



Clear Ballot

ClearVote 1.5 Change Notes

ClearVote Change Notes

Clear Ballot Part Number: 100128-10013

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Document history

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Preface

This section defines the purpose of this document. It contains the following subsections.

- About this document
- Scope of this document
- Intended audience
- Contact us

About this document

This document describes the enhancements and fixes to defects in ClearVote version 1.5.



A ClearVote™ system can comprise the ClearAccess™, ClearAudit™, ClearCast™, ClearCount™, and ClearDesign™ products. Jurisdictions are not required to purchase all products. You can ignore references to any ClearVote components that are not part of your voting system. Also ignore implementation options that are not relevant to your policies and procedures.

Scope

This document contains the following chapters:

- [Chapter 1. Introduction to the ClearVote 1.5 campaign](#)
- [Chapter 2. ClearDesign](#)
- [Chapter 3. ClearAccess](#)
- [Chapter 4. ClearCount](#)
- [Chapter 5. ClearCast](#)

Intended audience

The document is for state and federal election officials and their voting system test laboratories as part of the Technical Data Package (TDP) required to certify the ClearVote system for use. This document is also used by Clear Ballot personnel who support election officials and staff.

Contact us

Clear Ballot Group welcomes your feedback on our documentation. Please send comments to Documentation@ClearBallot.com.

If you have questions about using your product, contact your Clear Ballot representative.

Chapter 1. Introduction to the ClearVote 1.5 campaign

This chapter introduces the ClearVote 1.5 campaign.

1.1 Versions of individual products in the ClearVote 1.5 campaign

Table 1-1 lists the version numbers of the individual products included in the ClearVote 1.5 campaign.

Table 1-1. Version numbers of products in the ClearVote 1.5 campaign

Product	Version
ClearAccess, ClearCast	1.5
ClearDesign	1.5.1
ClearCount	1.7.1

1.2 Highlights: changes from ClearVote version 1.4 to 1.5

Table 1-2 highlights some changes in the ClearVote family of products from version 1.4 to 1.5.

Table 1-2. Summary of changes from ClearVote version 1.4 to 1.5

Change	See the following
New support when ballots require judge's initials	"Setting up judge's initials in ClearDesign" on page 10 "Support for judge's initials in ClearCount" on page 25 "Excluding contests containing judge's initials from the SOVC PDF reports in ClearCount" on page 25 "Use of judge's initials in ClearCast" on page 29
New device-count feature	"Specifying the number of ClearCast devices for each vote center in ClearDesign" on page 13 "Vote Centers page of ClearCount and outstanding merge results for ClearCast devices" on page 24
Support for exclusive one-touch straight party voting functionality for PA	<i>ClearDesign User Guide</i> <i>ClearAccess Supervisor Guide</i>
Support for card stubs	"New Header Type values in ClearDesign for card stubs" on page 13

Table 1-2. Summary of changes from ClearVote version 1.4 to 1.5 (continued)

Change	See the following
Support for consolidated precincts	"Support for consolidated precincts in ClearDesign" on page 14 "Support for consolidated precincts in ClearCount" on page 26
Use of encrypted USB drives for all products	Clear Ballot recommends the use of encrypted USB drives. See the <i>ClearVoteApproved Parts List</i> for information about approved devices.
New timing mark tolerances for ballot printing	ClearDesign PDF ballots now reflect the modified timing-mark margins of 3/32" required in ClearCast 1.5. The crop marks of ClearDesign 1.5 printed card PDFs reflect the new requirements. See the <i>ClearVote Ballot Stock and Printing Specification</i> for more information.



Chapter 2. ClearDesign

This chapter describes the enhancements, fixed defects, and a functional change in ClearDesign version 1.5.1.

2.1 Highlights: enhancements from ClearDesign version 1.4 to 1.5.1

The following list highlights some major enhancements from ClearDesign version 1.4 to 1.5.1:

- Judge's initials (page 10)
- Tracking the number of devices associated with each vote center (page 13)
- Ballot stubs (page 13)
- Consolidated precincts (page 14)
- Upgrade to Ubuntu 16.04.4 (page 17)
- New server hardware

For specific hardware models, see the *ClearVote Approved Parts List*.

2.2 Enhancements

This section describes the enhancements in ClearDesign version 1.5.1.

2.2.1 Backing up and restoring elections

When you upgrade from ClearDesign version 1.4 to 1.5.1, back up and restore any elections after upgrading to ClearDesign 1.5.1. This action also updates the database.

Always generate a new BDF for ClearCount and a new ADF for ClearAccess.

2.2.2 Setting up judge's initials in ClearDesign

Some jurisdictions require a box for *judge's initials* to appear on a ballot. In the process of distributing the ballot to the voter, one or more election officials may be required to initialize the ballot. If the box does not contain the required initials, the ballot is not counted.

The Contest dialog of ClearDesign must contain the following settings related to judge's initials:

- **Contest Type** = Judge's Initials
- **Warn Under Vote** = Reject
- **Warn Blank Vote** = Reject

In the BDF, the value 2 indicates Reject.

The following BDF fields are relevant to judge's initials:

- **contests.ContestType = 'J'**
- **choices.ChoiceType = 'J'**
- **ballotmapperFlags = 1**

2.2.3 New Placement option for card headers: Front of First Card Only

ClearDesign has a new **Placement** option for card headers: Front of First Card Only. To edit the Placement option, go to the Layout view of the Header dialog. This Front of First Card Only option applies to card headers and footers, not contest headers and footers.

2.2.4 New abbreviation for the standard ballot set

The abbreviation for the standard ballot set has changed from "Standa" to "<STD>".

The names of both the PDF and BDF files will reflect this change.

