# ClearVote 2.3

## ClearCount Election Administration Guide

# ClearCount Election Administration Guide

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# Table of contents

# Preface

This section defines the purpose of this document.

## About this document

This document provides an orientation to ClearCount and describes the scanning and administrative functions of a central-count election. This guide assumes the following:

- ClearCount was installed successfully
- All hardware is functioning properly

## Scope of this document

This document contains the following sections:

- Chapter 1.  Administration
- Chapter 2.  Managing users
- Chapter 3.  Managing elections
- Chapter 4. Setting up the scanning location
- Chapter 5.  Target cards and box labels
- Chapter 6.  Readiness testing
- Chapter 7. Logic and accuracy testing
- Chapter 8. Scanning cards
- Chapter 9. Interrupting and resuming scanning
- Chapter 10. Resolving tabulation issues
- Chapter 11. Log files
- Chapter 12. Updating third-party software
- Chapter 13. Uninstalling ClearCount
- Chapter 14. Breakdown and storage
- Appendix A.  Login credential rules and guidelines
- Appendix B.  Process flows
- Appendix C.  ClearCount messages
- Appendix D.  Registration failure messages
- Appendix E.  Access log for the CountServer
- Appendix F. Changing time on CountServers, CountStations, and ScanStations

## Intended audience

This document is for election officials and election staff who are responsible for operations and maintenance before, during, and after an election. Clear Ballot personnel also use this document to support election officials and election staff.

# Conventions

This section describes conventions used in this document.

## References to ClearVote products

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

## BDF and ADF

ClearAccess imports an election definition contained in an accessible definition file (ADF) created by ClearDesign. ClearCount and ClearCast import an election definition contained in a ballot definition file (BDF) created by ClearDesign.

Versions of ClearDesign earlier than 2.0 created unencrypted ADFs and BDFs. ClearDesign 2.0 and later versions produce encrypted ADFs and BDFs. You can distinguish between unencrypted and encrypted ADFs and BDFs by the ending of the filename.

| File type | Filename ends in |
|---|---|
| Unencrypted accessible definition file | adf.zip |
| Encrypted accessible definition file | adfx.zip |
| Unencrypted ballot definition file | bdf.zip |
| Encrypted ballot definition file | bdfx.zip |

In this document, the general terms ADF and BDF can refer to both the unencrypted and encrypted versions of these files.

For the specifics of the ADF and BDF file formats, see the following:

- *ClearDesign Accessible Definition File Guide*
- *ClearDesign Ballot Definition File Guide*

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

# Chapter 1. Administration

This chapter describes the login process for an administrator and the controls on the administration pages.

## 1.1 Logging in as a ClearCount administrator

You log in to the ClearCount administration pages using the IP address for the CountServer that you set up during installation.

*Example*: https://192.168.15.250

To log in:

1. At a CountStation, log in as the Windows administrator.

2. Open the browser, type the IP address of the CountServer in the URL address field, and press Enter.

3. In the Clear Ballot login dialog, enter the ClearCount primary administrator's user name and password created during the ClearCount installation and click the **Sign In** button (Figure 1-1).
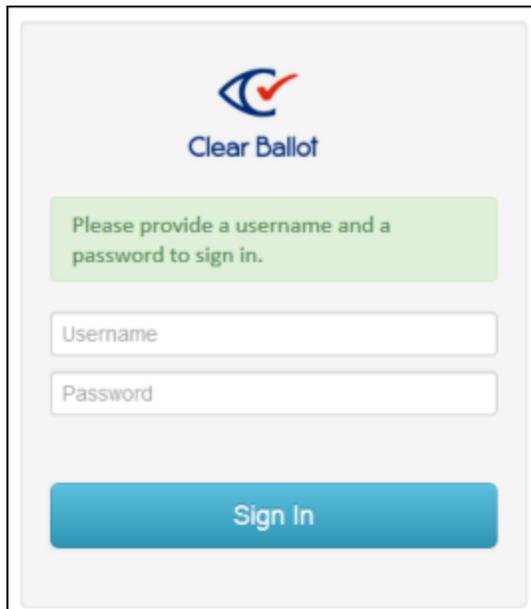


**Figure 1-1. ClearCount login dialog**

## 1.2   After logging in

After you log in as an administrator, ClearCount displays the Elections Index page (Figure 1-2). This page displays a list of the elections that reside on the CountServer.
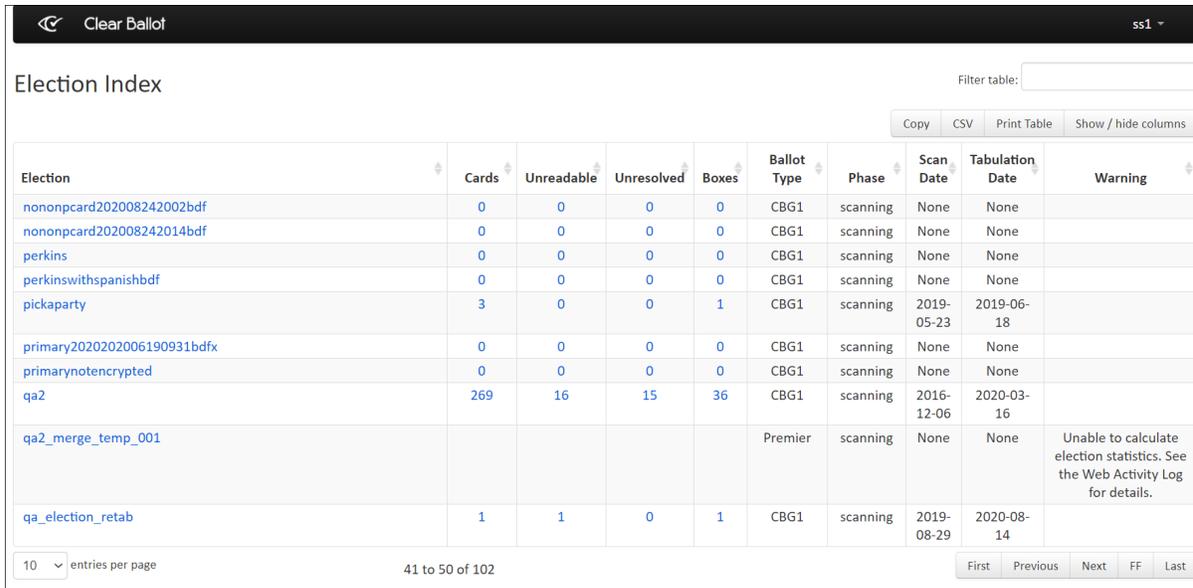


| Election | Cards | Unreadable | Unresolved | Boxes | Ballot Type | Phase | Scan Date | Tabulation Date | Warning |
|---|---|---|---|---|---|---|---|---|---|
| nononpcard202008242002bdf | 0 | 0 | 0 | 0 | CBG1 | scanning | None | None | |
| nononpcard202008242014bdf | 0 | 0 | 0 | 0 | CBG1 | scanning | None | None | |
| perkins | 0 | 0 | 0 | 0 | CBG1 | scanning | None | None | |
| perkinswithspanishbdf | 0 | 0 | 0 | 0 | CBG1 | scanning | None | None | |
| pickaparty | 3 | 0 | 0 | 1 | CBG1 | scanning | 2019-05-23 | 2019-06-18 | |
| primary2020202006190931bdfx | 0 | 0 | 0 | 0 | CBG1 | scanning | None | None | |
| primarynotencrypted | 0 | 0 | 0 | 0 | CBG1 | scanning | None | None | |
| qa2 | 269 | 16 | 15 | 36 | CBG1 | scanning | 2016-12-06 | 2020-03-16 | |
| qa2_merge_temp_001 | | | | | Premier | scanning | None | None | Unable to calculate election statistics. See the Web Activity Log for details. |
| qa_election_retab | 1 | 1 | 0 | 1 | CBG1 | scanning | 2019-08-29 | 2020-08-14 | |

10 entries per page — 41 to 50 of 102

**Figure 1-2. Elections index page**

To select administrative tasks, click the drop-down menu beside your user name in the upper-right corner:

- To manage users, select **User Administration**.
- To manage elections, select **Election Administration**.

## 1.3   Controls on administration pages

The ClearCount administration pages include the following controls.

**Table 1-1. Controls on administration pages**

| Control | Description |
|---|---|
| **User settings (stored locally)** | |
| Entries per page | Controls how many entries appear on each page without affecting search scope. Selections include: 5, 10, 20, 50, 100, and All. |
| Show/Hide columns | Provides a list of selectable columns and the Restore Original and Show All options. Customize the display by clicking the checkbox for a column on or off. |

**Table 1-1. Controls on administration pages (continued)**

| Control | Description |
|---------|-------------|
| Column sorter | A three-click sequence sorts the table rows by lowest to highest, highest to lowest, and default order based on the selected column. If a column can be used to sort the table, the control appears to the right of its heading. |
| **Navigation** | |
| First | Displays the first page of the current table. |
| Previous | Displays the previous page of the current table. The keyboard shortcut is *p*. |
| Next | Displays the next page of the current table. The keyboard shortcut is *n*. |
| FF | Automatically steps through the pages of the current table until the last page is reached or you press the Esc key. To set the paging speed, click once to advance every 2 seconds, twice to advance every second, three times to advance every 0.5 seconds, four times to advance every 0.25 seconds. Incremental clicks speed up forwarding; a fifth click stops it. The keyboard shortcut is *f*. |
| Last | Displays the last page of the current table. |
| **Filters** | |
| Filter table | Incremental search string applied to all visible columns of a report. When you type a value into the Filter table field, the table is automatically filtered according to the value. The Filter table performs a search for discreet strings of characters and numbers: <br><br>• When searching for a single digit, it is found if any string contains that value. For example *1* is found in the value *1* and in the value *16*.<br><br>• Filter table does not search for phrases. Values separated by a space are treated as separate, but cumulative, values in the search. For example, if you enter the value *1 Day*, the two values are searched for separately. Any rows that contain both values anywhere within the row are found, such as *1 Day*, *1 Fine Day*, or even a row with *District 1* and *Day 4* in separate columns. |
| **Sharing** | |
| Copy | Copies the entire table for pasting into another application. |
| CSV | Saves the entire table in a comma-separated values (CSV) file that you can open in Microsoft Excel. The file is downloaded to the location specified in your Google Chrome settings. |
| Print Table | Displays the Print Preview dialog of Google Chrome. This dialog prints a view of the entire current table that is simplified by omitting all controls. |

# Chapter 2. Managing users

User administration tasks include the following. An access level of *useradmin* is required to perform these tasks:

- Creating users
- Deleting users
- Changing attributes of users, including name, password, access level, and access to specific elections
- Exporting user accounts

## 2.1 Navigating to the User Administration page

To navigate to the User Administration page:

1. Log in to a CountStation as an administrator (page 14).

   ClearCount displays the Election Index page.

2. From the Election Index page, click the drop-down menu beside your user name in the upper-right corner and select **User Administration**.

   ClearCount displays the User Administration page, which contains two tabs: Users and System.

### Users tab

The Users tab of the User Administration page (Figure 2-1) displays all users who have access to ClearCount. These include the users that the administrator creates and the predefined ScanStation user.



**Figure 2-1. User Administration page—Users tab**

You cannot change the name and access level of the ScanStation user because this role is limited to the scanning process of the Tabulator.

## System tab

The System tab of the User Administration page (Figure 2-2) lists default system users.



**Figure 2-2. User Administration page—System tab**

 Table 2-1 list each default system user and describes the user's purpose.

**Table 2-1. Default system users**

| User | Purpose |
|---|---|
| app_cbgweb | Account used internally to access special databases. This account has no access to elections. |
| app_webimage | Account used internally. |
| debian-sys-maint | Account used internally by the CountServer to perform system maintenance, such as background optimization. |
| mysql.sys | Account used internally. |
| root | Account added at installation. |

## 2.2 User access levels

Create a separate account with the appropriate access level for each ClearCount user on the election operations staff. By doing so, you can identify each logged action by user.

Table 2-2 describes the user access levels in order of increasing privileges. Each access level listed includes the privileges of each preceding level.

**Table 2-2. User access levels**

| Access level | Description |
| --- | --- |
| none | The user is not allowed access to ClearCount. Use this level to restrict users without deleting them. |
| read | The user can view election reports, but he or she cannot modify them. |
| append | The user can add new database records (but not modify existing records) and record card images by scanning. The ScanStation account is automatically assigned this access level on an active election. The ResultsUploader application also requires a user with the append access or higher. Clear Ballot recommends creating a distinct user with only the append access level—and not a higher access level—to upload precinct results and prevent privilege escalation. |
| modify | The user can modify existing contents of an election using the Card Resolutions tool and assign write-in entries by using the Write-in Assignments tool. This user can also use the DeleteBox utility to delete a box from ClearCount so that it can be rescanned. |
| dbadmin | The user can add or delete elections, back up and restore elections, change the phase of an election, and withdraw or restore contests or candidates in an election. The *dbadmin* users can grant modify access to any database they create, including their own access. |
| useradmin | The user can manage user accounts (add, modify, and delete users, and change their access levels). |

ClearCount times out user login sessions after 24 hours of inactivity or when the CountServer computer restarts, whichever occurs first.

> **Note**: The administrative tasks described in the remainder of this chapter require a user access level of useradmin.

## 2.3 Adding a user

To a new user:

1. Go to the User Administration page and click the **Users** tab.

2. Click **Add User**.

   ClearCount displays the Add New User dialog (Figure 2-3).
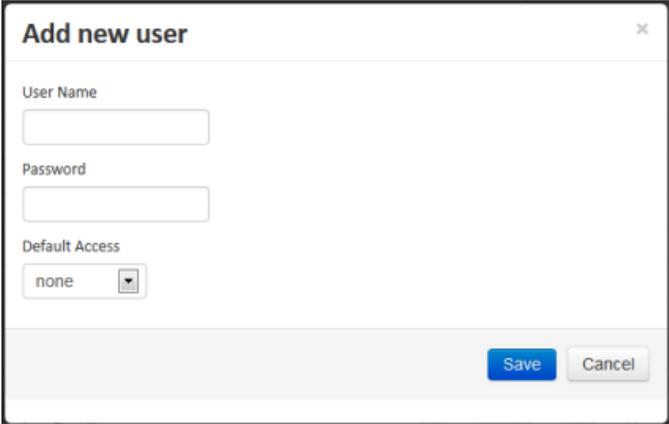


**Figure 2-3. Add New User dialog**

3. Enter a **User Name** and **Password**, choose the user's access level from the **Default Access** drop-down list, and click **Save**.

All user names and passwords must satisfy the rules and guidelines listed in "Login credential rules and guidelines" on page 132.

## 2.4   Changing a user password

To change a user password:

1.  Go to the User Administration page and click the Users tab (page 17).

2.  Click the button in the Actions column for the user whose password you want to change and select **Change User Password**.

    ClearCount displays the Change User Password dialog (Figure 2-4).

    

**Figure 2-4. Change user password dialog**

3.  Enter the new password in the **Password** field and click **Save**.

## 2.5   Renaming a user

To rename a user:

1.  Go to the User Administration page and click the Users tab (page 17).

2.  Click the button in the Actions column for the user whose name you want to change and select **Rename User**.

    ClearCount displays the Rename User dialog (Figure 2-5).

    

**Figure 2-5. Rename user dialog**

3.  Enter the new user name in the **New User Name** field and click **Save**.

## 2.6   Changing the access level of a user

To change the access level of a user:

1.  Go to the User Administration page and click the Users tab (page 17).

2.  In the Access column for the user you want to change, click the access level.

    ClearCount displays the Change User Default Access dialog (Figure 2-6).



**Figure 2-6. Change user default access dialog**

You cannot change the access level of the ScanStation user because this role is limited to the scanning process of the Tabulator application.

3.  Click the **Default Access** drop-down list, select the desired access level and click **Save**.

    If only one user is currently assigned the *useradmin* access level, ClearCount does not allow you to lower the access level for that user.

## 2.7   Changing a user's access level for an individual election

A non-administrative user can be assigned a higher level of non-administrative access to an election. For example, a user with the **read** access level can be assigned **append** or **modify** access for an election.

Table 2-3 lists the user access levels and the corresponding allowed access levels for individual elections.

**Table 2-3. Allowed access levels for individual elections**

| Use access level | Allowed access levels for individual elections |
|---|---|
| none | read, append, modify |
| read | append, modify |
| append | modify |
| modify | Not allowed |
| dbadmin | Not allowed |

**Table 2-3. Allowed access levels for individual elections (continued)**

| Use access level | Allowed access levels for individual elections |
|---|---|
| useradmin | Not allowed |

To change a user's access level for an individual election:

1. Go to the User Administration page and click the Users tab (page 17).

2. Click the button in the Actions column corresponding to the desired user and select **Add Election Access**.

   ClearCount displays the Add Access to Election dialog (Figure 2-7).



**Figure 2-7. Add Access to Election dialog**

3. Click the **Election** drop-down list and select an election from the database.

4. Click the **Access** drop-down list, select the desired access level and click **Save**.

## 2.8   Removing a user's access to an election

To remove a user's access to a specific election:

1. Go to the User Administration page and click the Users tab (page 17).

2. Click the + button in the Elections column to show each election that the user can access.

3. Click the button in the Actions column for the election-access override that you want to remove and select **Remove Election Access**.

   The election-access override no longer appears.

## 2.9   Exporting user accounts

Before performing an upgrade, follow the steps below to save, print or copy the ClearCount user accounts (user name, access level and election access) for reference. After installing the new software, you need to set up these user accounts again.

Passwords cannot be exported. Passwords must be re-established for each account.

1. Go to the User Administration page and click the Users tab (page 17).

2. Click the drop-down menu beside your user name in the upper-right corner and select **User Administration**.

   ClearCount displays the User Administration page.

   • To export all user accounts as a comma-separated values (CSV) file:

      a. Click the **CSV** button.

         The file is downloaded to the location specified in your settings in Google Chrome. The default location in your user Downloads folder.

      b. Navigate to downloads location on your computer and move the CSV file to a location that is external to the CountStation such as a USB drive.

   • If connected to a printer, click the **Print Table** button and use your browser's print function to print the table of users.

