damaged, or not present), the screen will display a white battery icon with a red line through it:

```
4:08 PM Thursday 12/11/2014
```

charging recommendations

Use only Hart-approved battery charging stations; two sizes of charger are available: a single bay battery charger and a six-bay battery charger.

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.

battery storage

After an election, batteries should be removed from devices, tested, and stored in a cool, dry location. 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 below).

IMPORTANT: Batteries should never be left in the device for long term storage (i.e. between elections).

installing, removing, and testing system batteries

IMPORTANT: Ensure that the Verity device is completely powered down before disconnecting the tablet and accessing the system battery.

To access the system battery (to test, remove, or replace):

1. Press the red power button on the back of the device to turn it off. Wait for the Verity device to be completely powered down and showing a black screen before unlocking the tablet and removing it from the cradle.

2. Unlock and remove the device tablet from its cradle.
3. On the back of the tablet, open the battery door.

4. To connect the battery, the tab on the connector coming from the battery must snap over the tab on the wire coming from the tablet. Failure to connect the battery properly can result in fire and damage to the device. To disconnect a battery, hold the white plastic connectors at both sides with your fingers, press on the tab, and pull gently.

5. Press the "TEST" button on the front left of the new battery to test the battery charge. Green lights should illuminate indicating the approximate charge. The charge level indicated is the maximum charge, in increments of 20% (e.g. if the lights indicate a charge level of 40, then the battery has between 21%-40% charge).
Equipment Handling Best Practices

overview
This document outlines the best practices for the storage and transport of Verity Voting system devices, as well as some key reminders to help you keep your Verity devices in good working condition.

Verity device storage
In static storage (i.e., when not being transported), Verity devices may be stacked horizontally. When stacked in this manner, ensure that the feet of each Verity device are resting in the indentations provided on the top of the case of the Verity device below it. Do not stack Verity devices more than three (3) devices high.

A note on Verity caddies: The capacity of Verity caddies will vary depending on the type and quantity of equipment being stored (Verity devices, booths, ballot boxes, printers, etc.). If transporting the devices in the caddy, follow the device transport best practices noted below.

Verity device transport
When transporting Verity devices, whether within the warehouse or storage area, inside a Verity Caddy, or when transporting by vehicle, always observe the following best practices:

- Do not stack Verity devices during transport.
- Verity devices must only be moved with handles up (not stacked).
- Verity devices should be strapped down to minimize bouncing/movement.

Verity device shipping
If shipping Verity devices by third-party transport (FedEx, UPS, USPS), including when shipping back to Hart for RMA, pack the device(s) securely in an outer cardboard box with adequate packing materials/overwrap to ensure the unit cannot shift within the box. An original box and foam packing materials from when the device was originally shipped to the jurisdiction can be reused for this purpose. Device tablets should be locked and latched within the device.

Other reminders
- 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.
- When disconnecting cords, never yank on the cord itself – grip the cord by the base where it connects to the device and pull firmly to remove.
- Verity power cords have a locking connector. When inserting the connector into a Verity device, it will make a small “click.” To disconnect the 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.
polling place operations

VERITY®

S
scan

W
touch writer
the polling place operations course

This course provides poll workers with an overview of the Verity system using Verity Scan and Touch Writer. After completing this course, the trainee will successfully set up and run the voting equipment, open polls, instruct and assist voters, and suspend/reopen or close the polls.

This course is designed to accompany the *Verity Polling Place Field Guide*.

Prerequisites: For elections staff, the *Verity Train the Trainer* course is recommended prior to conducting live training events with poll workers.