2.2.5 Password recovery

ClearDesign enables you to recover a forgotten password if the role assigned to your username has the permission **User-Generate Password Recovery** enabled. You can download a password recovery file by selecting **Generate Password Recovery File** from the drop-down list in top-right of the screen next to your username. You can then use the saved password recovery file to reset your password in the future.

The following guidelines apply:

- The default ClearDesign Administrator role has the **User-Generate Password Recovery** permission enabled by default. For all other roles, the User-View permission and the User-Generate Password Recovery permissions must be enabled for the role to use the password-recovery functionality.
- If you have downloaded a password recovery file and mistype your password when logging in, the error message includes a "Forgot your password link." Clicking the "Forgot your password" link on the Login screen causes ClearDesign to display the Reset Password dialog. Select the password recovery file, enter and confirm the new password, and click **Save**.

At this point, the Login screen appears again. Log in with your username and new password.

- When you download a password recovery file, it invalidates any previously downloaded recovery files.
- A password recovery file is specific to the user who downloads it. The hash of the random value inside the file is saved in the user's database table.



2.2.6 Language options for entity styles used for layout

The entity styles used for layout now support some options by language. The entity styles have tabs that contain the settings for each configured language.

For example, Figure 2-1 shows two tabs containing settings for Spanish and Vietnamese. These tabs are enclosed in red.



Figure 2-1. Layout Style: Color & Border dialog—Language Settings

Table 2-1 lists the entity settings related to each configured language.

Table 2-1. Entity settings related to text for each configured language

Setting	Description
Font	The font name
Size	The font size in points.
Justify	The alignment of the text. Selections are: Inherit, Left, Center, and Right
Background Color	An HTML color code or name
Letter Spacing	The amount of space between a group of letters to affect density in a line or block of text. Selections are: Inherit, Compressed, Normal, Expanded, and Very Expanded
Line Spacing	The vertical distance between lines of text.
Option	Options for the font. The available options can vary depending on the selected font. One of the following: Inherit, Normal, Bold, Italic, Underline, Bold Italic, Bold Underline, Italic Underline, and Bold Italic Underline
Text color	An HTML color code or name.

2.2.7 New Header Type values in ClearDesign for card stubs

The Header dialog provides two new **Header Type** selections: Card Stub Top and Card Stub Bottom. These options enable you to design ballots containing tear-off stubs. You can use the Ballot Text editor on the Basic view of the header to edit text for the card stub. Use the **Placement** field on the Layout view to indicate the location of the stub text. The default **Height** of each stub is 1.0 inch.

You must remove stubs before tabulation.

2.2.8 Specifying the number of ClearCast devices for each vote center in ClearDesign

ClearDesign enables you to specify the number of ClearCast devices programmed for each vote center in an election. To do so, click the **Edit** button corresponding to the desired vote center from the Vote Centers view. This action displays the corresponding Vote Center dialog. Figure 2-2 shows an example. In this example, the **Number of Devices** fields are enclosed in red.

Vote Center: 1-2-3

Basic

Name	1-2-3	Sort Seq	10								
Short Name	1-2-3	Abbreviation	<1-2-3								
Import ID		Export ID									
Number Of Devices <table border="1"> <tr> <td>Type</td> <td>Election Day - Central Scanner - Standard</td> <td>Number</td> <td>1</td> </tr> <tr> <td>Type</td> <td>Election Day - Accessible Marker - Standard</td> <td>Number</td> <td>0</td> </tr> </table>				Type	Election Day - Central Scanner - Standard	Number	1	Type	Election Day - Accessible Marker - Standard	Number	0
Type	Election Day - Central Scanner - Standard	Number	1								
Type	Election Day - Accessible Marker - Standard	Number	0								

Precincts

All Precincts

01 (Greater Madison City Area) 03 (Northern Clear County) 05 (Eastern Clear County)
 02 (Southern Clear County) 04 (Lakeside Suburb and rural)

Figure 2-2. Vote Center dialog

Why ClearDesign stores the numbers of devices

Jurisdictions import elections defined in ClearDesign into ClearCount from ClearCast. After jurisdictions import election results into ClearCount from ClearCast, they must reconcile the number of devices programmed for an election with the number of devices specified for each vote center.

This arrangement ensures that a jurisdiction has not lost a USB drive containing data from a given scanner or failed to load the data.

Tracking of accessible markers is optional. A jurisdiction that tracks accessible markers can print a report showing the number of devices sent to each location.

Storing the number of paper scanners in the BDF

When you export an election to a BDF, ClearDesign stores the number of paper scanners for each vote center in votecenters.csv file of the BDF. The field is called **NumPaperScanners**.

Although you can specify the number of Accessible Markers in ClearDesign, the BDF does not currently store this value.

ClearDesign permissions associated with the number of device types

The following ClearDesign permissions enable an administrator to view and edit the number of devices:

- Vote Center Device Type-View
- Vote Center Device Type-Add
- Vote Center Device Type-Edit
- Vote Center Device Type-Delete

If you are an existing administrator, enable these permissions. ClearDesign automatically enables these permissions for new administrators

2.2.9 Support for consolidated precincts in ClearDesign

Clear Ballot has added support for consolidated precincts.

When you add a precinct in ClearDesign, the Precinct dialog requires you to select a **Precinct Type** of Standard or Consolidated. The Standard **Precinct Type** is the default. Use Standard except in special cases.

The Consolidated **Precinct Type** reduces the number of printed ballot styles in specific situations by lumping a copy of all existing splits in other precincts into a new consolidated precinct. This arrangement allows ballots for the consolidated precinct to be printed "by-style." The trade-off is the inability to report on voter turnout by precinct.