   • To copy all user accounts so that you can paste them into a program such as Notepad:

      a. Click the **Copy** button.

      b. Open the desired program, paste the data, and save the file to a location external to the CountStation such as a USB drive.

3. Log out of ClearCount.

## 2.10   Deleting a user

To delete a user:

1. Go to the User Administration page and click the Users tab (page 17).

2. Click the button in the Actions column for the user you want to delete and select **Delete user**.

   The user no longer appears.

To remove a user temporarily, change the user's access level to *none*.

# Chapter 3. Managing elections

Users with an access level of dbadmin can perform the following election administration tasks:

- Create elections in ClearCount and set their status

- Back up elections

- Restore elections

- Change election phases

- Change and deactivate active elections

- Update previously imported ballot definition files (BDFs)

- Withdraw or restore contests or candidates after an election is created in ClearCount

- Display vote totals

- Redact small vote subtotals

- Run election reports

- Export the cast vote record for an election

- Delete past elections

- Update previously imported ballot definitions

## 3.1 Ballot definition files

ClearCount processes a ballot definition file (BDF) to create an election database. A BDF is an election-specific file that contains all necessary options for casting and recording votes. A BDF also enables ClearCount to register card images successfully and tabulate vote targets.

Election officials create the BDF for an election in the ClearDesign and then import it into the ClearCount on the CountServer computer.

See the *ClearDesign User Guide* and the *ClearDesign Ballot Definition File Guide*.

ClearCount can create elections from the BDF formats listed in Table 3-1.

**Table 3-1. BDF formats**

| Format | Description | Source |
|--------|-------------|--------|
| Unsigned, unencrypted<br><br>*.bdf.zip* | When creating a BDF for a jurisdiction, Clear Ballot uses a secure download utility and a SHA-256 digest to ensure data integrity. Jurisdictions that create their own BDF (using Clear Ballot tools) must ensure the security of the BDF. | Clear Ballot Technical Services, Clear Ballot tools |
| Signed, unencrypted<br><br>*.bdf.zip* | Has a digital signature that uses keyed-hash message authentication code (HMAC) to verify data integrity | ClearDesign 1.4 and 1.5 EMS |
| Encrypted<br><br>*.bdfx.zip* | Uses the PBKDF2 (Password-Based Key Derivation Function 2) encryption mechanism for added security | ClearDesign 2.0 (and later) EMS |

The BDF filename consists of the following format: *<ElectionName>-<yyyy-mm-dd> <hh-mm>*-bdf.zip (or bdfx.zip), such as: ma_boston_2019g-2019-11-05 08-15-bdf.zip. This filename is limited to 63 characters (including spaces).

## 3.2   Election naming rules and conventions

Clear Ballot recommends the following naming convention for elections and their associated files:

Format: *StateAbbreviation_Jurisdiction_ElectionYearAndType*

***Example***: ma_suffolk_2019g

### Allowed characters

Election names can contain the following characters:

- A maximum of 38 characters (including spaces)
- Lower- or uppercase letters, digits (0–9), underscores (_), and dollar signs ($)
- A beginning digit, but the election name *cannot* consist solely of digits

### Disallowed characters

Election names cannot contain the following characters:

- Forward slashes, backslashes, periods, colons, or any other character not allowed in a Windows filename or folder name
- Single quotation marks, double quotation marks, or backticks (grave accents)
- A final space

### Information appended to the election name

When creating a filename for an election, ClearCount appends the following information to the end of the election name:

*-yyyy-mm-dd hh-mm*-bdf.zip (or bdfx.zip)

Example: ma_suffolk_2019g-2019-11-05 08-15-bdf.zip.

### Character limit for the filename of an election

This filename is limited to 63 characters, including spaces.

## 3.3   Election Administration page

From the Election Administration page, users with a *dbadmin* access level can manage elections.

To access the Election Administration page:

1.  Log in to ClearCount as administrator (page 14).

2.  From the drop-down list in the upper right corner beside your user name, select **Election Administration**.

    ClearCount displays the Election Administration page (Figure 3-1).



**Figure 3-1. Election Administration page**

## 3.4   Creating an election

To create an election:

1.  Do one of the following:

    • Export the zipped BDF from ClearDesign to removable media, such as a CD or a USB drive. See the *ClearDesign User Guide* for more information.

    • Obtain the zipped BDF for the election from Clear Ballot and copy it to removable media.

2. At a CountStation, log in as an administrator, access the Election Administration page and select the **Create Election** tab (Figure 3-2).
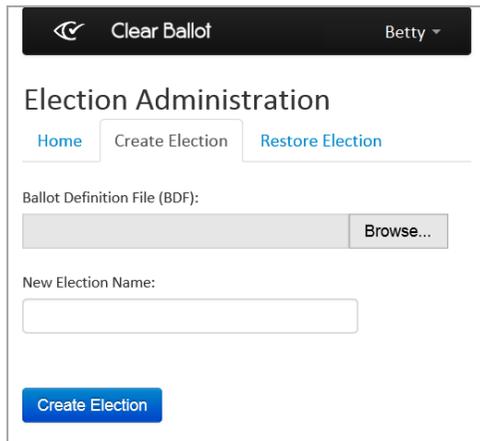


**Figure 3-2. Create Election tab**

3. Click **Browse**, navigate to the removable media that contains the zipped BDF, and double-click the file to copy its path into the Ballot Definition File (BDF) field.

4. In the **New Election Name** field, enter a valid name for the election following the guidelines in "Election naming rules and conventions" on page 26.

   If the BDF has a digital signature, the Election PIN field appears, along with an option to bypass the PIN if it is forgotten or if the BDF is intentionally modified. Enter the election PIN and choose whether to have the ability to bypass it.
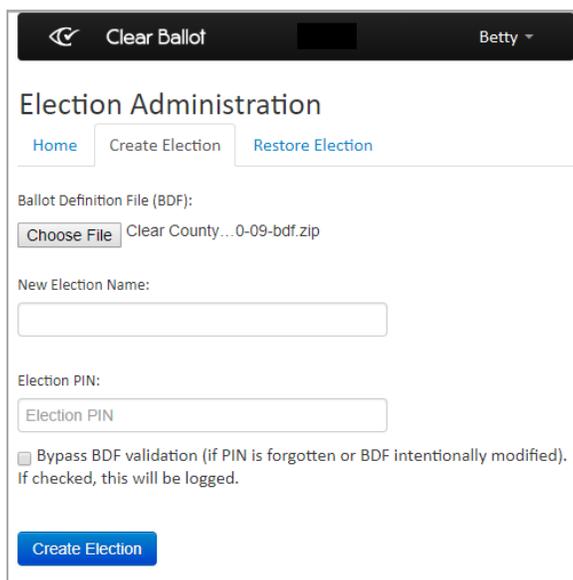


**Figure 3-3. Election PIN bypass option**

If the BDF is encrypted (*filename.bdfx.zip*), you do not have the option to bypass the PIN. Enter the election PIN.



**Figure 3-4. Election PIN required**

5. Click **Create Election**.

   The new election appears on the Election Administration page as the active election. During scanning, the Tabulator application assigns cards to the active election.

   If the digital signature of a signed but unencrypted BDF does not match its keyed-hash message authentication code (HMAC), ClearCount issues a warning. This indicates that either the BDF has been changed since it was created or the BDF was created manually. You can still use the unencrypted BDF if you are confident in its validity because you created it or you had to modify it for valid reasons.

## 3.5 Updating ballot definitions in existing elections

ClearCount enables you to modify some values in an existing election database if the election is still open. This is particularly helpful for correcting misspellings. You can update registered voter totals, contest/choice names, the number of ClearCast voting stations, contest/choice order, and most election metadata.

To update the ballot definition for an existing election:

1. Obtain the updated BDF.

2. Navigate to the to the Election Administration page (page 27).

3. Locate the election you want to update, click its Actions button, and select **Safely merge updatable BDF content** from the drop-down list that appears.

   If the election is active, its phase must be Scanning or Reviewing.

4. If **Upgrade Election** appears in the drop-down list, then **Safely merge updatable BDF** will not appear until you have selected **Upgrade Election** to update your election to the current version of ClearCount.

5. Click the **Choose File** button on the Safely merge updatable BDF content dialog and then locate and select the updated BDF.
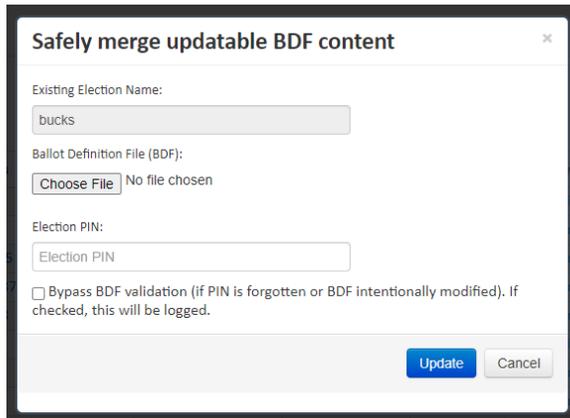


**Figure 3-5. Safely Merge Updatable BDF Content dialog**

6. Enter the Election PIN and click **Update**.

ClearCount updates the election. Refresh any open web reports to view the updated ballot definition.

## 3.6 Withdrawing or restoring contests or candidates

To withdraw or restore contests or candidates in an election:

1. Navigate to the Election Administration page (page 27).

2. Locate the election that you want to modify.

The election does not need to be active, but its phase must be Scanning or Reviewing.

3. Click the button in the Actions column for that election.

The drop-down list of election management actions appears.

4. Select **Withdrawn Contests/Choices** from the drop-down list that appears.

The Withdrawn Contests and Choices page for the election replaces the Election Administration page in the browser tab.

Nonadministrative users can view this page but cannot change selections.
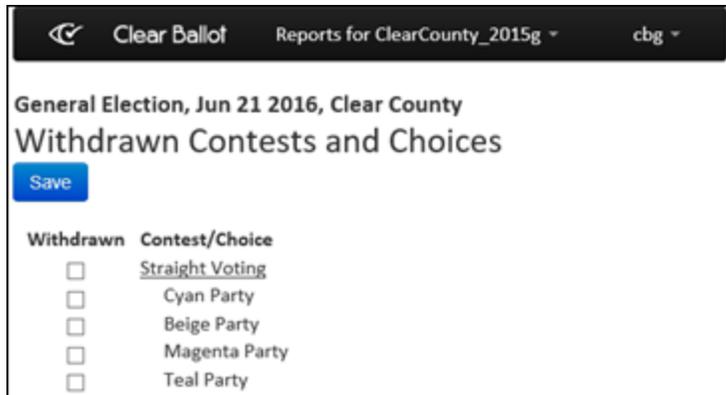
**Figure 3-6. Withdrawn Contests and Choices page**

5.  To withdraw a contest or choice from the election, select the checkbox next to the item. To restore a previously withdrawn contest or choice to the election, deselect the checkbox next to the item.

6.  Click **Save**.

7.  Refresh any open web reports to view the updated withdrawal status.

    Exports other than the Cast Vote Record reflect the updated withdrawal status.

## 3.7  Backing up an election

Backing up an election consists of exporting it to an external hard drive and then securing that drive. Backups typically occur every night for the duration of an election after halting daily scanning operations. The time it takes to back up depends upon the election size and whether copying of card image files is incremental.

Backups comprise election-specific data, including related card image files and ClearCount election activity logs. Data and card image files are backed up to a folder named Backups/*ElectionName*.

Backups do *not* include the web activity log, Microsoft Windows logs, or ClearCount user accounts.

Also see the following:

- "Web activity log" on page 122
- "Exporting Windows logs" on page 127
- "Exporting user accounts" on page 23

A backup can be performed during any phase of an election. However, backups cannot occur during an operation, such as scanning or modifying.

### Guidelines

- You must have access to the Election Administration page (page 27) to back up an election.

- ClearCount automatically mounts and unmounts the drive. There is no need to log in to and log out of the CountServer to mount and unmount the drive.

- Ensure you are logged out of the CountServer before attaching the external backup drive. If you log in to the CountServer as an administrator before attaching the drive, you will not be able to see the external drive.

- To format a drive, log in to a CountStation and use the Windows Quick Format option.

### Recommendations

- Ensure the drive is formatted as one of the following: NTFS, FAT32, ext2, ext3, or ext4. Clear Ballot recommends NTFS because it has been tested extensively with ClearCount supported hardware.

- Clear Ballot recommends a drive running at 7200 rpm. A 5400 rpm drive can be used, but backups will take longer.

- For large elections, use USB 3.0 connections (with a USB 3.0-capable drive and a USB 3.0-capable port). USB 2.0 or USB 3.0 connections can be used to back up small and medium elections.

### Before beginning

- Ensure no one else is backing up or restoring an election on the external drive you are using for backup. Only one of these operations can be performed at a time on the same drive.

- To perform multiple operations simultaneously, ensure each operation has its own external drive.

To back up an election:

1. Connect the external drive to the CountServer computer. Ensure you are not logged in to the CountServer.

2. Log in to a CountStation, access the Election Administration page (page 27) and locate the row for the election you want to back up.

3. Click the button in the Actions column for the election and select **Back Up Election**.

   The Start Election Backup page appears (Figure 3-7 on page 33).

   Depending upon the number of backups on the drive, there may be a delay before the Start Backup page displays. Do not click the Back Up Election link again. Wait for the page to appear, otherwise the table on the Start Election Backup page will be empty.
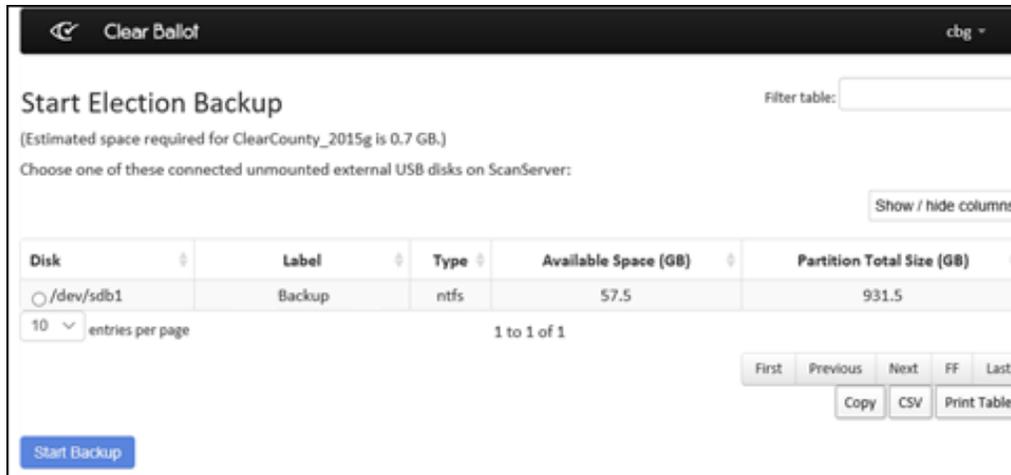
**Figure 3-7. Start Election Backup page**

4. Determine whether the targeted external drive has enough free space.

   The backup must fit on one external disk. If a device connected to the CountServer lacks sufficient free disk space, its name appears in red.

   The minimum size *reported* is 0.5 GB, however, small elections may require less space.

5. Select the external drive and click **Start Backup**.

   The drive automatically mounts to the CountServer and the backup process begins.

   ClearCount uses the election name for the backup. A warning appears if an election with the identical name already exists on the selected external drive. In this situation, you can click one of the following options:

   • **OK**—The election on the external drive is overwritten with an updated version. For efficiency, previously backed-up card image files are not replaced.

   • **Cancel**—Focus returns to the Start Election Backup page so you can enter a different name in the New Election Name field. If a backup with the same name as the election does not yet exist, ClearCount copies the entire election, even if the prior backup file was renamed in Windows or the election was previously backed up on a different external drive. In these cases, previously backed-up card image files are recopied.

   The Server Background Jobs page (Figure 3-8 on page 34) appears unless the election is very small, in which case, the backup completes quickly. For large-capacity drives or drives with multiple elections, it may take several minutes before data appears on the page.

   The Server Background Jobs page includes all jobs started since the last restart of the CountServer. The Progress indicator for the running job refreshes every 10 seconds while the job is running. When the job completes, the Status indicator for the backup job shows completion.

**Figure 3-8. Server Background Jobs page**

Logging out of the CountStation does not impact the backup.

6.  When backup is complete, disconnect the external drive and secure it according to jurisdictional procedures. The backup can be restored onto the same or a different CountServer.

## 3.8   Restoring a backed-up election

### Before beginning

*   Ensure no one else is backing up or restoring an election on the external drive you are using for backup. Only one of these operations can be performed at a time on the same drive.

*   To perform multiple operations simultaneously, ensure each operation has its own external drive.

*   To avoid browser timeout issues, retain only a few election backups on your external hard drive. ClearCount can then quickly read the files and display the available backups without exceeding the browser time limit.

To restore a backed-up election:

1.  Connect the external drive that contains the backup to the CountServer *without* logging in.

    ClearCount automatically mounts and unmounts the drive.

2.  Log in to a CountStation, access the Election Administration page (page 27), and click the **Restore Election** tab.

    Depending upon the size of the drive and the number of elections, this process could take several minutes.

    ClearCount displays the Start Election Restore page (Figure 3-9).

**Figure 3-9. Start election restore page**

3. If you do not see the drive or elections after waiting briefly, remove the drive and ensure that the Backups folder is present and the election is in that folder.

4. In the Disk column, select the election you want to restore.

5. (Optional) In **New Election Name**, enter a new name for the restored election.

6. Click **Start Restore**.

   ClearCount uses the name of the backed-up election by default. A warning appears if an election with the identical name already exists on the CountServer.

   • Click **OK** to replace the election on the CountServer with the backed-up election.

   • Click **Cancel** to stop restoring the backed-up election and return to the Start Election Restore page to enter a different name in the New Election Name field.

   The Server Background Jobs (Figure 3-10) page appears unless the election is very small, in which case, the restore completes quickly. The page lists all jobs started since the last restart of the CountServer computer. The Progress indicator for the job refreshes every 10 seconds while the job is running. The Status indicator shows when the restore is complete.