When setting up consolidated precincts, assign them a unique Ballot Set to allow for ballots printed by style within the consolidated precinct rather than for each split.

ClearCount reports lump all consolidated ballots under the consolidated precinct. Therefore, the ballots cannot be filtered across geography.

The summary of voter turnout in ClearCount includes the consolidated precinct ballots in the total. At the precinct level, the consolidated precinct ballots will not appear because they lack geographical assignments.

See also "Support for consolidated precincts in ClearCount" on page 26.

Figure 2-3 shows the Precinct dialog. The **Precinct type** field is enclosed in red.

Precinct: Precinct 60

Save Reset Cancel

Basic Districts

Name: Precinct 60 Sort Seq: 60

Short Name: Precinct 60 Abbreviation: Prec60

Import ID

Export ID

Precinct Type: Standard

Languages: Standard, Vietnamese, Consolidated

Figure 2-3. Precinct dialog—Precinct Type field

The **Precinct Type** field also appears in the Ballot Set dialog (Figure 2-4).

Ballot Set: Ballot Set 20

Save Reset Cancel

Name: Ballot Set 20 Sort Seq: 20

Short Name: Ballot Set 20 Abbreviation: BS20

Import ID

Export ID

Card Template: 8.5 x 11 - 3 Column

Layout Style: Color & Border

Precinct Type: Standard

Split Identifier: Name

Combine Similar Ballots

Contests

All Contests

Madison City County Judge (Single Precinct and Write-In) Retain Judge William S. Clark (Retention)
 County Parks Board (Choose 2 out of 8 n/m) Recall Rep.. (y/n followed by vote)
 Northern Clear County Judge Recall Subsequent Vote (Precinct Rotation)
 Southern Clear County Judge Representative To The United States Congress (write-in only)
 Eastern Clear County Judge U.S. Fed. Senator Vote (Single Vote - Precinct Rotation)
 President of the Unified States (cross-voting)
 State Parks Funding (Jurisdiction Wide Question)
 Madison City Funding for Tourism (Splits within Precinct)
 Lakeside Suburbs incorporation (Splits across Precincts)

Figure 2-4. Ballot Set dialog—Precinct Type field

The **Precinct Type** field is also included in the BDF.

2.2.10 New Line Height options less than 1

ClearDesign contains the following new **Line Height** options that are less than 1: 0.5, 0.6, 0.7, 0.8, and 0.9.

These Line Height options are available in the following locations:

- The **Formats > Line Height** option in the Ballot Text editor of the in the Basic view of Header and Contest dialogs
- The **Line Height** field on the Layout view of the Header and Contest dialogs

Figure 2-5 shows the Line Height options less than 1 in the Ballot text editor for a header.

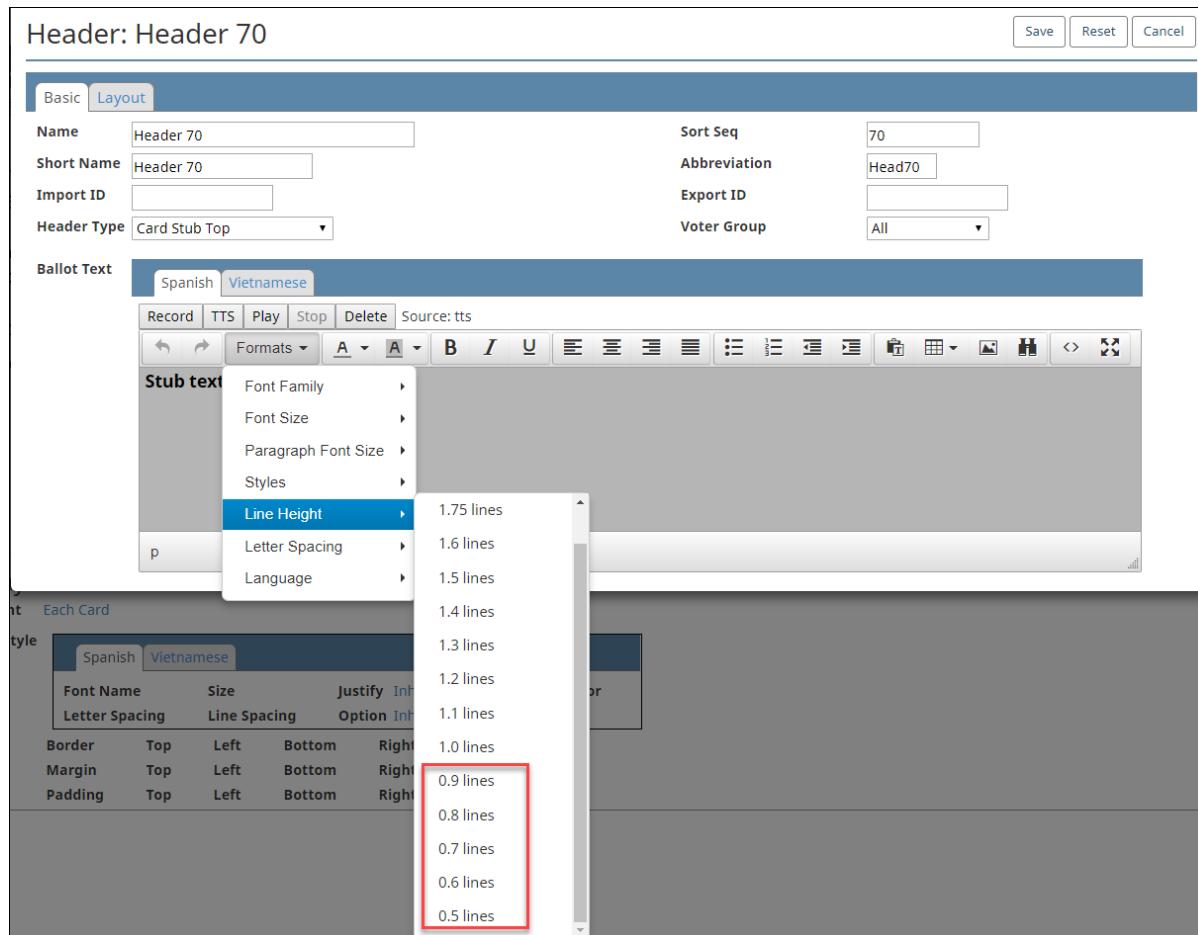


Figure 2-5. Line Height options less than 1 in the Ballot Text editor

2.2.11 Header Type: Contest Footer

The Header dialog of ClearDesign supports a **Header Type** of Contest Footer.