**Figure 3-10. Server Background Jobs page**

Restoring is not an incremental process like backing up. Restoring encompasses the entire election. Depending upon the size of the election, restoring could take several hours.

7. When the process completes, disconnect the external drive.

## 3.9 Exporting card images

Exporting card images is a way to obtain the image files for cards. For convenience, small sets of images may be downloaded directly through the browser. Large sets of images should be saved to an external hard drive connected to the CountServer.

## 3.10 Server Background Jobs

The Server Background Jobs page (Figure 3-11) displays all of the background jobs since the last restart of the CountServer. It automatically opens when generating reports or performing election functions (such as backing up or restoring). The Status column shows when a job is complete.  You can click a link in the Final Result column to view a file.

This page may not appear if the election is so small that the job completes before the page has time to open.



**Figure 3-11. Server Background Jobs page with report links**

### Access

Select the **Server Background Jobs** option in the user name drop-down menu at the top right of a page.

**Data**

Data for each job includes:

- **Job ID**—Unique identifier for the job

- **Time**—Date and time that the job started

- **User**—Name of the user who performed the job

- **Job**—Type of job

- **Progress**—The progress indicator refreshes every 10 seconds until the job is complete

- **Status**—Status of the job (running, completed)

- **Duration**—Amount of time the job ran

- **Final Result**—Filename of the job (click a link to view the file)

- **Actions**—Provides options for the job, such as deleting it

## 3.11  Changing the election phase

Table 3-2 lists the election phases.

**Table 3-2. Election phases**

| Phase | Description |
|-------|-------------|
| Scanning | Cards can still be scanned or modified through adjudication by users whose access level is modify or above. |
| Reviewing | Cards can no longer be scanned, but adjudication by users whose access level is modify or above is still allowed. |
| Closed | The election is locked against additions or modifications. |

To change the phase of an election:

1. Access the Election Administration page (page 27) and locate the election whose phase you want to modify.

2. In the Phase column, click the current phase.

   ClearCount displays the Change Election Phase dialog (Figure 3-12).
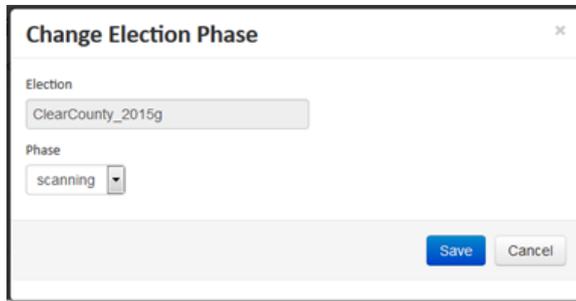
**Figure 3-12. Change Election Phase dialog**

3. Select the desired phase from the Phase drop-down list and click **Save**.

Backups include the current phase of an election. An election restored from a backup retains that phase. An election closed at the time of backup is restored as closed.

Changing the phase of an election from Scanning to either of the other phases makes the election inactive. No election is active until one is selected or a new one is created.

## 3.12   Changing the active election

To change the active election:

1. Access the Election Administration page (page 27).

2. Locate the election you want to make active.

3. In the Active column, click the gray arrowhead for the election. The arrowhead changes to the **Active** indicator.

   Only one election can be active at a time. If another election were active, its **Active** indicator changes to a gray arrowhead.

## 3.13   Deactivating the active election

To deactivate the active election:

1. Access the Election Administration page (page 27).

2. Locate the active election, click its **Actions** button and select **Make election no longer active** from the drop-down list that appears. For now, no election is active.

   You cannot change the deactivated election or scan cards into it. Make the election active if any changes are necessary.

## 3.14   Deleting an election

To delete an election from the database:

1.  Back up the election you want to delete on an external drive (page 31).

    In most cases, elections *must* be backed up before they can be deleted. Consult your jurisdiction's statutes for details.

2.  Access the Election Administration page (page 27).

3.  Click the button in the Actions column for the backed-up election and select **Delete Election**.

    A confirmation dialog appears.

4.  Click **OK** to continue.

    ClearCount deletes the election from the database.

    Data for the deleted election is inaccessible until the backup is restored to the CountServer database.

## 3.15   Displaying vote totals

ClearCount automatically disables the display of vote totals when you create an election.

To display vote totals:

1.  Go to the Election Administration page (page 27) and locate the election with the totals that you want to display.

2.  In the Display Vote Totals column, click the current setting (disabled).

    ClearCount displays the Allow Display of Vote Totals dialog (Figure 3-13).
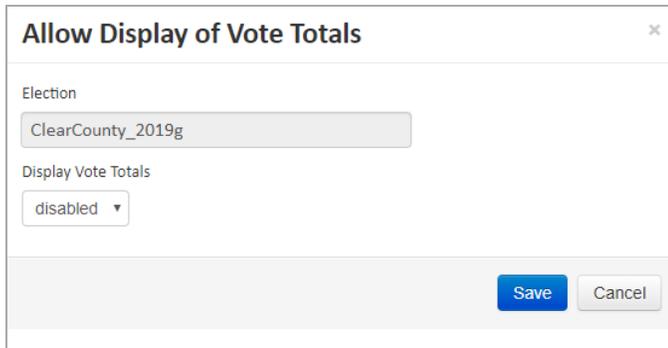


**Figure 3-13. Allow Display of Vote Totals dialog**

3. Click the **Display Vote Totals** drop-down list and select **Enabled**.

   A confirmation message asks if you are sure that you want to display vote totals (Figure 3-14).
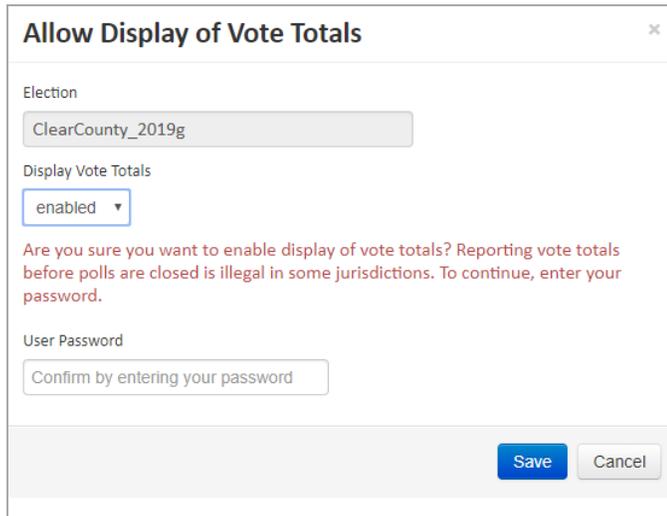


**Figure 3-14. Confirmation Message for Displaying Vote Totals**

4. Confirm that you want to display vote totals by entering your password and clicking **Save**.

   A confirmation message appears at the top of the Election Administration page.

   Only the ClearCount web reports are affected by this setting. See the *ClearCount Reporting Guide* for more information.

## 3.16   Redacting small vote subtotals

Jurisdictions can opt to have redaction occur in election reports filtered by precinct, counter group, or party when fewer than 10 votes are cast for a candidate or choice.

ClearCount automatically sets the Redact Small Vote Subtotals option to Disabled on election creation.

To redact small vote subtotals:

1. Access the Election Administration page (page 27) and locate the election with the subtotals you want redacted.

2. If the Redact Small Vote Subtotals column is not visible, enable it under **Show/hide columns**.

3. In the Redact Small Vote Subtotals column, click the current setting.

   The Redact Small Vote Subtotals dialog appears.

**Figure 3-15. Redact Small Vote Totals dialog**

4. Click the Redact Small Vote Subtotals drop-down and select **Enabled**.

5. Click **Save**.

   Only the ClearCount web reports are affected by this setting. See the *ClearCount Reporting Guide*.

## 3.17   Managing CountServer disk space

Before each election, ensure that the CountServer has adequate disk space for the ballots you will be scanning. Backing up and deleting previous elections helps resolve potential issues. See "Backing up an election" on page 31 and "Deleting an election" on page 39 for instructions.

To check CountServer disk space:

1. At a CountStation, log in to ClearCount as an administrator (page 14).

2. From the Election Index page, click the login drop-down menu next to your user name and select **About this software**.

3. Click the **Server Information** tab and note the value for Disk Available Space (GB).



**Figure 3-16. Server Information tab**

Estimate the number of cards you will be scanning and multiply that by 2.2 MB per card to determine the approximate amount of disk space you need.

## 3.18 Merging a backup into an existing election

To merge a backup into an existing election:

1. Insert the USB drive containing the backup into one of the CountServer USB ports.

2. When the USB drive automounts, do not log in to the CountServer.

3. At a CountStation, access the Election Administration page (page 27), locate the election you want to merge into, click its **Actions** button and select the **Merge results from attached media** option.

> **Note**: You can merge into elections only if they do not have a phase of Closed.

4. When ClearCount displays the Start Election Merge page, select the desired election from the list of available election backups and click **Start Merge**.

   The Server Background Jobs page (page 36) appears unless the election is very small, in which case, the merge completes quickly. The Server Background jobs page includes all jobs started since the last restart of the CountServer. The Progress indicator for the running job refreshes every 10 seconds.

5. When the Status indicator shows that the merge is complete, remove the USB drive from the CountServer's USB port and secure it.

## 3.19 Merging ClearCast election results

When precinct voting is complete, jurisdictions can merge election results from each ClearCast voting station into ClearCount for aggregated results reporting.

Each ClearCast voting station has two USB drives that contain election results. You merge one of the pair of USB drives (usually USB1). The other USB drive serves as a backup (usually USB2).

Log and secure all ClearCast USB drives as you receive them at the ClearCount central-count location. You can compare the log with the Vote Centers report after merging all ClearCast election results. See the *ClearCount Reporting Guide* for more information.

Table 3-3 lists the tasks associated with merging ClearCast results and the access levels required. For a description of the permissions for each access level, see "User access levels" on page 19.

**Table 3-3. Tasks associated with merging and required access levels**

| Task | Required access levels for your login ID |
|---|---|
| "Enabling an election to merge ClearCast results" on the next page | dbadmin or useradmin |
| "Starting the merge process" on page 45 | dbadmin or useradmin |
| "Running the ResultsUploader application" on page 46 | Append, modify, dbadmin, or user admin |

Before starting a merge, make sure to:

- Check that the P: drive is mapped correctly. See the *ClearCount Installation Guide*.

- Get the USB 1 drive for the device that you are going to merge and insert it in a USB port on the CountStation.

## 3.19.1  Enabling an election to merge ClearCast results

To enable an election to merge ClearCast results:

1.  Log in to a CountStation with an ID that has an access level of dbadmin or useradmin.

    ClearCount displays the Election Index page.

2.  On the Election Index page, click the drop-down menu beside your user name in the upper right corner of the screen and select **Election Administration**.

    ClearCount displays the Election Administration page.

3.  On the Election Administration page, locate the row containing the desired election and make sure that the word **Active** appears in red in the Active column.

    See the example in Figure 3-17.

    | | | | | | | | | | |
    |---|---|---|---|---|---|---|---|---|---|
    | election2GBElectionUpload | ▶ | 0 | CBG1 | 16af0fb6 | scanning | disabled | disabled | None | None | |
    | JoesTestElection | **Active** | 0 | CBG1 | f18c4548 | scanning | disabled | disabled | None | None | |

    **Figure 3-17. Active election on the Election Administration page**

    If the desired election is currently inactive, click the Active column to toggle the election to **Active**.

4.  Click the name of the desired election.

    ClearCount displays the Dashboard for the selected election.

5.  From the Reports for *Election Name* menu of the Dashboard (Figure 3-18 on page 45), select **Merged ClearCast Results**.

    The variable *Election Name* is a placeholder for the current election.
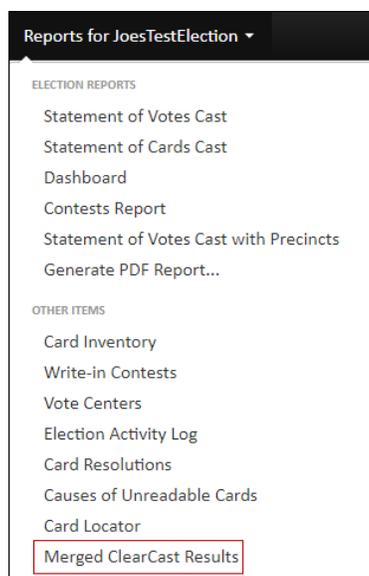
**Figure 3-18. Merged ClearCast Results selection—Reports for *Election Name* menu**

ClearCount displays the ClearCast Merged Results page (Figure 3-19).
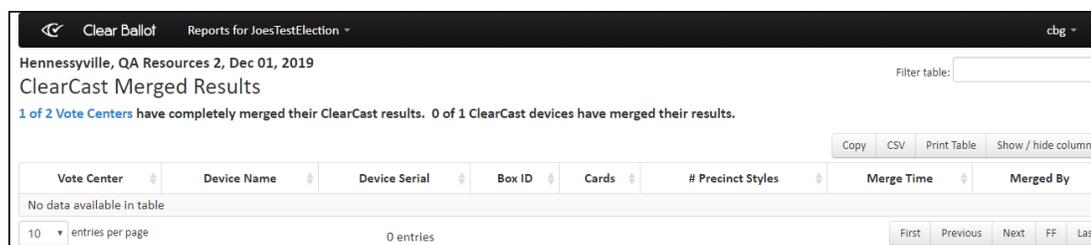


**Figure 3-19. ClearCast Merged Results page**

On the ClearCast Merged Results page shown in Figure 3-19 on page 45, the message "No data available in table" appears because no ClearCast data has been merged.

## 3.19.2  Starting the merge process

After enabling an election for merging as described in the previous topic, start the merge process:

1. On the ClearCast Merge Results page (Figure 3-19), click the blue link in the message:

   *N1* of *N2* Vote Centers have completely merged their ClearCast results.

   In this message, the placeholders represent the following:

   - *N1*—the number of vote centers that have already been merged
   - *N2*—the total number of vote centers

   After you click the link in the message, ClearCount displays the Vote Centers page (Figure 3-20).



**Figure 3-20. Vote Centers page**

The Vote Centers page contains a table where each row lists an individual vote center. Each row lists the number of ClearCast devices at the vote center, the number of devices that have already been merged, and the number of devices ready to be merged.

To show only the vote centers with missing results, select the check box at the top of the screen and click **Change**.

2. Enter the Election PIN in the field provided on the screen and click **Start Merging**.

   The button **Start Merging** changes to **Stop Merging**.

   To upload results without images, select (check) **Do not upload images with results**. This selection results in a fast upload of the results because the images are excluded. This selection also means that any functionality related to images, such as manual adjudication and the write-in tool, is unavailable.

   Select **Do not upload images with results** only when fast election night reporting has a higher priority than using any functionality related to ballot images.

## 3.19.3 Running the ResultsUploader application

After you start the merge process as described in the previous topic, run the ResultsUploader applications as follows. To run this application, the access level associated with your login ID must be append, modify, dbadmin, or useradmin.

1.  Open File Explorer in Windows:

    a.  Navigate to the drive that you mapped to P: when you installed ClearCount.

    b.  At the top level of the P: drive, click **StartUploader.cmd**.

    c.  If you see the following Security Warning, click **Run**.
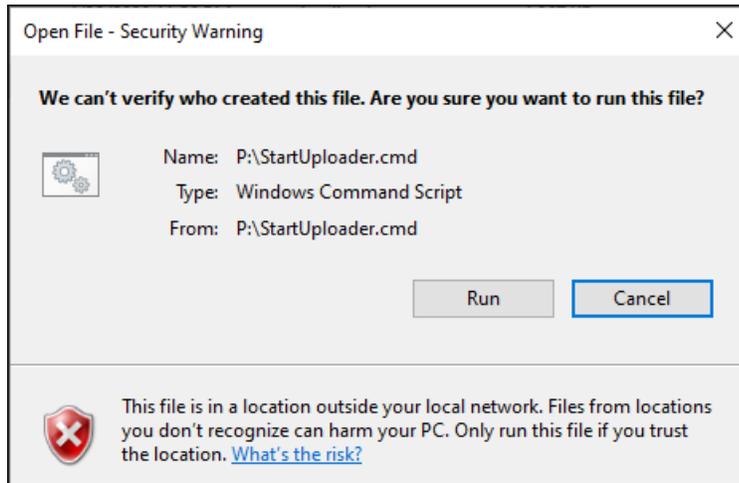


**Figure 3-21. Security warning**

The ResultsUploader displays the Login dialog (Figure 3-22).
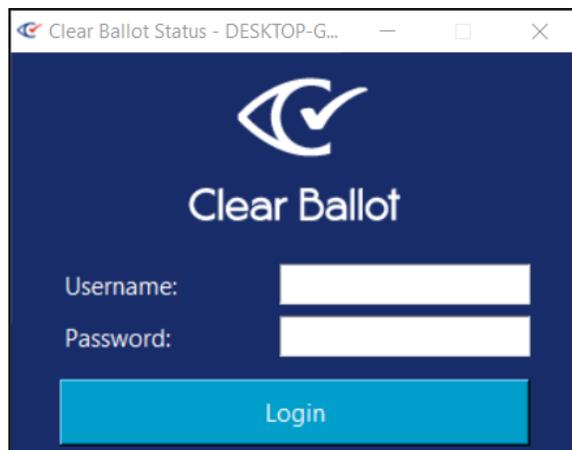


**Figure 3-22. ResultsUploader—Login dialog**

2.  Enter your **Username** and **Password** and then click **Login**.

    The ResultsUploader displays the dialog shown in Figure 3-23.
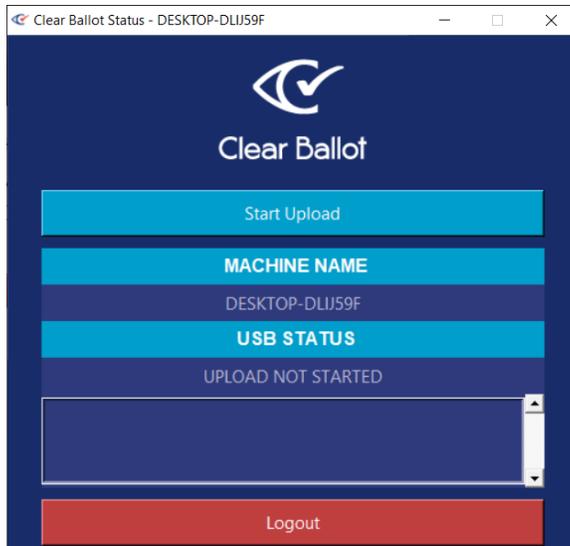
**Figure 3-23. ResultsUploader—dialog after logging in**

3.  In the dialog for the ResultsUploader, click **Start Upload**.

As the upload progresses, messages appear in the bottom pane of the dialog. The messages indicate when the upload is complete as shown in the example in Figure 3-24.
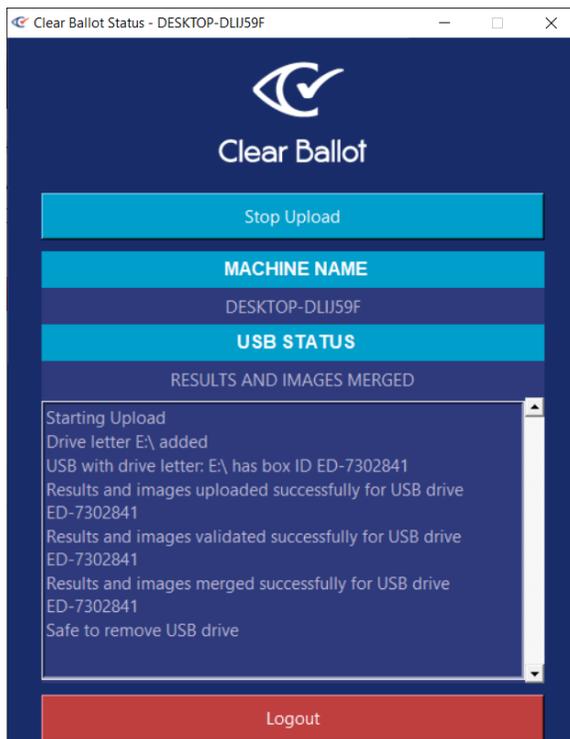


**Figure 3-24. ResultsUploader—progress messages**

4.  When you see the message "Safe to Remove USB drive" as shown in Figure 3-24, remove the USB drive from the port on the CountStation and return it to the secure storage location.

5. In the dialog for the ResultsUploader, click **Stop Upload**.

The dialog for the ResultsUploader indicates that the USB drive has been removed and that the uploading has stopped (Figure 3-25).
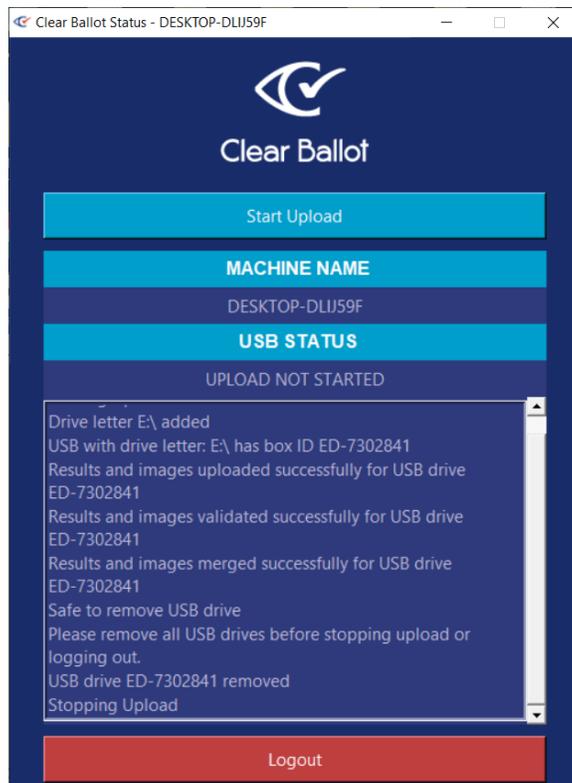


**Figure 3-25. ResultsUploader dialog—upload process stopped and USB drive removed**

6. Click **Logout** in the dialog for the ResultsUploader.

## 3.20 Determining which ClearCast voting stations have missing results

The number of ClearCast voting stations assigned to a Vote Center is entered in ClearDesign. Changes to these numbers can be made in ClearDesign and updated in ClearCount using the **Safely merge updateable BDF content** function.

ClearCount displays **the # ClearCast devices** value on the Vote Centers report web page. (This value is not enforced.)

Election officials must create a table or other record to document the machine name and serial number of each voting station and the voting center where the voting station will be sent, along with any other relevant information for the jurisdiction. Table 3-4 shows an example.

### Table 3-4. Voting Station and vote center assignments

| Vote center | Machine Name | Serial Number | Notes |
|---|---|---|---|
| Main St 01 | ABCD | 12345 | |
| Main St 01 | EFGH | 89100 | Spare |
| Main St 01 | IJKL | 1457 | |
| Beech St. Fire Sta. | MNOP | 3333 | |

After the polls close and ClearCast data is uploaded, the Vote Centers report indicates the number of devices associated with each Vote Center whose data has been uploaded. However, the report does not specify which specific voting stations have uploaded data.

1. On the Vote Centers report page, check the box next to **Show only vote centers with missing results** near the top left and press **Change**.

   The report now shows only the rows for the vote centers where data is missing.

2. From the reports menu, select the **ClearCast Merged Results** report, which will open in another tab.

   This report includes the Vote Center, Device Name, Device Serial and Box Id for each ClearCast voting station that has uploaded data.

3. Use the "Filter Table" function to type in the name of a Vote Center you want to check on.

   Alternatively, you can sort the report by Vote Center to review more of the data quickly.

4. By comparing the filtered data to the table of ClearCast voting station assignments, you can easily determine which machine is missing.

If the table of ClearCast assignments is unavailable or incomplete, use the data in the ClearCast Merged Results report as a baseline. Contact the poll workers or election authorities at that Vote Center and use the process of elimination to determine the identity of any voting stations not on the list and not yet merged into ClearCount.

| | |
|---|---|
| **Note**: | The serial number and machine name are printed on the header of every ClearCast report. They can also be viewed by logging in to the ClearCast voting station as the Election Administrator, System Administrator, or Maintenance user, pressing the **Settings** buttons on the lower right and then pressing the **Status Report** button to view and, if desired, print the status report. |

## 3.21   Manually setting a precinct as "Reported"

After merging your ClearCast results, if you have a precinct in which no ballot was cast you can manually set the precinct as "Reported" using the following steps. This is useful because the automatic tracking of precincts reported depends on ballots cast in counter groups that are marked as reporting in ClearDesign.

To manually set a precinct as "Reported":

1.  Navigate to the election Dashboard page.

2.  Click the link showing the number of precincts scanned.

    ClearCount displays the Statement of Cards Cast with Precincts web report.

3.  For the precinct that you wish to mark as "Reported", click the Action menu and select **Override as Reported**.

    This sets the precinct reported value to True.

4.  To revert to the default precinct-reported logic of ClearCount, click the Action menu again and select **Show Reported Based on Counter Groups**.

Note that you cannot manually set the precinct reported value to False.


## 3.22   Preparing the zero report

After creating the election, but before scanning any ballots, you can create a zero report to prove that all vote totals are set to zero at the start of the election.

To produce the zero report:

1.  Log in to the system as an administrator (page 144).

2.  On the Election Index page, select the election.

3.  On the Dashboard, click the Report for *Election_Name* drop-down menu and select Statement of Votes Cast.

4.  Copy or print the report as needed.

A copied report can be pasted into Notepad and saved to a USB drive for further distribution.

# Chapter 4.  Setting up the scanning location

This chapter describes how to prepare your physical location for the ballot-scanning operation.

Before setting up the scanning location, familiarize yourself with the physical security requirements described in "Hardening, validating, and securing the system" in the *ClearCount Installation Guide*.

## 4.1   Planning considerations

Before you begin setup, you need to determine the scale of your project. The number of ScanStations and scanners required depends upon several factors, including:

- The number of ballots to be scanned
- Time constraints for completing the scanning operation
- The jurisdiction's budgetary constraints

### 4.1.1  Physical location considerations

Consider the following factors when choosing the physical location for your scanning operation.

#### Proximity of ballots

Depending upon the scale of the election jurisdiction, consideration should be made for the transfer of ballots to the physical scanning location, if required. The scanning location should either be adjacent to the ballot boxes or should have the capacity to securely store and manage all the ballots to be scanned.

#### Scanning areas

Four feet of space behind each scanning area is recommended so that scanning operators and support personnel can pass unobstructed from the scanning areas to the preparation/jogging station when delivering and retrieving ballots.

#### Electricity

Each scanning area requires two electrical sources. The CountServer computer, the CountStation computer, and the preparation/jogging stations require one each. Be prepared with extension cords and power strips to suit the scale of your scanning operation. Consider the number of electrical outlets and their proximity to the scanning operation.

### 4.1.2  Security considerations

For security, there *cannot* be Wi-Fi components on the computers used in the ClearCount system. The CountServer, the ScanStation computers, and the CountStation computers must be connected on a wired Ethernet.

## 4.1.3  Planning location requirements

Along with determining staffing and equipment levels, you must also plan the layout of the physical location where scanning takes place. After the number of ScanStation computers and scanners has been calculated, the physical location requirements can be determined. The following are the recommended specifications for the physical location of the scanning operation, and the specifications for each of the associated stations.

### 4.1.3.1  Areas in a scanning operation

An end-to-end scanning operation requires the areas described in this section.

> **Note**:  To maintain security and organization, do not place any extraneous items such as notebooks, folders, or coffee cups on any surface in a scanning operation.

### Ballot-handling area

The ballot-handling are requires a flat clean surface. Election officials use this area to:

- Unseal ballot boxes (if necessary)
- Stage ballots for the preparation/jogging area
- Reseal ballot boxes
- Maintain any required records for ballot boxes

### Ballot preparation/jogging area

This area consists of a ballot jogger and space for unjogged and jogged ballots. This area typically uses a surface the same size as the scanning areas.

The ballot jogger is a machine that adjusts or "jogs" the cards into a uniform stack for optimal scanning. A properly jogged stack of cards is less likely to result in a paper jam or misfeed.

Target cards and box labels are affixed in the ballot preparation/jogging area. Affixing the box label coincides with assigning a target card to a batch of cards as they both contain the batch IDs.

For example, if the target card indicates a batch ID of ED-11, you affix a label marked ED-11 to the box where the cards are placed. This label helps to identify card location during the verification process.

The key tasks performed in this area include:

- Jogging cards
- Assigning a target card to each batch
- Affixing labels to boxes
- Delivering boxes to and retrieving boxes from the scanning areas

## Scanning area

This area consists of a scanner, a ScanStation computer, associated cables and power cords, and a surface (typically a portable table) that holds the equipment and provides space for thousands of inbound and outbound ballots.

A scanning operation can feature one or more scanning areas.

Make sure to provide adequate space in a scanning area. Lack of space can lead to disorganization and mistakes.

Arrange the equipment in the scanning area to match the order of the scanning steps.

The scanning process begins with receiving a labeled box containing ballot cards and a target card from the ballot preparation station. These cards become the input to the scanner.

Unpack the box of cards. Jog the cards if necessary and place them to the left of the scanner. Place the empty box to the right of the scanner, either on the table or on the floor directly in front of it.

Place the ScanStation computer above or directly beside its scanner.

After the cards are scanned, make sure that they are placed face down into the output box. Upon completion of the box, the scanner operator must initial the box label to indicate that the box has been scanned

## Administration area

This area consists of a CountStation computer, associated cables, and a surface. The administration area does not require a large surface because it does not have to hold a scanner or ballots. However, users interact with the CountStation computer, so it should be located in an area with enough space for one or two chairs to be placed in front of it. A scanning operation can feature one or more administration areas.

## Server area

This area consists of a CountServer computer, a network switch, associated cables, and a surface. This area can be smaller than a scanning area because no ballots or scanners are present. A scanning operation has a single CountServer computer.

The CountServer computer connects physically to all ScanStation computers and CountStation computers through the network switch. Therefore, place the CountServer computer near the ScanStation and CountStation computers.

The scanning-operation team does not physically interact with the CountServer computer.

### 4.1.3.2  Physical requirements for areas in a scanning operation

Table 4-1 lists the physical requirements for the areas in a scanning operation.

**Table 4-1. Physical requirements for stations in a scanning operation**

| Weight | Surface Dimensions |
|---|---|
| **Scanning area** | |
| The surface must be capable of supporting the weight of the scanner, computer, and ballots. The heaviest component is typically the scanner. The Fujitsu scanner weight specifications are:<br><br>• fi-6400: 70.5 lb<br><br>• fi-6800: 70 lb<br><br>• fi-7180: 10 lb<br><br>• fi-7800: 70 lb<br><br>• fi-7900: 70 lb | A length of six feet and a depth of no less than 2.5 feet per ScanStation is recommended. |
| **Server/Administration area** | |
| 30 lb | Sufficient space for a large laptop computer. If the CountServer computer is a desktop computer, determine required space accordingly. |
| **Preparation, jogging and ballot-handling areas** | |
| 30 lb | A length of six feet and a depth of no less 2.5 feet per station is recommended. |

### 4.1.3.3  Physical layout of the scanning operation

Figure 4-1 shows the best practice for the layout of a scanning operation. This layout assumes four ScanStations, one CountServer, one CountStation, a ballot preparation station, a jog station, and a ballot-handling station. The ScanStations and CountStations are connected to the CountServer using a network switch and a wired Ethernet network.
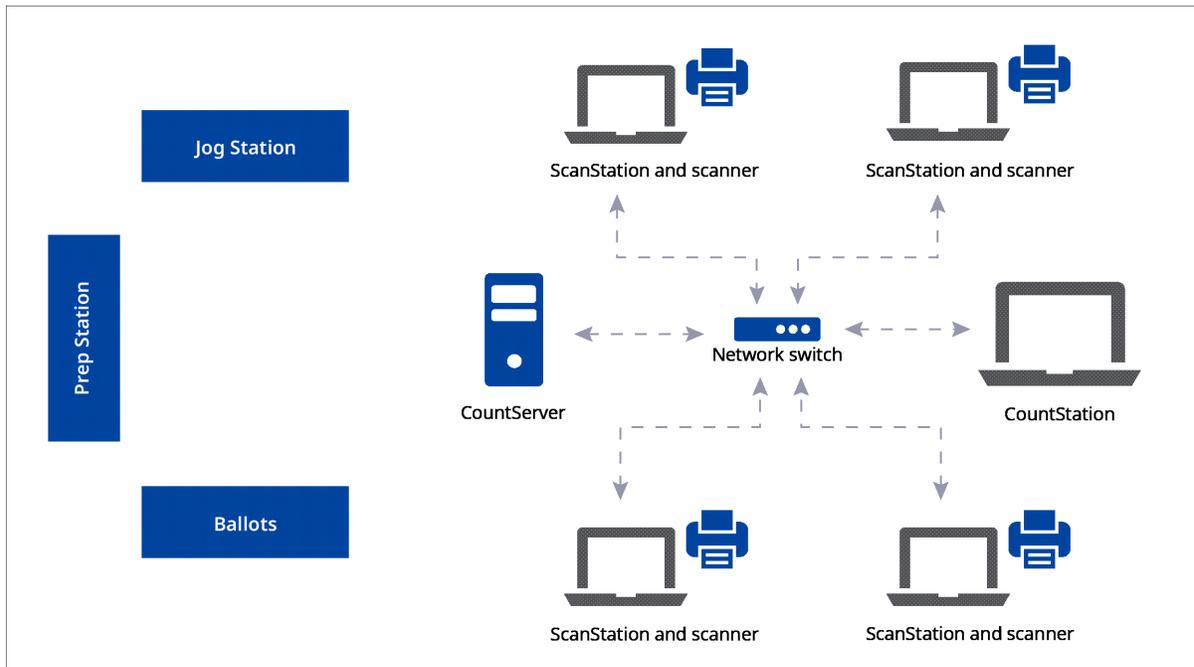


**Figure 4-1. Layout of a scanning operation**

## 4.2   Connections for scanning equipment

After the equipment is set up, it must be connected as follows:

• Each scanner must be connected to its ScanStation computer.

• Each ScanStation computer must be connected to the Ethernet network.

Each scanner has several ports on the rear panel, as shown in the following figures. The power and USB ports are used. A power cord and a USB cable are required for each scanner.

Scanner models fi-6400 and fi-6800 may have two square USB ports on the rear panel. These ports are not interchangeable. The USB cable must be plugged into the correct USB port as shown in Figure 4-2 and Figure 4-3.
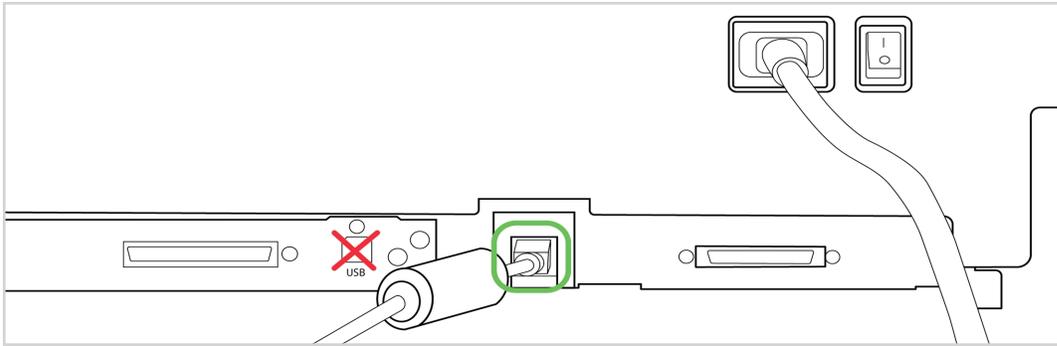
**Figure 4-2. USB port for the fi-6400 and fi-6800 scanner**
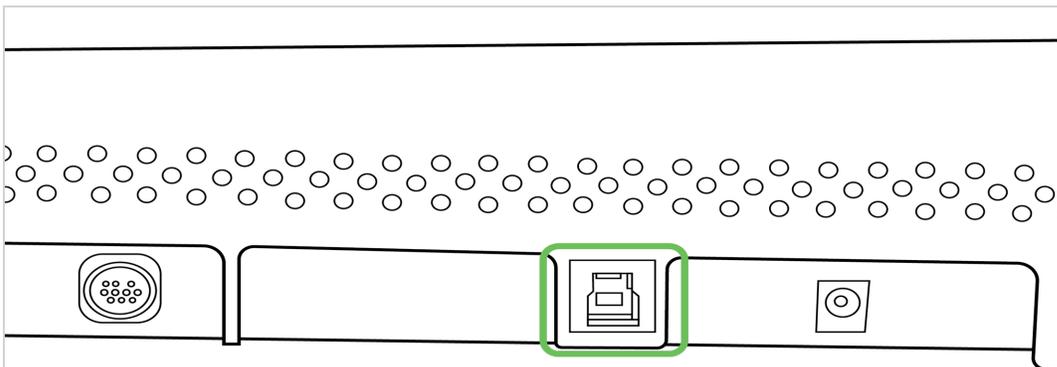


**Figure 4-3. USB port for the fi-7180 scanner**

The USB cable has a small square connection on one end and a flat, rectangular connector on the other. The square end is placed into the similarly sized outlet on the back of the scanner, and the flat, rectangular connector is placed into a USB port, typically found on the back or sides of the computer.