A **Header Type** of Contest Footer has the following unique **Contest Footer Pattern** options available from the Layout tab of the Header dialog:

- After All Contests Except Last
- After Last Contest Only
- After All Contests

You can combine the **Contest Footer Pattern** options with the **Placement** option on the Layout tab. Some of these combinations are:

- Use the **Placement** options Front Only and Back Only to place "continue voting next side" and "end of ballot headers."
- In a multi-card scenario, the footer that is placed at the back of the card may state "continue next card." To support this option, in combination with the Each Column option, there are two unique **Placement** options: Each Column Front Only and Each Column Back Only.

2.2.12 Upgrade to Ubuntu version 16.04.4 on the DesignServer

The DesignServer has upgraded to Ubuntu version 16.04.4.

Before installing the updated version of Ubuntu, back up any elections and store them in a secure location because upgrading Ubuntu will reform the hard disk.

2.2.13 New options for the Entity Types filter in the System Logs view

In the System Logs view, the **Entity Types** field contains two new options for filtering system events:

- System
- None

2.2.14 Flash is no longer needed on DesignStations

Previously, the ClearDesign user interface used Flash to implement buttons. As result, Flash was part of the installation process.

In version 1.5.1, these user-interface elements are no longer implemented in Flash. Flash is no longer part in of the version 1.5.1 installation process.

The position and wording of the buttons are unchanged.

2.2.15 Improvement to the audio editor

The current version of the audio editor enables you to open a previously saved file (zip) and continue working.

2.2.16 Ensure that ovals on the front and back of a ballot do not line up

ClearDesign now ensures that ovals on the front and back of the card do not line up. Misaligning the ovals removes the risk of "bleed through" of voter marks than can result in overvoted ballots.

2.2.17 Improvement to the process for translating language text files

ClearDesign has improved the process for translating language text files. The *ClearDesign User Guide* describes this process in detail. See the section "Exporting, translating, and importing language text files."

2.2.18 Ending the Contest Header background color on the last line of text

Previously, the gray background color in contests and headers extended until it reached the first valid oval position where candidates appear.

Now the gray background color cuts off at the last line of text. Any remaining space between the contest and header text and the candidate reflects the background color of the candidate area.

2.2.19 Support for North Carolina's SEIMS file format

ClearDesign now provides support for the Statewide Elections Information Management System (SEIMS) format used in the state of North Carolina.

2.2.20 Support for Washington's EIMS VR file format

ClearDesign now fully supports the Election Information Management System Voter Registration (EIMS VR) file format for the state of Washington without any requiring any changes.

2.2.21 Compliance with SCAP

ClearDesign complies with the SCAP checklist for Ubuntu 16.04.4.

2.3 Fixed defects

This section describes the fixed defects in ClearDesign version 1.5.1.

2.3.1 An election with no contests associated with a first split in a precinct failed to print

Previously, an election with no contests associated with a first split in a precinct failed to print, resulting in a "none" error at the end of the printing process.

This issue no longer occurs.

2.3.2 For recorded audio, the "space" played for all device audio

Previously, for recorded audio used in ClearAccess, the "space" played for device messages. This issue no longer occurs.

2.3.3 Default write-in label has changed

The default label shown beneath the candidate write-in line has changed from "OrWrite-in" (note the lack of space) to just "Or Write-In".

2.3.4 Localizations can no longer self-reference

Previously, issues occurred when a value was changed to self-reference.

Example: Language == ~ {Language}

ClearDesign no longer allows localizations to self-reference.

If you try to enter a localization containing a self-reference, ClearDesign issues the message: "Cyclical reference in localization." ClearDesign also does not allow you to save the localization.

2.3.5 Update to the Entity Types drop-down list in the System Logs and filtering by date

Clear Ballot has updated the **Entity Types** drop-down list in the System Logs. Now only the entity types contained in system logs appear as selections in this drop-down list.

The System Logs enable you to filter by **Start Date** and **End Date**. When filtering by dates and no entries appear in the results, the date range is too restrictive, and the available log entries fall outside the specified range. To include all potential log entries, enter the following:

- **Start Date:** the system installation date or a date preceding the installation date.
- **End Date:** the current date

2.3.6 Multi-party contest endorsement

ClearDesign supports multi-party contest endorsement. In short, this functionality allows an individual contest to be associated with more than one political party or voter group. For a complete description and some typical examples of using this functionality, see "Endorsing contests by voter group" in the *ClearDesign User Guide*.

2.4 Recommended workarounds

This section describes some recommended workarounds.

2.4.1 Functional change: the first ballot set must contain all contests

As a result of implementing consolidated precincts and other functionality in version 1.5.1, ClearDesign currently requires the first ballot set of an election to contain all contests. This ballot set cannot be deleted.

If your jurisdiction does not require a ballot containing all contests in an election, use the first ballot set as placeholder that does not get printed.