Figure 4-4 shows the cable for the fi-6400 and fi-6800 scanners. (The fi-7180 uses a circular pin-type electrical connector with adapter.)
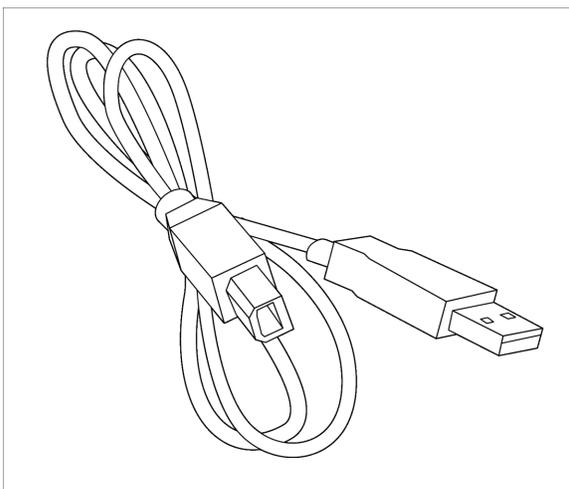


**Figure 4-4. USB cable**

Figure 4-5 shows a USB cable inserted into the USB port on a laptop.
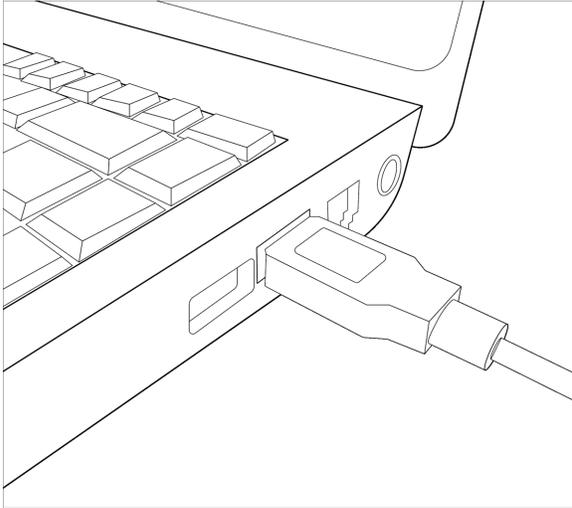


**Figure 4-5. USB cable in a USB port**

The power cord must be attached to the three-prong outlet on the back of the scanner and then plugged into to a working power supply.

Finally, the computer must be connected to the network so the scanned images and data files can be sent to the CountServer. The cable used is a standard Ethernet network cable as shown In Figure 4-6.
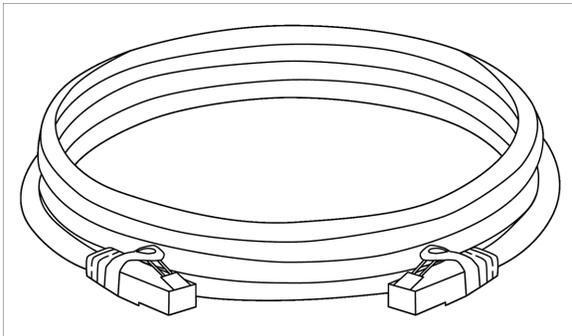


**Figure 4-6. Ethernet network cable**

Both ends of the Ethernet network cable are identical. One end is inserted into the network port on the computer and the other end is inserted into a port on the network switch. Additionally, the computer power cord must be attached to a working power supply.

Figure 4-7 shows an Ethernet cable plugged into a laptop computer.
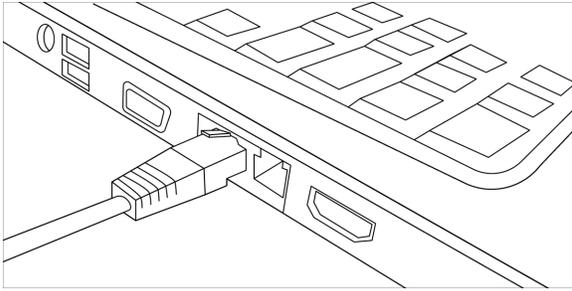
**Figure 4-7. Ethernet cable in a laptop network port**

## 4.3   Turning on the hardware

After all the cables and cords are connected, you can power on the equipment of the ClearCount system.

- To turn on the network switch, press its power switch.

- To turn on the scanner, press the power switch at the back of the scanner *and* the green power button.

  The green power button is located on the front of the fi-6400, fi-6800 and fi-7180 scanners.

- To turn on each computer, press its power switch.

## 4.4   Preparing the scanner input and output mechanisms

After setting up the scanners, configure their input and output mechanisms.

### 4.4.1  Input and output tray setup

Adjust the input and output trays (or hoppers) to accommodate the ballots that you are scanning. Ensure the trays are extended enough to hold the full length of the ballots.

Adjust the wings of the tray to loosely touch the edges of the ballots. Wings that are too tight can result in twisted images. Wings that are too loose increase the risk of multifeeds and paper jams.
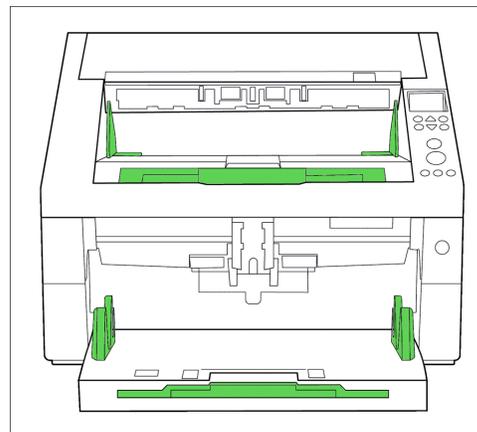


**Figure 4-8. Scanner trays and wings**

## 4.4.2  Setting up extenders on scanners

Long ballots generally require physical support to feed and stack properly. This section describes how to attach supportive extenders to the scanner models used for ClearCount.

### fi-6800 feeder extension

Figure 4-9 shows a plexiglass extender inserted in the paper chute extension slot. To set up, pull out the extension panel and gently insert the extender into the exposed slot. (Minimal force is needed to insert the extender.)
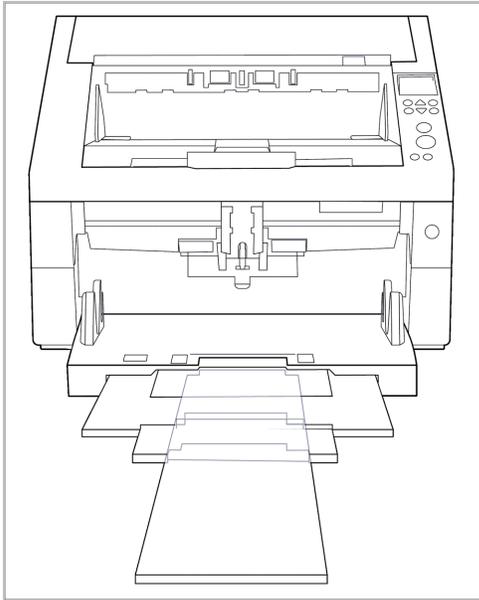
**Figure 4-9. Feeder extension—fi-6800 scanner**

### fi-6800 stacker extension

Figure 4-10 shows how to insert a plexiglass extender in the stacker extension slot.
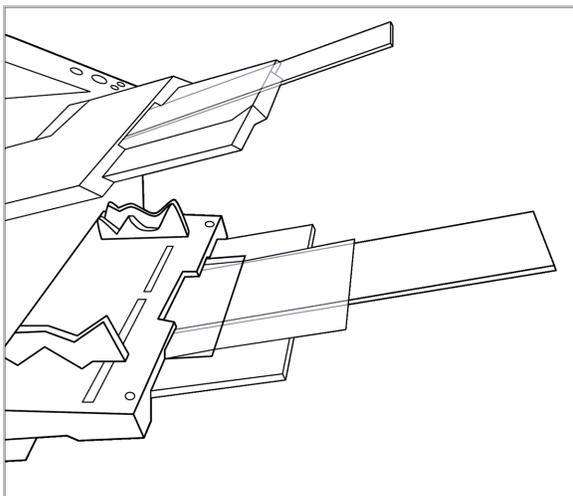
**Figure 4-10. Stacker extension—fi-6800 scanner**

### fi-7180 feeder extension

Figure 4-11 shows that the paper chute extension slot accepts a metal ruler.
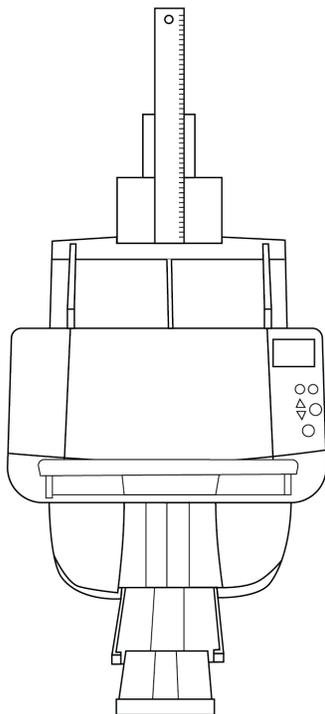


**Figure 4-11. Feeder extension—fi-7180 scanner**

### fi-7180 stacker extension—not required

The stacker does not require an extender because the scanner ejects the ballots onto the table surface.

When using an fi-7180 scanner to process ballots longer than 14 inches, take extra care to:

- Limit the intake stack size to 40 sheets.

- Ensure a straight and smooth feed into the scanner through close attention and hand placement.

- Ensure ballots stack on exit in the order scanned. With the scanner sitting at the end of the table, scanning order is retained by accurate placement of a container, such as a box, for catching the scanned cards. (If ballots associated with a target card fall out of order, it is necessary to delete and rescan the virtual box, including the target card, all ballots scanned following the target card, and those still awaiting intake.)

Before commencing operations, have each scanning operator practice these rules by scanning at least 50 ballots.

The scanner can be set up to deposit ballots directly into a ballot box by removing the black stacker assembly and positioning the output over the box. This approach may be preferable for large ballots.

### 4.4.3  Automatic document feeder setup on fi-6800 scanners

For an fi-6800 scanner to successfully process batches, the automatic document feeder lever in the input tray must in the down position. When the gray lever is up (that is, within the housing case), the automatic document feeder is not ready to guide documents into the scanner, and the scanner cannot function properly.

Figure 4-12 shows the lever for the automatic document feeder in the up position.
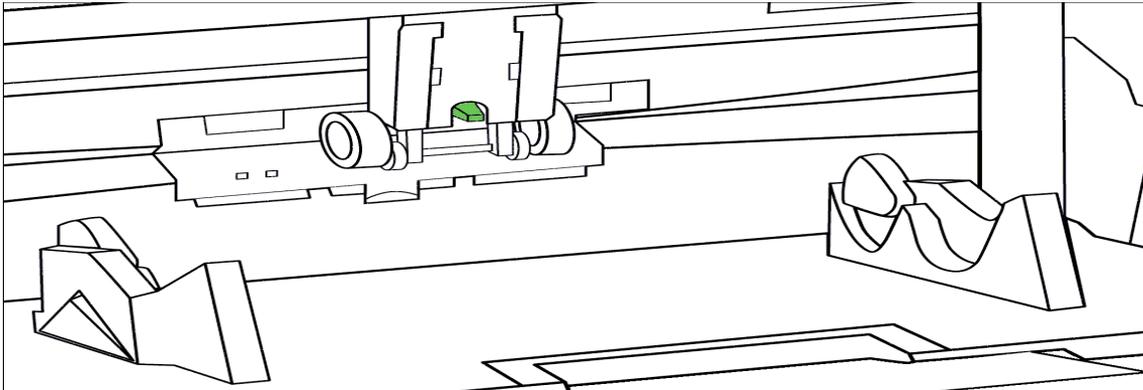


**Figure 4-12. Automatic document feeder lever in the up position on fi-6800 scanner (not ready to scan)**

Pull the gray lever down to allow the ADF to assist in gathering documents to ensure the scanner can function properly. Figure 4-13 shows the automatic document feeder lever in the down position.
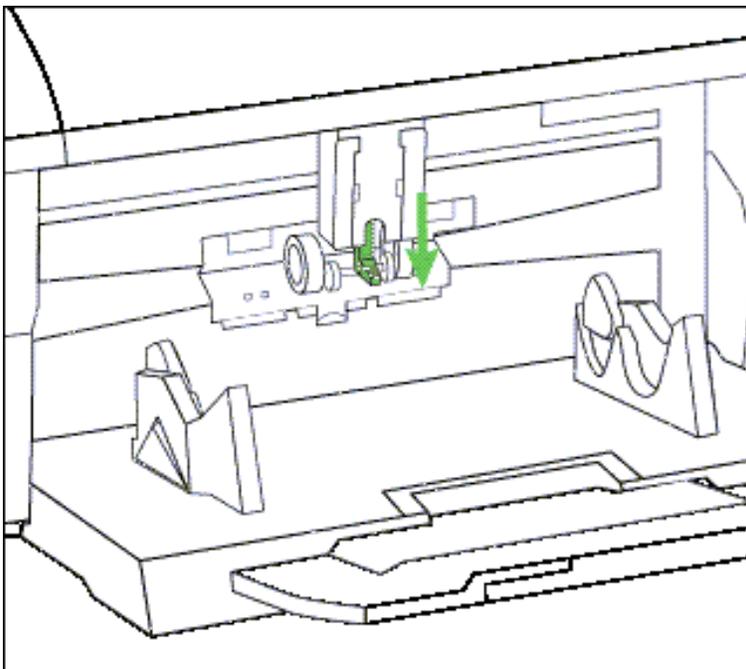


**Figure 4-13. Automatic document feeder lever in the down position on fi-6800 scanner**

# Chapter 5. Target cards and box labels

Before beginning the scanning process, you must print target cards and box labels.

## 5.1 Target cards

A target card identifies a batch or box of cards. It informs the scanner that a new box is being scanned and assigns the value of the bar code as the box ID prefix for all subsequent ballots. (It is similar to the header card used in other election systems.) A target card is typically printed on letter- or legal-sized card stock.

Target cards are not election-specific.
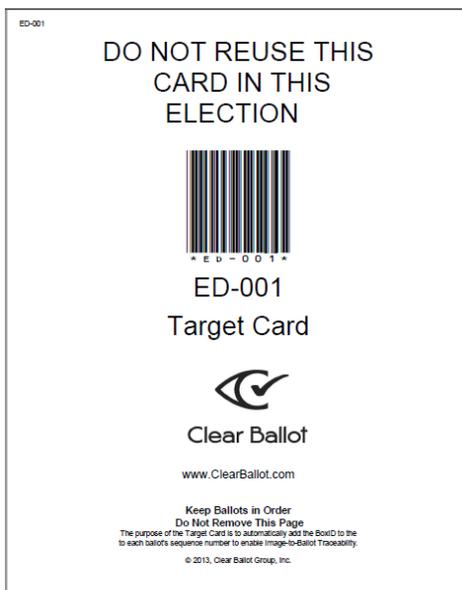


**Figure 5-1. Sample target card (not actual size)**

## 5.2 Box labels

A box label physically identifies each box and the corresponding cards. Like target cards, box labels contain unique identifiers. The box label is affixed to the outside of the ballot box and should be consistently placed in the same location (such as the upper right corner) to aid in quickly identifying ballot boxes. Box labels are typically printed on Avery 5163 (2" x 4") label stock (10 labels per sheet). See Figure 5-2 on page 64 for sample box labels.

Ballots within a box are in sequential order starting with the target card at the bottom of the box. When a ballot is scanned, the front and back images are each given a unique identifier (such as ED-001+00001 and ED-001+00002) corresponding to the batch or box (ED-001) and image file (+00001).
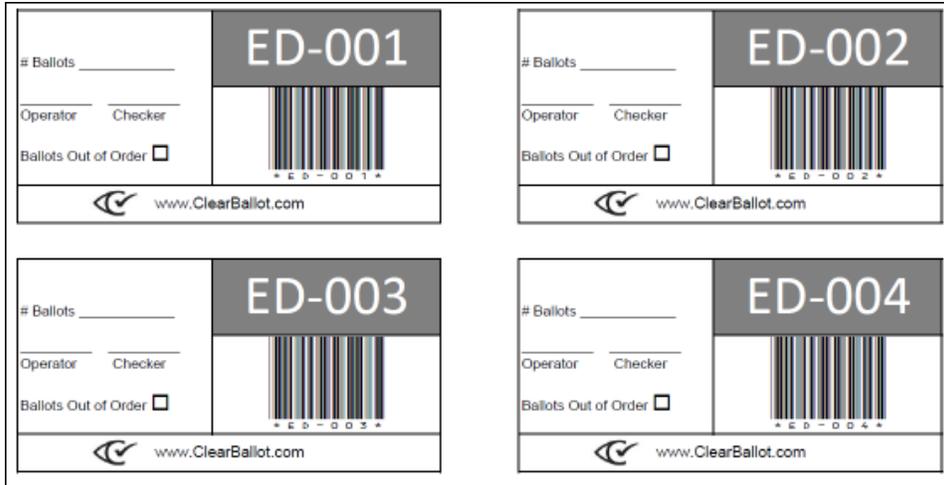
**Figure 5-2. Sample box labels (not actual size)**

## 5.3   Naming of card image files

The naming convention for card image files is: *CounterGroup-BoxID+BallotSequenceNo*.jpg where:

- *CounterGroup* is the category of the cards. Commonly used names include absentee (AB), early voting (EV), Election Day (ED), provisional (PR), other (OT), and ten-day (TD).