Any jurisdiction that wants to use older elections may need to add the first ballot set containing all contests to those elections. Therefore, older ballots, including the test accuracy deck, must be reprinted.

2.4.2 Avoiding a gap between a contest name and the choices

On a ballot PDF, a contest name can appear to have a large gap between the contest name and the first contest choice. ClearDesign now provides the flexibility to fill in the gap with a background color. This capability provide a more consistent look-and-feel for the coloration of contest boxes. However, the previous formatting option, which carries the background color for the contest name down to the first contest choice, is still available.

To avoid the gap between the contest name and the first available choice, specify a **Color** in the **Margin** row on the Layout tab of the Contest dialog.

For examples of formatting options, see the ballot PDF in Figure 2-6. This ballot PDF shows three contests: Contest 10, Contest 30, and Contest 40.

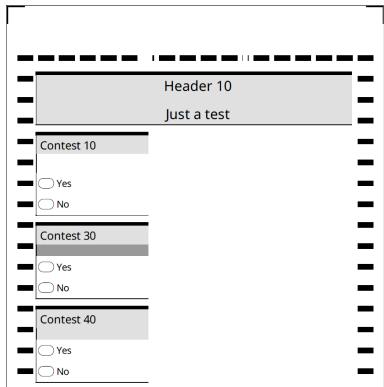


Figure 2-6. Ballot PDF showing three contests

The contests shown in FIG-REF have the following formatting options:

- Contest 10 appears to have a large gap between the contest header and the choices. The **Color** field in the **Margin** row of the Layout tab of the Contest: Contest: 10 dialog does not specify a value.
- For Contest 30, the **Color** field in the **Margin** row of the Layout tab specifies a color that contrasts with the background color of the contest header as shown in Figure 2-7. The **Color** field of the **Margin** row is enclosed in red.

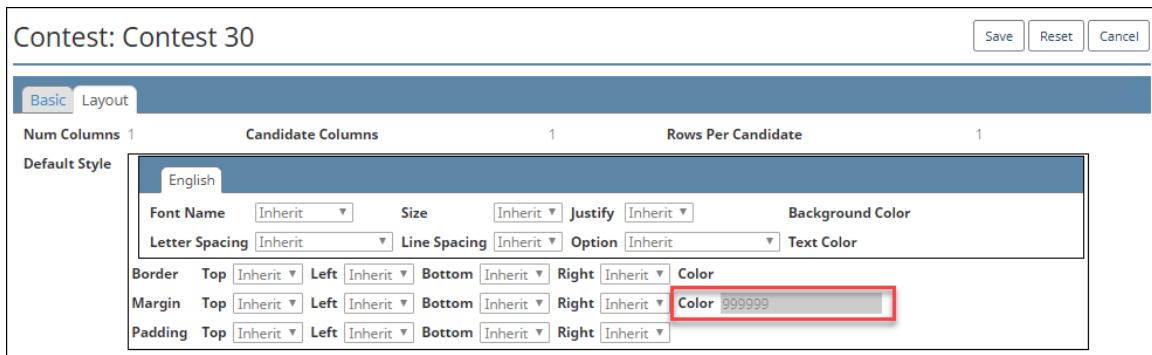


Figure 2-7. Layout tab of the Contest: Contest 30 dialog

- For Contest 40, the Color specified in the Margin row of the Layout tab is the same as the background color of the contest header.

Chapter 3. ClearAccess

This chapter describes the enhancements and fixes to defects in ClearAccess version 1.5.

3.1 Summary of changes: ClearAccess version 1.4 to 1.5

The following lists summarizes the changes from ClearAccess version 1.4 to 1.5:

- New hardware: two versions of the Elo Touchscreen
- Updated Brother printer
- New feature: ClearActivate (barcode scanning)

For specific hardware models, see the *ClearVote Approved Parts List*.

3.2 Enhancements

This section describes the enhancements to ClearAccess version 1.5.

3.2.1 Hardware updates

ClearAccess version 1.5 supports the following new commercial off-the-shelf (COTS) hardware:

- Elo Touchscreen computers
- Brother printer

For specific hardware models, see the *ClearVote Approved Parts List*.

3.2.2 Processing input from a barcode scanner

ClearAccess can now do the following:

- Detect the presence of a barcode scanner
- Identify the model and name of the barcode scanner
- Wait for input from the scanner based on a notification
- Start and stop the request for notification
- Get the data from the barcode or detect any error in the scanning

Barcode scanner functionality requires the Zebra Core Scanner Driver, which is part of the ClearAccess installation program.

3.2.3 Scanning a barcode that selects the precinct split

From the Select Ballot screen, ClearAccess allows scanning a barcode that automatically selects the ballot style corresponding to the precinct split.

- No action is required other than to present a barcode to the scanner
- Once the ClearAccess scans and interprets the barcode, a confirmation dialog shows the precinct selected and allows the user to proceed or go back.
- The confirmation dialog also shows the audio, screen, and preferred settings. The settings contain one of the following:
 - The value in the barcode, if present
 - The default settings, if not specified in the barcode
- If the barcode is unreadable or there were issues determining a single ballot style from the barcode contents, there is an error presented with an appropriate message. From the error modal, the user will go back to the screen where he or she can manually enter the precinct.

3.2.4 barcode scanner icon in the status bar

An icon now appears in the status bar when the barcode scanner is operational.

3.2.5 Changes to the voting workflow when ClearAccess detects a barcode scanner

If a barcode scanner is operational, the Ballot Select Screen provides instructions to voter on how to scan a barcode on the ballot.

3.3 Fixes to defects

This section describes the fixes to defects in ClearAccess version 1.5.

3.3.1 The File Digest column wraps on the About screen

On the About screen, the File Digest column previously was cut off when resizing the browser window. The File Digest now wraps when the browser windows gets resized.

Chapter 4. ClearCount

This chapter describes the enhancements and fixes to defects in ClearCount version 1.7.1, which is included in the ClearVote 1.5 campaign.

4.1 Highlights of changes: ClearCount version 1.4 to 1.7.1

The following lists highlights some changes from ClearCount version 1.4 to 1.5:

- Merge of device counts and new reporting of merged units
- Some new hardware
- Use of encrypted USB drives and encrypted hard drives
- Upgrade to Ubuntu 16.04.1 on the ScanServer

4.2 Enhancements

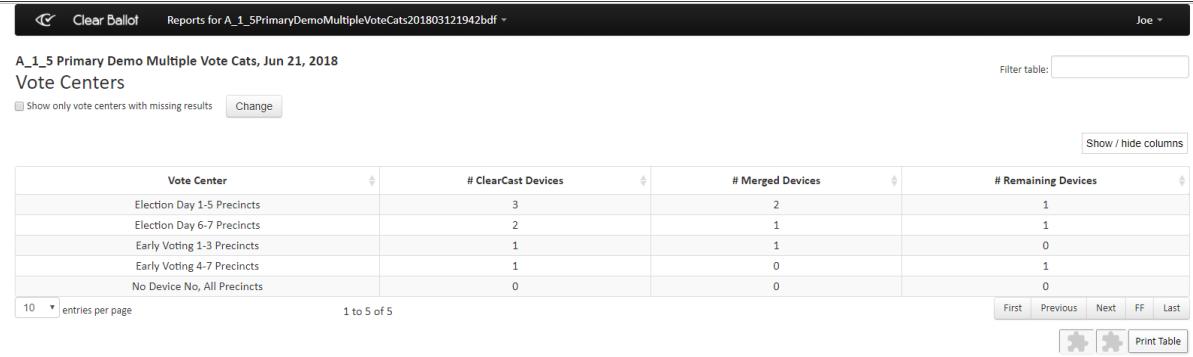
This section describes the enhancements in ClearCount version 1.7.1.

4.2.1 Vote Centers page of ClearCount and outstanding merge results for ClearCast devices

The Vote Centers page (Figure 4-1) has changed to make it easier to determine which ClearCast devices contain data that is not yet merged. This page has three new columns:

- **# ClearCast Devices**—the number of ClearCast devices specified in ClearDesign for the vote center
- **# Merged Devices**—the count of ClearCast devices that have been merged for the vote center.
- **# Remaining Devices**—the number of the ClearCast devices that have not yet been merged.

This page also has a new check box called **Show only vote centers with missing results**.



The screenshot shows a web-based application interface for 'Clear Ballot' with a title bar 'Reports for A_1_5PrimaryDemoMultipleVoteCats201803121942bdf ~ Joe ~'. The main content is titled 'A_1_5 Primary Demo Multiple Vote Cats, Jun 21, 2018' and 'Vote Centers'. A checkbox 'Show only vote centers with missing results' is checked. The table has columns: 'Vote Center', '# ClearCast Devices', '# Merged Devices', and '# Remaining Devices'. The data is as follows:

Vote Center	# ClearCast Devices	# Merged Devices	# Remaining Devices
Election Day 1-5 Precincts	3	2	1
Election Day 6-7 Precincts	2	1	1
Early Voting 1-3 Precincts	1	1	0
Early Voting 4-7 Precincts	1	0	1
No Device No, All Precincts	0	0	0

At the bottom, there are buttons for 'First', 'Previous', 'Next', 'FF', 'Last', and a 'Print Table' button.

Figure 4-1. Vote Centers page

4.2.2 Updating the number of paper scanners in the BDF

The number of paper scanners can change during an election. This enhancement allows a Safely Merge BDF operation to update the **NumPaperScanners** field in the `votecenters.csv` file of the BDF. As a result, the # Devices in Vote Centers report in ClearCount can be updated during an election.

4.2.3 Support for judge's initials in ClearCount

Some jurisdictions require a box for *judge's initials* to appear on a ballot. The person who hands the ballot to a voter must write his or her initials in this box. If the box does not contain the initials, the ballot is not counted.

ClearCount now provides support for judge's initials.

This change affects the tabulation of ballots. You see no effect unless you use a BDF that contains a contest with the following parameters:

- **Contest Type** = Judge's Initials
- **Warn Under Vote** = Reject
- **Warn Blank Vote** = Reject

In the BDF, the value 2 indicates Reject.

The following BDF fields are relevant to judge's initials:

- `contests.ContestType = 'J'`
- `choices.ChoiceType = 'J'`
- `ballotmapperFlags = 1`

4.2.4 Excluding contests containing judge's initials from the SOVC PDF reports in ClearCount

The enhancement excludes all contest containing judge's initials from Statement of Votes Cast (SOVC) PDF reports.

4.2.5 Using a paper tape to audit a tabulator

The Statement of Votes Cast by Box, Geography report provides a format that allows election officials to compare election and audit results on a box-by-box basis. Officials can compare the data from this report with paper-tape tabulator results. For additional information, see the *ClearCount Quick Guide Comparing Tape Results*.

4.2.6 Avoiding page timeouts for large election reports

Clear Ballot has enhanced web reports in ClearCount to avoid timeouts when a large amount of data may exceed the browser's rendering capabilities. When the amount of data is likely to cause a timeout, a user can choose to view a subset of the report data to avoid a timeout or view the entire report.

4.2.7 Additions to the <Contest> element in the XML results file

ClearCount can generate an XML results file for an election. A programmer can generate custom reports from this file.