  Counter group names are defined in the ballot definition file for an election and can comprise up to eight ASCII uppercase characters (A–Z).

- *BoxID* is the box sequence number.

- *BallotSequenceNo* is the cardinal number of the image. Front images are odd and back images are even. Target cards use 10001 and 10002 for their sequence numbers.

The purpose of this naming convention is to provide reliable Image-to-Ballot Traceability, which makes it possible to retrieve a physical card with precision.

Table 5-1 provides some examples.

**Table 5-1. Examples of card image files**

| Card description | Image file |
| --- | --- |
| Front of ED target card | ED-001+10001.jpg |
| Back of ED target card | ED-001+10002.jpg |
| Front of first ED ballot card | ED-001+10003.jpg |
| Back of first ED ballot card | ED-001+10004.jpg |
| Front of second ED ballot card | ED-001+10005.jpg |

## 5.4  Downloading the target card and box label source files

Clear Ballot provides PDF files of the target cards and box labels that you can print on-site prior to the scanning process. To obtain these files, contact https://clearballot.com/support).

## 5.5  Printing target card and box labels

To print target cards and box labels:

1.  Navigate to the location of the files.

2.  Locate and open the file for the particular target card or box label you want to print.

3.  Print the contents of the file, following the guidelines below.

    The quantity defaults to 500 or 1000 target cards. Ensure the printer is set up for the required number of cards.

    • Target cards should be printed on heavy card stock. For best scanning results, Clear Ballot recommends the use of paper weights between 65- and 110-pound.

    • Target cards should be printed on white card stock. ClearCount does not support ballots or target cards printed on colored paper.

    • Target cards and box labels should be printed on a laser printer. Target cards and box labels contain bar codes that might not be readable if printed on an inkjet or similar type of printer.

## 5.6  Estimating printing requirements

The number of targets cards and box labels to print is determined by the number of boxes for each type of ballot for the election.

• For Election Day at the polling place, print one target card per polling place or precinct or scanner (for precincts that fill more than one box).

• For other counter groups, such as absentee (AB), early voting (EV), other (OT), ten-day (TD), or provisional (PR), print one target card for every 700 ballots expected.

• For corresponding box labels, follow the same guidelines and divide by 10. (Each sheet has 10 labels.)

Approximately 10% more targets cards and box labels should be printed than the number of corresponding ballot boxes, in case additional target cards or box labels are required during the scanning process due to ballot-handing issues or scanning errors.

In elections with multipage ballots, multiply the calculated number of target cards and box labels by the number of pages in a ballot to get the proper total.

# Chapter 6.  Readiness testing

This chapter describes the recommended workflow for ClearCount readiness testing. Readiness testing ensures the system is in proper working order prior to the start of an election.

All hardware that may be used in the election must go through readiness testing, and data that verifies equipment must be obtained for it. Therefore, if the jurisdiction intends to keep backup hardware on hand, the backup hardware must also go through readiness testing.

While not required, Clear Ballot recommends that the jurisdiction run additional test ballots through the system to confirm that all ballot styles and counter groups are handled appropriately.

Local statutes may govern readiness testing parameters. Be sure to consider local regulations as part of this process.

## 6.1   Background for testing the scanner cameras

The accuracy of the ClearCount system depends not only on the correctness of the election definition, but also on the proper functioning of the scanning equipment. The procedure for testing the cameras described in this chapter ensures that the cameras of a scanner accurately record the images on both sides of the ballots.

This test involves scanning a target card and one representative ballot of the size planned for the upcoming election.

If you scan ballots in addition to the target card and representative ballot, those ballots will also appear during this evaluation. Therefore, scan only the target card and representative ballot when checking the scanner calibration.

## 6.2   Procedure for testing the scanner cameras

To test the cameras, perform the following steps for each scanner:

1. Log in to the ScanStation computer as the Windows administrator.

2. Run the scanner update script.

3. Scan the target card and the representative ballot card.

    This produces four card image files, one for each side of each card.

4.  At a CountStation computer, log in to ClearCount as an administrator.

ClearCount displays the Election Index page containing the election that you created (Figure 6-1).



**Figure 6-1. Election Index page**

5.  On the Election Index page, click the numeric link in the Cards column of the election to view the Card Images report (Figure 6-2).



**Figure 6-2. Card Images report**

6.  Click the **Next** button to advance to the images for the representative ballot.

Examine the front and back image of the ballot to ensure that the entire card images is visible and that the scanner did not crop anything. If the image appears cropped, contact Clear Ballot Technical Support.

7.  When the test is complete, delete the target card and representative ballot from the ScanStation computer.

See "Deleting a box from a functioning ScanStation" on page 80

# Chapter 7. Logic and accuracy testing

Performing logic and accuracy (L&A) testing on the ClearCount system consists of scanning a set of test ballots into the database created for the upcoming election and then backing up and deleting the test data. Perform this test at minimum on one ScanStation. This test should be performed after readiness testing has been completed.

Before conducting L&A testing, perform readiness testing to ensure every scanner works. See "Readiness testing" on page 66.

Local statutes often govern L&A testing parameters. Consult with local election officials as part of this process.

## 7.1 Logic and accuracy testing workflow

After you set up the ClearCount system, use the following steps to test it.

1. Create an election.

   Use this election for both the L&A test and the actual election.

2. Log in to ClearCount on a CountStation.

3. Navigate to the Statement of Votes Cast report.

   See "Preparing the zero report" on page 51.

   Use this report to ensure that all contests and choices:

   - Are accurate.
   - Have zeroes in their totals.

     The empty Statement of Votes Cast report is the zero report for the ClearCount system. You can print or export this report if needed.

   Report any problems or unexpected results to Clear Ballot Technical Support.

4. Log out of ClearCount.

5. Mark a set of test ballots, ensuring that each position is marked and each vote rule is tested for each ballot style.

6. Print one target card for each counter group used in the audit part of this election.

   See "Target cards and box labels" on page 63.

7. For each ScanStation used for the L&A test, do the following:

    a. Use any of the target cards and scan the entire test deck.

    b. On a CountStation computer, log in to ClearCount and open the Statement of Votes Cast report.

    c. Verify that the total results match the expected results for the test deck.

    d. Back up the election. See "Backing up an election" on page 31.

    e. Log out of ClearCount.

8. Delete each box from each ScanStation computer.

    See "Deleting a box from a functioning ScanStation" on page 80.

9. After all scanners are tested, ensure that all boxes are deleted by doing the following:

    a. Log in to ClearCount.

    b. Open the Statement of Votes Cast report.

    c. Make sure that all contests and choices have zeroes in their totals.

10. Following the L&A test, secure the ScanStation and CountServer computers until they are needed to process election ballots.

# Chapter 8. Scanning ballots

The ballot-scanning process is a critical component to a successful election. This chapter provides detailed instructions for the steps in the scanning operation.

## 8.1 Maintaining ScanStation security

To maintain ScanStation security, only election officials with appropriate access levels should:

- Know the Windows credentials for ScanStation computers.

- Have access to the DeleteBox utility.

Jurisdictions may choose to provide scanner operators with the password to the Tabulator application, but this is not necessary, and maintaining this password as known only to supervisors can increase system security. When it is necessary to restart processes or correct errors, scanner operators must seek help from their supervisors.

The ClearCount system times out user login sessions after 24 hours of inactivity or when the CountServer is restarted, whichever occurs first.

## 8.2 Before scanning begins

Before scanning, ensure that the C:\CBGBallotImages folder on each ScanStation computer is empty by following these steps:

1. Right-click the Microsoft Windows **Start** icon and select **File Explorer**.

2. Navigate to the C:\CBGBallotImages folder.

3. (Scanner operator) If C:\CBGBallotImages is *not* empty, summon the supervisor. If images are present, they may be from a previous scan run or from test data.

4. (Scanning supervisor, if necessary) Use the DeleteBox utility to delete any boxes whose images remain. See "Deleting a box from a functioning ScanStation" on page 80.

   After using DeleteBox, delete any remaining cards from C:\CBGBallotImages.

5. (Scanning supervisor, if necessary) Direct the scanner operator to rescan the deleted box.

6. (Scanner operator) Before rescanning, ensure C:\CBGBallotImages is closed to avoid accidentally modifying its contents.

   **Note**:     *Never* access C:\CBGBallotImages while scanning.

## 8.3   Card-scanning tasks

The scanning process begins when the scanner operator receives a ballot box.

It does not matter how many cards are in each box or the order in which the boxes are sent or received by election officials. The ballot preparation team divides these boxes into smaller subsets and assigns them box numbers with labels. Labels affixed to the boxes facilitate Clear Ballot's Image-to-Ballot Traceability feature.

Perform card-scanning tasks in the order listed in the remainder of this section.

### 1. Start the Tabulator application

Scanning supervisors must start the Tabulator application on each ScanStation before scanner operators can begin scanning. Follow these steps:

1.  Double-click the desktop shortcut to the P: drive.

2.  Double-click the StartTabulator.cmd file.

    A command window appears, followed by the ScanStation password dialog.
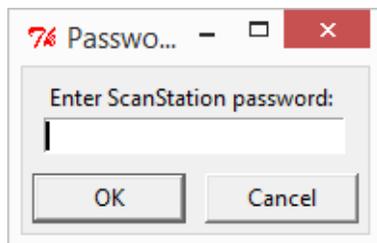


**Figure 8-1. ScanStation Password dialog**

3.  Enter the ScanStation password and click **OK**.

    The Tabulator window appears.
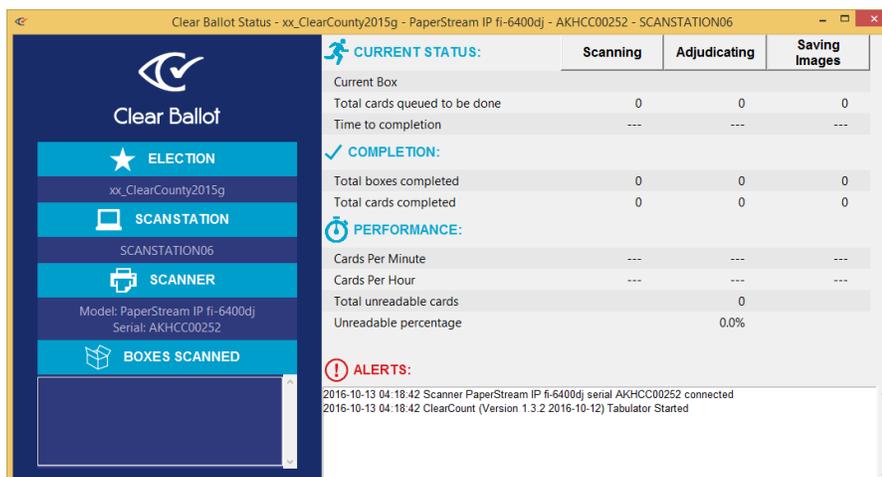


**Figure 8-2. Tabulator window**

4.  Check the information on the left of the window. It should display the:

- Name of the active election (for example, ClearCounty_2018g)

- Name of the ScanStation computer (for example, SCANSTATION03)

- Model of the scanner connected to the ScanStation (such as Fujitsu fi-7800)

- Serial number of the scanner (such as 1002951234)

This information should always be readily visible on the ScanStation for confirmation. If it is not, the scanner operators should consult with their supervisors. If any of this information is missing or incorrect, do *not* proceed. Quit the Tabulator application and work with the scanning supervisor to correct the information.

- Incorrect election name—Indicates the incorrect election is currently set as the active election. A user with a dbadmin access level must set the correct election. (See "Changing the active election" on page 38.)

- Incorrect or missing scanner model or serial number—Can indicate that the scanner update script did not run properly. Rerun the applicable update script as described in "Running the scanner update script" in the *ClearCount Installation Guide*.

## 2. Scan the target card

The filename convention is derived from the target card's barcode. The barcode provides part of the ID for all the card image files that ClearCount creates when you scan the ballots.

Each batch of ballots that you scan requires a target card. The target card is always scanned first. You cannot scan cards without scanning a target card.

1.  Place the target card on the scanner's input tray.

- Face up—When using the Fujitsu fi-6400, fi-6800, fi-7800, or fi-7900 scanner

- Face down—When using the Fujitsu fi-7180

2.  Press the scanner's Scan button to scan the target card (Figure 8-3).
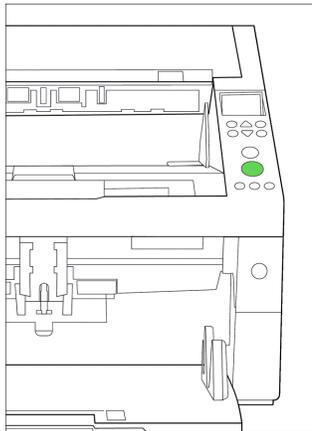


**Figure 8-3. Scan button**

3.  If the Tabulator application has appropriately recognized the target card, it displays an alert indicating that it has found a probable target card (Figure 8-4).
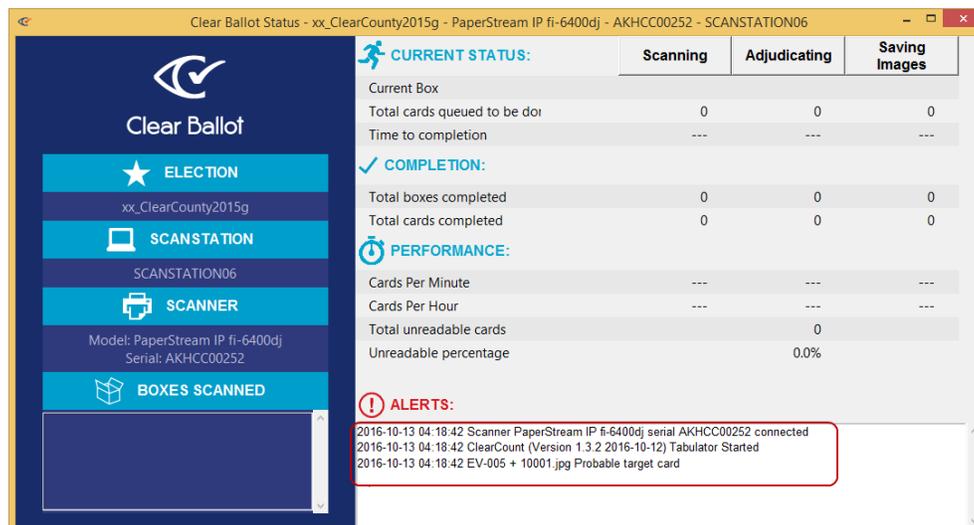


**Figure 8-4. Message show recognition of a possible target card**

You will receive a fatal error in the Alerts pane of the Tabulator window if you attempt to scan without a valid target card.

## 3. Verify the target card information

Perform these steps:

1.  Verify that the filename (such as, AB-005 + 10001.jpg) displayed in the Tabulator window (in the Alerts pane) matches the target card identifier and box label (such as, AB-005).

2. Verify that the correct box ID appears in the Scanning column of the Tabulator window.

   If cards from a previous box are still being processed, you may see the previous box ID in the Adjudicating or Saving Images columns.

3. If an improper target card was scanned or the target card was scanned improperly, have your supervisor delete the box. Then rescan the target card and rescan the box of ballots.

## 4. Load the first batch of cards

Place a stack of cards onto the input tray of the scanner, following the guidelines below.

**Table 8-1. Card loading guidelines**

| Scanner model | Card stack size (90-pound index stock) |
|---|---|
| fi-6400, fi-6800, fi-7800, fi-7900 | No more than 210 cards (1.5 inches) |
| fi-7180 | No more than 40 cards (0.25 inch) |
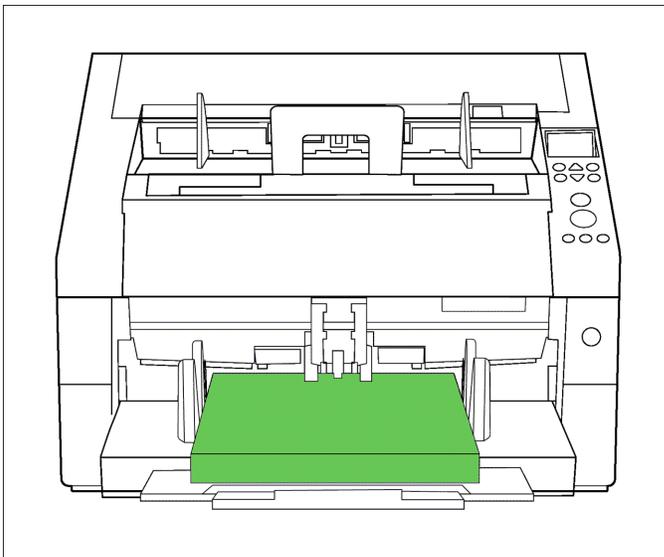


**Figure 8-5. Loading the first batch of cards**

## 5. Scan the first batch of cards

1. Begin scanning by pressing the **Scan** button on the scanner.

   If the scan process from the target card scan is still active, a PaperStream message appears (Figure 8-6).
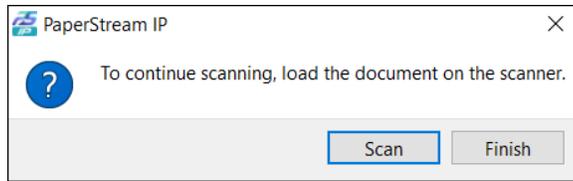
**Figure 8-6. Message to continue scanning**

2. Click **Scan**.

   The scanner continues scanning all the cards on the input tray.