To meet additional reporting requirements of some jurisdictions, Clear Ballot has added the 'type' attribute to the <Contest> element.

Example: <Contest ... type = "x" ...>

The values of x are:

'C' = Normal contest with candidates

'Q' = Question (Example: amendment)

'E' = A question asking for retention (Example: judge)

'R' = Recall contest ("do you want to recall [Candidate]?"")

'S' = Straight-party selection contest (Nine states use this)

'P' = "Pick-a-party" aka "Party Preference" (Example: WA)

'J' = Judge Initials contest

Clear Ballot has also added the 'partyId' attribute to the <Contest> element of the XML results file to support Election Night Reporting (ENR). This attribute takes an integer value.

4.2.8 Support for consolidated precincts in ClearCount

Consolidated precincts, which can now be created in ClearDesign, can be displayed and reported on in ClearCount web and PDF reports. Consolidated precincts appear in all places in ClearCount where regular location-specific precincts appear.

See also "Support for consolidated precincts in ClearDesign" on page 14.

4.3 Fixes to defects

This section describes the fixes to defects in ClearCount version 1.7.1.

4.3.1 ContestFullName field removed from BDF

Clear Ballot has removed the **ContestFullName** field from contests.csv in the BDF. ClearCount and ClearCast do not use the **ContestFullName** field. Only ClearDesign uses this field.

This resolves an issue for customers who tried to load elections with long measure text and complex formatting.

4.3.2 Per election access levels

A user's per-election access level depends on his or her default access level. Previously, the user interface did not display the correct per-user access levels. Clear Ballot has corrected this issue.

Table 4-1 lists the per-election access levels that are available based on a user's default access level.

Table 4-1. Default user-access levels and allowed per-election access levels

Default user access level	Allowed per-election access levels
None	Read, append, modify
Read	Append, modify
Append	Modify
Modify	(None)
dbadmin	(None)
useradmin	(None)

4.3.3 Statement of Votes Cast PDF Reports—no longer contain incorrectly redacted grand totals

Previously, the following PDF reports contained incorrectly redacted Grand Totals:

- Statement of Votes Cast by Geography
- Statement of Votes Cast by Contests

Clear Ballot has resolved this issue.

4.3.4 Resolution of the "service unavailable" error during heavy processing of the Card Resolutions tool and Tabulator

Previously, during heavy load testing while using scanners, the Tabulator, and the Cards Resolution tool, an "HTTP 503: Service unavailable" error occurred. The underlying cause was as MySQL deadlock that occurred during heavy processing involving both the Tabulator and Card Resolutions tool. ClearCount has improved the locking mechanisms for database tables to eliminate this issue.

4.3.5 Resolution of the "service unavailable" error while running the Tabulator and DeleteBox

Previously, an "HTTP 503: Service unavailable" error could occur while running the Tabulator on one ScanStations and the DeleteBox utility on another ScanStation during heavy tabulation. ClearCount has resolved this issue by improving the timeout mechanism for these services.

4.3.6 SPV marks crossed-party candidates for only one party and not the other

Previously, an issue could occur involving the combination of *both* straight party voting and cross-endorsed candidates.

Conditions required:

1. Straight Party voting is enabled in the election.
2. There are cross-endorsed candidates in at least one contest, with those candidates' names occurring at least twice (once per party)
3. Voter selects a party in the SP controlling contest causing implied votes (or reversal of vote) based on SP type rules.
4. Voter's selected SP party has their cross-endorsed candidate appearing second in the ballot order

Affected area:

This issue could affect tabulation in both ClearCount and ClearCast. Based the conditions listed above, any cross-endorsed candidate whose name/endorsement appears second (or later) in the contest would not receive a vote, and his or her party would also not receive credit. Note that this error is not party specific, but ballot-order specific. Also, all single-party endorsed candidates in the same contest of either party tabulate correctly.

Chapter 5. ClearCast

This chapter describes the enhancements and fixes to defects in ClearCast version 1.5.

5.1 Highlights: changes from ClearCast version 1.4 to 1.5

The following lists highlights some changes from ClearCast version 1.4 to 1.5:

- New touch screen display
- Removal of the auxiliary USB port
- Improvements to the UI
- Upgrade to Ubuntu 18.04.1 from v. 14.04
- Minor fixes to defects
- New installer
- Upgraded processor
- New power system
- New scan engine
- New thermal printer
- Updated chassis
- New timing mark tolerances

For specific hardware models, see the *ClearCast Approved Parts List* and the bill of materials (BOM) included in that document.

5.2 Enhancements

This section describes enhancements in ClearCast version 1.5.

5.2.1 New timing mark tolerances

ClearDesign PDF ballots now reflect the modified timing-mark margins of 3/32" required in ClearCast 1.5. The crop marks of ClearDesign 1.5 printed card PDFs reflect the new requirements.

See the *ClearVote Ballot Stock and Printing Specification* for more information.

5.2.2 New installer for ClearCast

ClearCast version 1.5 has a new installation package that adds the operating system, development tools, and application software in a single operation.

5.2.3 Use of judge's initials in ClearCast

Some jurisdictions require a box for judge's initials to appear on a ballot. In this situation, ClearCast must use a BDF that sets up a box where an election official adds his or her initials after inspecting the ballot. When the judge's initials are missing from the ballot, ClearCast issues a warning, immediately returns the ballot to the voter, and the ballot is not counted.

If the ballot requires judge's initials, the contest must have the following options set in ClearDesign for the warning message to appear in the ClearCast power-on report. Otherwise, the power-on report does not print the contest-level warning messages:

- **Contest Type** = Judge's Initials
- **Warn Under Vote** = Reject
- **Warn Blank Vote** = Reject

5.2.4 New Hardware Issue Encountered screen

ClearCast has new Hardware Issue Encountered screens:

- Figure 5-1 shows the screen that ClearCast displays when all devices are unresponsive.
- Figure 5-2 shows the screen that ClearCast displays when the scanner and printer are unresponsive.