   After the first batch of cards is scanned, the message reappears.

## 6. Remove the first batch of cards

Transfer the scanned cards from the output tray to the waiting ballot box.

After scanning cards, you *must* maintain their sequence. Remove the cards from the output tray and place them *face down* in the box, or scanned card area, with the target card on the bottom. See Figure 8-7
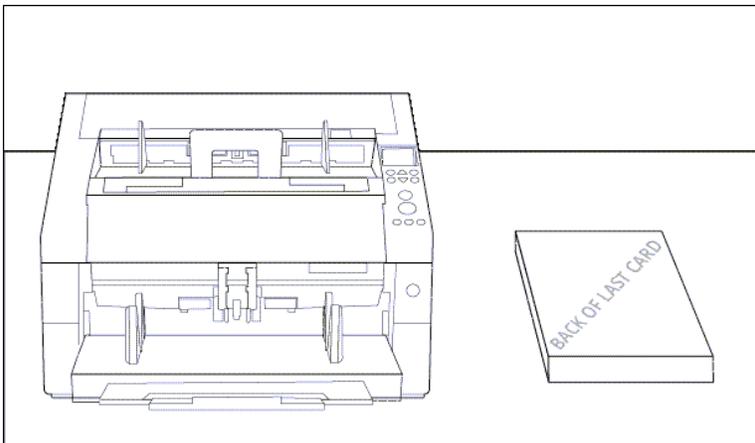


**Figure 8-7.  First batch of cards removed (Fujitsu fi-6800 scanner shown)**

## 7. Scan the remaining cards

Repeat tasks 4 through 6 until all batches of cards are scanned and placed face down in the box or designated area.

## 8. Transfer the scanned cards

If the scanned batch is not already in the box, transfer it to the box with the corresponding box label.

The target card should be *face down* in the box.

## 9. Finish the ballot box and close out the batch

1. Initial the ClearCount box label to indicate that its cards have been scanned. Transfer the box to the designated area where it can be safely sealed and stored or wait for the appropriate official to collect the box.

2. When all the cards are scanned and returned to the box, close out the batch in PaperStream Capture when the message shown in Figure 8-8 reappears.
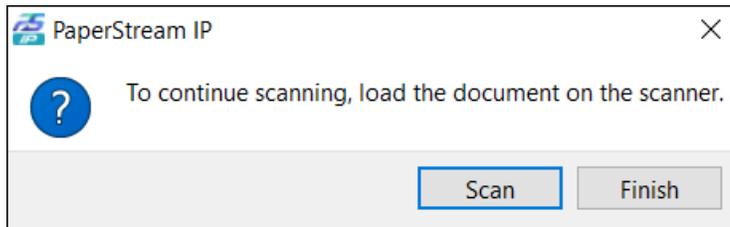


**Figure 8-8. Message to continue scanning**

3. Click **Finish** to complete the batch.

## 8.4 Troubleshooting scanning issues

This section describes how to fix common scanning issues.

See "ClearCount messages" on page 140 for a complete list of warnings and errors. For additional troubleshooting assistance, refer to the Fujitsu scanner documentation or contact Clear Ballot Technical Support.

Some errors may require rescanning a box. When rescanning is required, you must first delete the scanned portion of the affected box. For this reason, scanner operators should *immediately* stop what they are doing and alert a user whose access level is modify or above, such as a scanning supervisor, if:

- They are unsure how the system is responding to the presenting error.

- Ballots that are already scanned are placed out of their original scanning order.

### 8.4.1 Multifeeds

Multifeeds can occur when two or more cards are stuck or pulled through a scanner at the same time. The scanner can detect multifeeds using the ultrasonic sensors that check each item as it is pulled through. When a scanner senses a multifeed, it pauses scanning and provides an error message.

In some cases, the recognition software within ClearCount detects a multifeed later.

The Fujitsu scanners provide a detailed error message and trap at least one of the questionable cards in the top of the scanner. The error message includes the card images captured.

Figure 8-9 shows an example of a multifeed message.
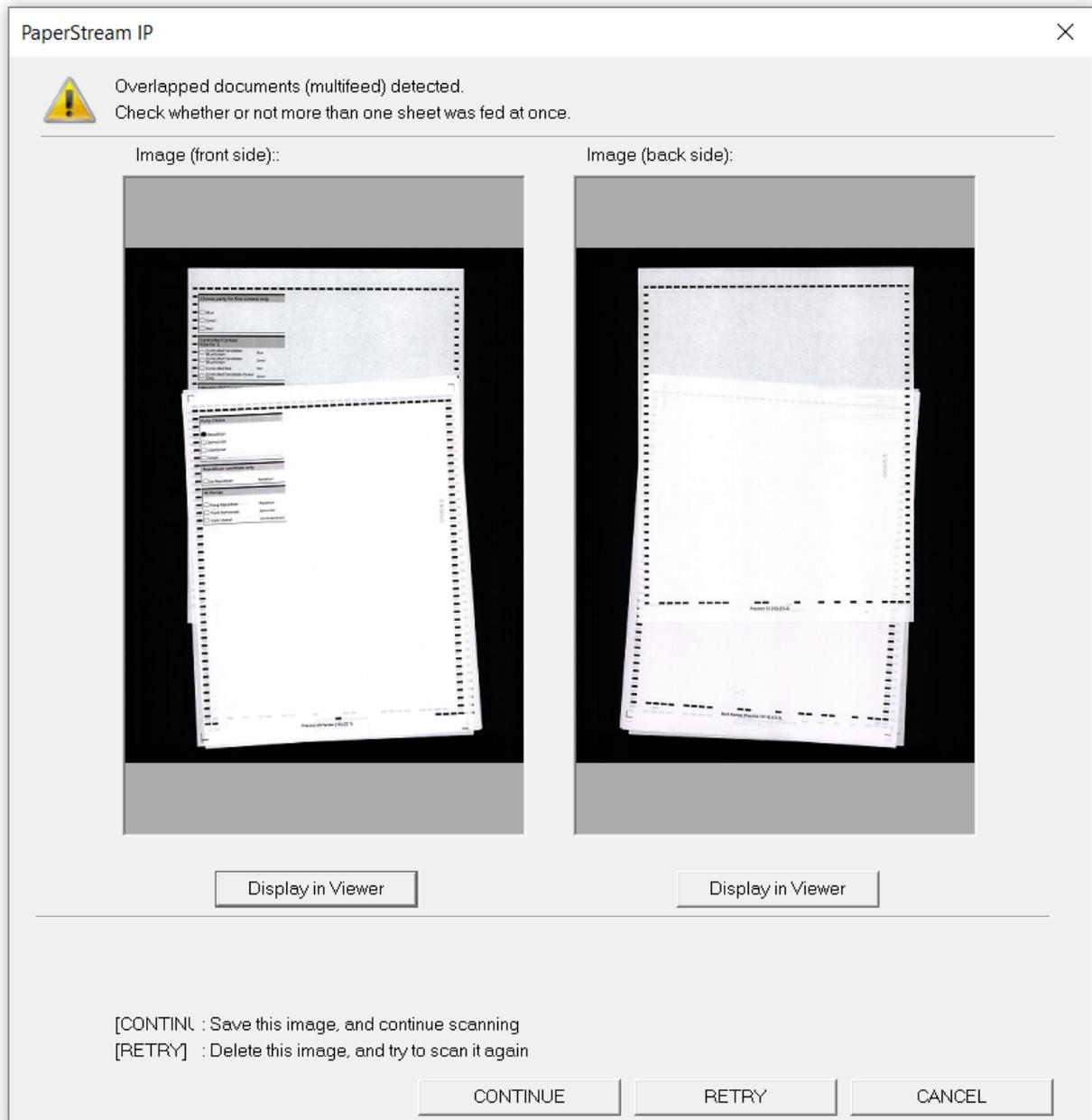
**Figure 8-9.  Multifeed message**

You have the following options:

- To keep the image, click **CONTINUE**.

  If the images displayed in the message indicate that only one card was scanned, check the paper that is sticking out of the top of the scanner. If only one card is present, click **CONTINUE** and continue scanning.

- To rescan the image, remove the cards in question from the scanner, reload them, and click **RETRY**.

  If multiple cards appear as images in the error message or are stuck in the top of the scanner, you must rescan those cards.

  If necessary, separate the cards in question and take action to prevent them from generating a multifeed in a future scanning attempt. Corrective actions can include straightening the folds or even scanning each card individually. For example, if a card has a sticky substance that forces it to stick to another card, you may have to scan the problematic card individually.

- To stop the scan, click **Cancel**.

When in doubt, cancel the scan, have the scanning supervisor delete the box, and rescan the cards.

## 8.4.2  Misfeeds

Misfeeds (also called paper jams) occur when the scanner has difficulty moving a card through the scanner. When a misfeed occurs, a message similar to Figure 8-10 appears.
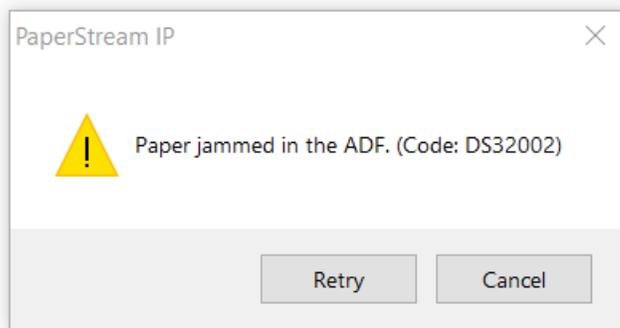


**Figure 8-10. Paper jam message**

Misfeeds can be caused by a bent or torn card. (Sometimes the scanner itself can worsen a tear because the rollers pull on the card.) Misfeeds can also occur when the scanner attempts to pull in more than one card at a time. Cards that have not been jogged increase the chances of a misfeed.

If misfeeds continue to occur, try the following:

- Scan smaller stacks of cards. Placing too many cards in the input tray may increase misfeeds.

- Check for small bits of paper that might be blocking the ultrasonic sensors within the scanner.

### 8.4.3 Loss of target card identity

Some paper jams result in the scanning software losing the identity of the target card. The result of this error appears in the Alerts pane of the Tabulator window, indicating that the naming convention (such as ED-1+000X) was dropped and the scanner is now sending a filename as *Separator-000X*.

If this occurs, do one of the following:

- Delete and then rescan the box. This is the preferred method because it ensures no cards are missed.

- Use a new target card for the remaining cards.

Before restarting tabulation, open the C:\CBGBallotImages folder on the ScanStation and delete any images that begin with *Separator*.

> **Note**: You will receive a fatal error in the Alerts pane of the Tabulator window if you attempt to scan without a valid target card.

### 8.4.4 Scanner cannot detect paper in input tray

Occasionally, the scanner may not detect that a target card or ballot cards are in the input tray ready to be scanned. The message in Figure 8-11 appears.
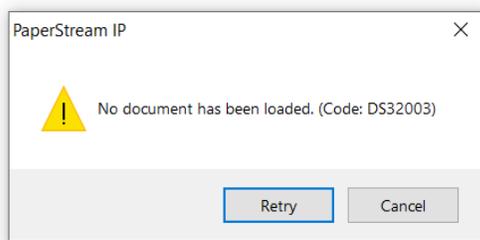


**Figure 8-11. Message indicating that the scanner cannot detect paper in the input tray**

This indicates that the paper is improperly covering the sensors on the inner edge of the input tray. To resolve this problem, try one of the following:

- Push the paper further into the input tray.

- If the paper is bent or curled, hold down the interior edge of the paper while clicking the **Retry** button to start the scan. When the scan begins, you no longer need to hold down the paper.

### 8.4.5  Accessing the *Fujitsu fi-Scanner Error Recovery Guide*

The *Fujitsu fi-Scanner Error Recovery Guide* is a valuable resource to troubleshoot scanner errors. When a message similar to the one below appears, click **More Info** to display the relevant section of the *Fujitsu fi-Scanner Error Recovery Guide*. To dismiss the dialog, click the icon in the top right corner of the message shown in Figure 8-12.
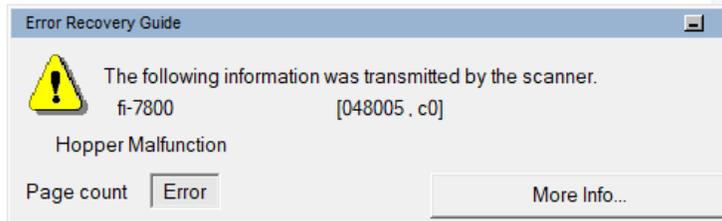


**Figure 8-12. Fujitsu fi-Scanner Error Recovery Guide message**

### 8.4.6  Deleting a box from a functioning ScanStation

Deleting a box from the ScanStation where any or all of its cards were scanned removes all saved images from that ScanStation and its related database entries from the CountServer.

Only a user with a modify access level or above, such as a scanning supervisor, can delete a box. This action is password-protected.

To delete box contents from the ScanStation where the box was scanned:

1.  Ensure that the targeted election is active.

2.  Double-click the desktop shortcut to the P: drive, and then double-click the DeleteBox.bat file.

    The command window and Login dialog for the DeleteBox utility appear (Figure 8-13).
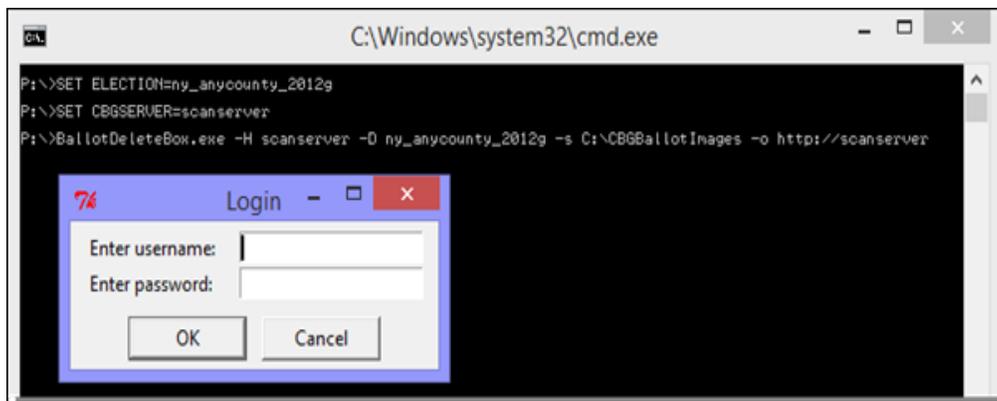


**Figure 8-13. Command window and Login dialog for DeleteBox**

3.  Enter your user name and password and click **OK**.

    The dialog closes and the command window prompts for the box ID.

4.  At the BoxID to be deleted prompt, type at least one box ID and press **Enter**.

    Use spaces to separate multiple box IDs.
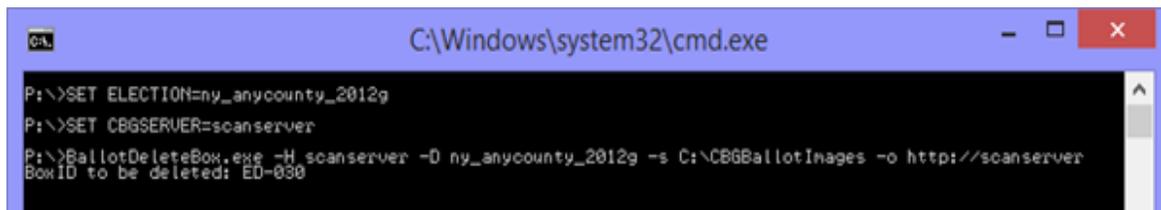


**Figure 8-14. BoxID to be deleted prompt**

*All* images and records related to that box are deleted.

5.  Press any key to close the command window and continue.

## 8.4.7  Deleting a box after a ScanStation crashes

Only a user with a modify access level or above, such as a supervisor, can delete a box. This action is password-protected.

If a ScanStation crashes while scanning and remains offline, perform the following steps at a CountStation:

1.  Ensure that the targeted election is active.

2.  From the task bar, type *command* into the search field and select **Command Prompt** from the search results.

    The command window opens.

3.  Type *P:* and press **Enter** to change the working directory

4.  Type *DeleteBox --force* and press the Enter key to open the DeleteBox utility.

    The Login dialog appears.

5.  Enter your user name and password and click **OK**.

    The dialog closes and the command window prompts for the box ID.

6.  At the BoxID to be deleted prompt, type at least one box ID and press Enter.

    Use spaces to separate multiple box IDs.

    Election data related to the box is deleted from the CountServer, but the card images are *not* deleted.

7.  Press any key to close the DeleteBox utility, type *Exit*, and press **Enter** to close the command window.

8.  When the ScanStation computer that crashed becomes available, delete the contents of its C:\CBGBallotImages folder.

| | |
|---|---|
| **CAUTION**: | Be careful when moving the voting station. |

## 8.4.8  Tabulator messages and errors

The Tabulator Alerts pane displays the following types of messages:

- Errors are displayed with a red background and cause the Tabulator application to stop functioning. These errors require the Tabulator application to be restarted, in which case the current box must be deleted and rescanned.

- Warnings are displayed on a yellow background. The information in these messages does not cause the Tabulator application to stop functioning but may still require a box to be deleted and rescanned.

- Informational messages are displayed on a white background.

See "ClearCount messages" on page 140 for descriptions of messages that appear on the Tabulator Alerts pane.

# Chapter 9. Interrupting and resuming scanning

To accommodate multisession scanning, the ClearCount system can be shut down and restarted in between boxes, with ballot- and results-processing picking up where it left off. This section describes how to shut down and restart the ClearCount system.

These tasks require dbadmin or useradmin access levels. Do not share the necessary passwords with scanner operators or any other unauthorized staff members.

When shut down, scanners can be cleaned. Cleaning the scanners regularly is essential. Dust, paper residue, and ink all accumulate inside the scanner optics and mechanisms and must be removed. At the very least, cleaning the scanners must be part of your end-of-day routine. In high-volume scenarios, it should be performed every three to four hours. For detailed cleaning instructions, consult the manufacturer's operator guide for the scanner model being used.