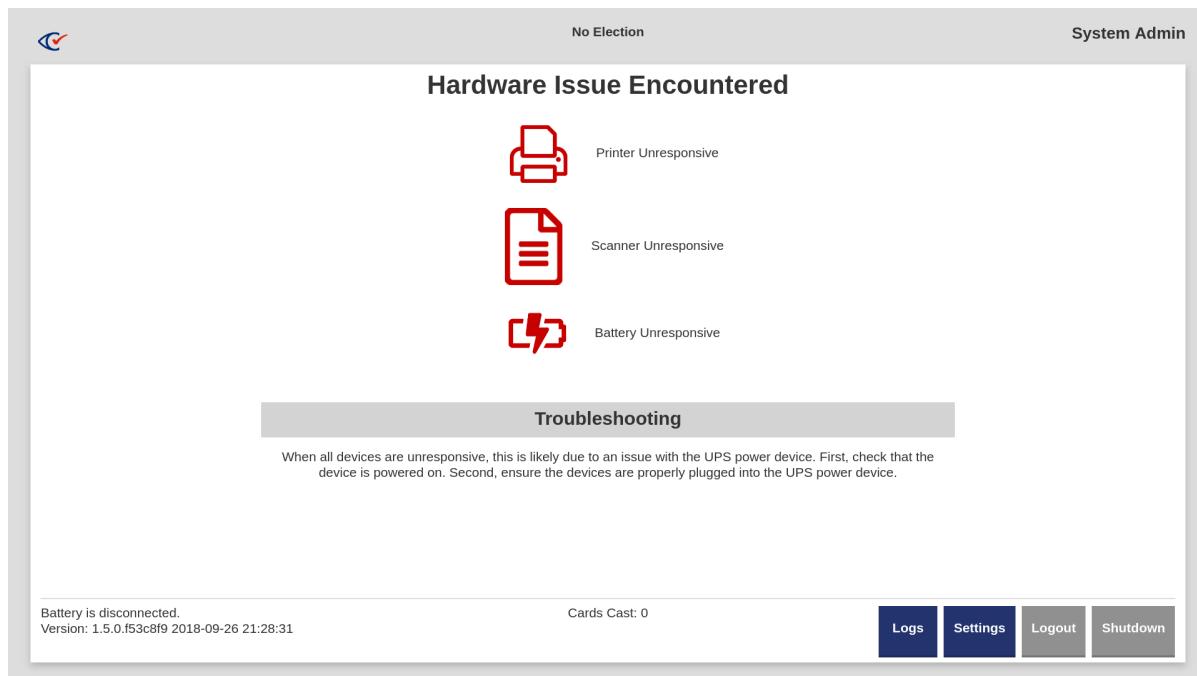


Figure 5-1. Hardware Issue Encountered screen—all devices unresponsive

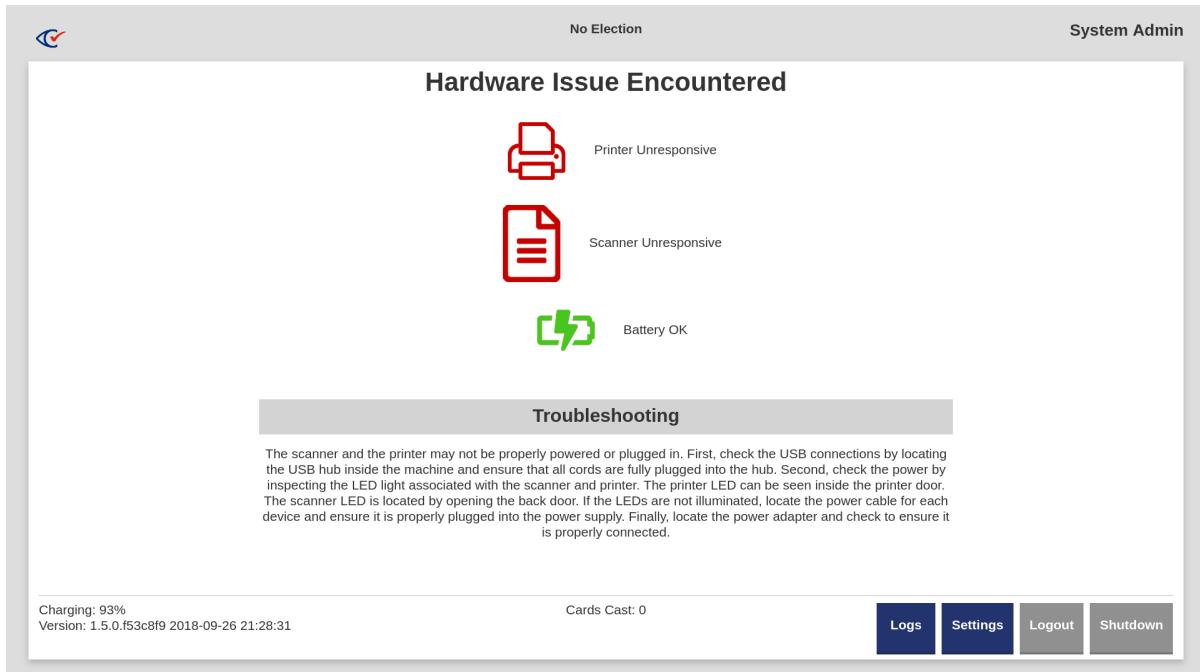


Figure 5-2. Hardware Issue Encountered screen—scanner and printer unresponsive