## 9.1 Interrupting scanning

To shut down the ClearCount system with the intent of restarting:

1. At each ScanStation, do the following:

   a. Wait for each Tabulator to complete all activities (scanning, adjudicating, and saving).

   Even after physical scanning is completed, it takes some time for cards in process to be analyzed and saved. Do *not* shut down the ScanStation computer or disconnect from the network until processing is complete.

   The Tabulator window indicates the progress of the cards through adjudication and storage. When the Tabulator window indicates zero files remain to be processed, it is safe to begin the shutdown process at each ScanStation. In the figure below, the Tabulator application must process two cards before it can safely be closed:



**Figure 9-1. Tabulator progress**

   In the following figure, the Tabulator application has finished processing cards and can safely be closed:



**Figure 9-2. Tabulator complete**

    b.  Click the red X in the upper right corner of the Tabulator window to close the program.

    c.  (Recommended) Shut down the scanner.

    d.  Put the ScanStation computer to sleep or shut it down.

2. At a CountStation:

    a.  Generate a Statement of Cards Cast with Precincts report.

    b.  (Optional) Generate the Statement of Votes Cast report if it is available.

    c.  Export or print these files. See "Sharing web reports" in the *Reporting Guide*.

    d.  Close the election as explained in "Changing the election phase" on page 37.

    e.  Back up the election as explained in "Backing up an election" on page 31.

3. Put the CountStations to sleep or shut them down.

4. (Optional) Put the CountServer to sleep or shut it down.

   This step is optional because the client computers are disconnected from the host computer.

## 9.2  Resuming scanning

To restart the ClearCount system:

1. Reactivate or restart any of the hardware (scanners, computers, or network switches) that you shut down.

2. Log in to a CountStation as an administrator (page 14).

3. Check the "Election activity log" on page 117 and the "Web activity log" on page 122 to ensure nothing unexpected (such as unauthorized logins) occurred since the system was shut down.

4. Restart the Tabulator application on each ScanStation as explained in "1. Start the Tabulator application" on page 71. The scanning supervisor must enter the password to start the Tabulator application.

5. On the CountStation, check the Statement of Cards Cast with Precincts and the Statement of Votes Cast reports that you generated when shutting down the system the previous day against the live version to make sure that they match.

6. In the Phase column for the election, click the phase to open the Change Election Phase dialog, click the **Status** drop-down list, select **Scanning**, and then click **Save**.

7. Initialize the ScanStations and resume scanning.

   See "Initializing ScanStations" on page 136.

# Chapter 10.  Resolving card tabulation issues

Election officials can use the ClearCount system to identify, analyze, and resolve tabulation issues. This process is referred to as *digital adjudication*—a determination of whether a card image is votable. For information about reports mentioned in this chapter, see the *ClearCount Reporting Guide*.

Resolution capabilities are available only to users whose access level is modify or above.

## 10.1   About resolving cards

Card images may be unreadable for a number of reasons. The ClearCount system *digitally outstacks* such card images for manual resolution. Potential resolutions include determining that the image:

- Can be read by a human and, therefore, can be adjudicated with the Card Resolutions tool.

- Is not a ballot card.

- Is not votable in its current state (based on jurisdictional statutes for votability). A card may not have been tabulated because it is missing the required judge initials. Physical cards may be stained, torn, or stuck together, or a card image may be twisted or occluded by the scanning process.

- Consists of multiple cards.

## 10.2   Examining and processing unreadable cards

To view unreadable card images:

1. At a CountStation computer, open the browser and log in to the ClearCount system as an administrator.

2. Select the election from the Election Index page to open its Dashboard.

3. From the Visual Resolution of Unreadable Cards section of the Dashboard, click the numeric value for Unreadable Card Images Needing Resolution (Figure 10-1).



**Figure 10-1. Visual Resolution of Unreadable Cards section of the Dashboard**

ClearCount displays the Card Resolutions report where you can access resolved and unresolved cards (Figure 10-2).



**Figure 10-2. Cards Resolutions report**

4.  In the Unresolved cards section of the Cards Resolutions report, click a card ID to view its card image in the Card Resolutions tool.

The Card Resolutions tool consists of the card image with the Configuration editor on the right (Figure 10-3).



**Figure 10-3. Cards Resolution tool**

- If your access level is read or below—You cannot resolve card issues and the Card Resolutions tool is not available. The Card Images report opens instead.

- If your access level is modify or above—You can resolve card issues and the Card Resolutions tool is available.

You can click the question mark icon on the top right of the Configuration editor to access the quick help topic for the Card Resolutions tool, which provides information about using the tool to perform various tasks.

To resolve an unreadable card:

1. If necessary, orient the card images.

   a. Use the arrow buttons in the Configuration editor as needed to turn the images right-side up.

   b. Select the front side of the card.

2. Click the **Select Precinct (and Card Style)** drop-down list and select the desired precinct option. The information listed is precinct ID, split or sequence ID, and card style number (in parentheses with *CS* for card style), such as *Precinct 80 10 (CS 11)*.
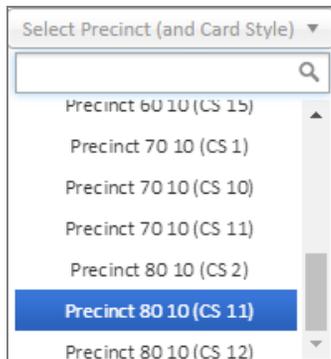


**Figure 10-4. Precinct list**

The method for determining the precinct and card style is jurisdiction-specific. In some jurisdictions, this information is printed on the ballots as card style number, precinct ID, and split or sequence ID (such as, *Card 11 - 80 10*).

3. Based on your examination of the card image, select a status for the card.



**Figure 10-5. Card status**

4.  Follow the applicable procedure for that card status as described in the following sections:

- "Processing a votable image" below

- "Processing a non-ballot" on page 91

- "Processing an image that is not votable" on page 91

- "Processing an image with multiple cards" on page 92

## 10.2.1  Processing a votable image

After examining an unreadable card and allocating its precinct (and card style), if election officials determine that the card image is votable, they can resolve it in the Configuration editor.

To process a votable image in the Configuration editor:
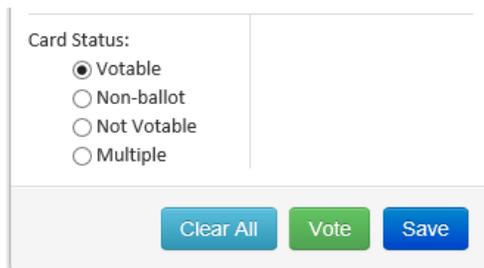
1.  In Card Status, select **Votable** and click **Vote**.



**Figure 10-6. Votable card status**

The Clear All button resets the uncommitted values within the Configuration editor prior to clicking the Vote button.

2. If one side of this card image was already adjudicated by the system (because that side was readable), the following dialog appears. Click **OK** to move to the card image for the other side.
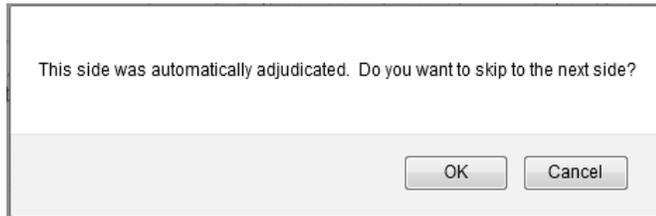


**Figure 10-7. Side automatically adjudicated message**

The Contest editor appears, populated with the choices for the first contest on the ballot. In the card image itself, the contest sidebar is highlighted in green to make it easy to identify.



**Figure 10-8. Contest editor**

3. Using the card image as a guide, recreate the voter's choices using any of the following methods:

   • Click the contest oval once, and then click **Next** (or the plus **+** key) to go to the next contest.

     This method can be used when more than one vote is allowed in the contest. If more than one vote is allowed for a contest, but the voter did not completely vote it, you can still click **Next** or **+** to proceed.

   • Use the number keys to select an oval by its number to vote that choice and then click **Next** to advance to the next contest.

     For contests with more than nine choices, use the mouse to vote for choices greater than nine.

     Click the **Previous** button (or the minus **–** key) to go back to the previous contest or click the **Clear** button (or C key) to clear the current selection.

   • Select **Auto-advance** so that after using the number keys or double-clicking to vote a contest oval, you go to the next contest, as long as the voting rule for the current contest is met.

   If you overvote a contest by mistake, the overvoted selections appear red. Click the votes made in error to deselect them. When the contest is voted correctly, click **Next**. Auto-advance is disabled in such cases.

Whenever there is a controlling contest on a ballot (such as straight-party or primary party), be sure to review each contest, and respond negatively to any time-saving prompts that would allow you to skip a contest.

4.  When you come to the final contest on the card, the Next button is disabled. Vote that contest and then click **Save**.

## 10.2.2  Processing a non-ballot

A non-ballot is a target (separator) card or other sheet of paper in a stack of ballots that should not be tabulated. After examining the unreadable card and allocating its precinct (and card style), election officials can designate it as a non-ballot.

To process a non-ballot in the Configuration editor:

1.  Select **Non-ballot**.



**Figure 10-9. Non-ballot card status**

2.  Click **Save**.

    The non-ballot is excluded from tabulated counts and appears in the Resolved Cards section of the Card Resolutions report with a status that indicates it was resolved as a non-ballot.

## 10.2.3  Processing an image that is not votable

At times a card image may be considered not votable based on a jurisdiction's policies. For example, if a note stuck to a card hides some of its ovals, it may be classified as not votable. After examining the unreadable card and allocating its precinct (and card style), election officials can designate it as such.

To process an image that is not votable in the Configuration editor:

1.  Select **Not Votable** and click **Save**.
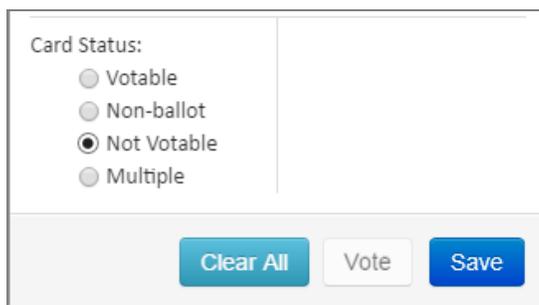


**Figure 10-10. Not Votable card status**

2.  Delete the box containing this card from the system.

3. Retrieve the card in question as described in "Scanning for a specific card" on page 101, fix the issue, and rescan the box according to jurisdictional procedures.

## 10.2.4  Processing an image with multiple cards

Occasionally, two or more cards may stick together and be pulled through the scanner at the same time. After examining the unreadable card image and allocating its precinct (and card style), election officials can designate it as multiple cards.

To process an image consisting of multiple cards:

1. In the Configuration editor, select **Multiple**, enter the number of cards that make up the image, and click **Save**.



**Figure 10-11. Multiple card status**

2. Delete the box containing this card from the system.

3. Retrieve the card in question as described in "Scanning for a specific card" on page 101, fix the issue and rescan the box according to jurisdictional procedures.

## 10.3   Adjudicating overvotes

To locate overvotes:

1. At a CountStation, open the browser and log in to the ClearCount system.

2. Select the election from the Election Index page to open its Dashboard.

3. In the Election Data section, click the number next to Contests to open the Contests report.



**Figure 10-12. # Contests**

4. Click the number in the Over Voted column for the desired contest.



**Figure 10-13. Over Voted column**

5. The Contest Images report opens to display the overvoted contest images.
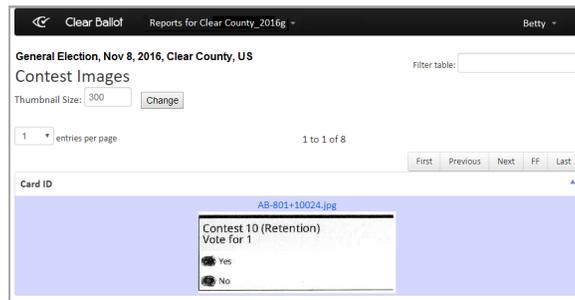


**Figure 10-14. Overvoted contest images**

Use the Next and Previous buttons to scroll through the contest images and examine each.

## Adjudicate a card

If election officials determine that a contest image is votable, a user with an access level of modify, dbadmin or higher can adjudicate it in the Configuration editor.

To adjudicate:

1. In the Contests Images report, click the contest image to display its full card image.

2. Click the **Modify Adjudication** button to access the Configuration editor.
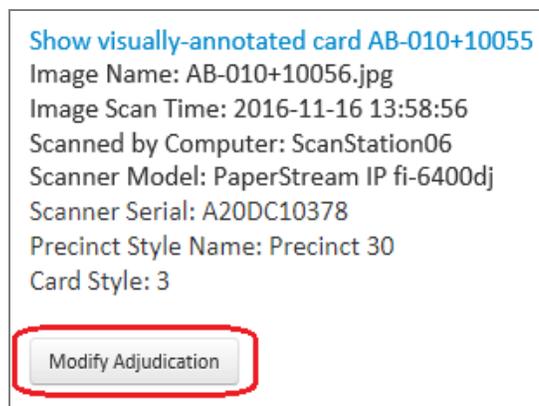


**Figure 10-15. Modify Adjudication button**

3. Select the front side of the card.

4. Click the **Select Precinct (and Card Style)** drop-down list and select the desired precinct option. The information listed is precinct ID, split or sequence ID, and card style number (in parentheses with *CS* for card style), such as *Precinct 80 10 (CS 11)*.
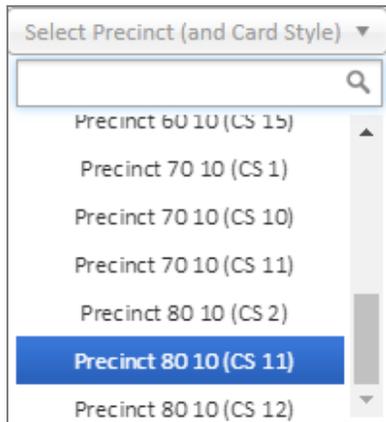


**Figure 10-16. Precinct list**

The method for determining the precinct and card style is jurisdiction-specific. In some jurisdictions, this information is printed on the ballots as card style number, precinct ID, and split or sequence ID (such as, *Card 11 - 80 10*).

5. In Card Status, select **Votable** and click **Vote**.
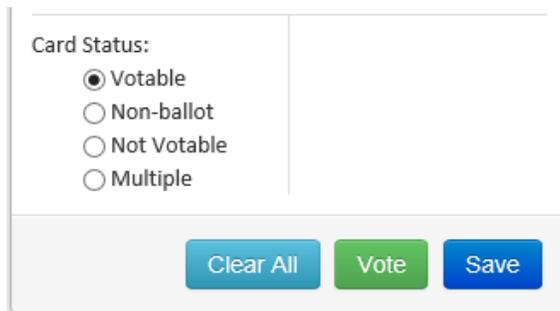


**Figure 10-17. Votable card status**

The Clear All button resets the uncommitted values within the Configuration editor prior to clicking the Vote button.

6. If one side of this card image were already adjudicated by the system (because that side was readable), a message appears. Click **OK** to view the card image for the other side of the card.
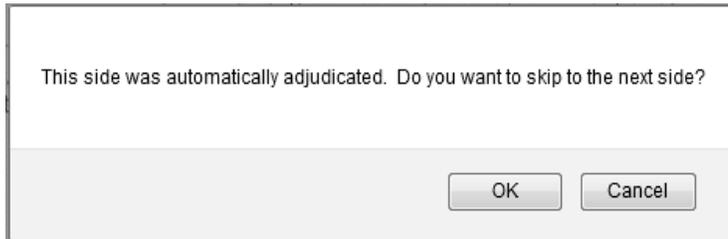


**Figure 10-18. Side automatically adjudicated message**

7. The Contest editor opens and displays the choices for the first contest on the ballot.
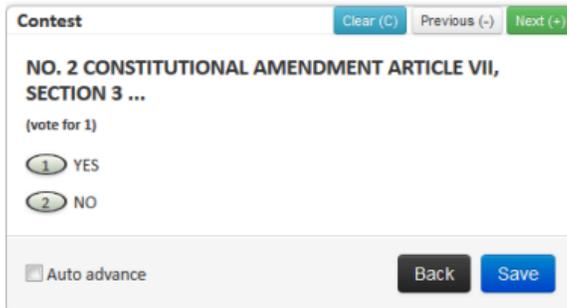


**Figure 10-19. Contest editor**

On the full card image, a green highlight indicates the current contest.

8. Using the full card image as a guide, recreate the voter's choices using any of the following methods:

- Click the contest oval once, and then click **Next** (or the plus **+** key) to move to the next contest. Note that manually marked ovals are filled with green.

  This method can be used when more than one vote is allowed in the contest. If more than one vote is allowed for a contest, but the voter did not completely vote it, you can still click **Next** or **+** to proceed.

- Use the number keys to select an oval by its number to vote that choice and move to the next contest.

  For contests with more than nine choices, you must use the mouse to vote for choices greater than nine.

  Click the **Previous** button (or the minus **–** key) to go back to the previous contest or the **Clear** button (or C key) to clear the current selection.

- Select **Auto-advance** so that after using the number keys or double-clicking to vote a contest oval, the system goes directly to the next contest, as long as the voting rule for this contest is met.

If you overvote a contest by mistake, the overvoted selections appear red. Click the votes made in error to deselect them. When the contest is voted correctly, click **Next**. Auto-advance is disabled in such cases.

Whenever there is a controlling contest on a ballot (such as straight-party or primary party), be sure to review each contest, and respond negatively to any time-saving prompts that would allow you to skip a contest.

9.  When you reach the final contest on the card, the Next button is disabled. Vote or review that contest and then click **Save**.

10. You return to the full card image and a message indicates that the card has been resolved.

## 10.4  Adjudicating straight-party voting cards

When adjudicating cards that offer the straight-party voting (SPV) option for some of the contests, you may need to follow a slightly different process than for cards without that option, especially when a change needs to be made to the oval selected in the SPV controller.

In the Contest editor of the Card Resolutions tool, implied marks in contests that are inherited from an SPV controller are labeled as "implied by straight party" and are represented with blue ovals. This is true for all automatically adjudicated ballots, unreadable ballots where one side of a card has been automatically adjudicated, and previously visually adjudicated ballots.

If there are multiple controller contests on a ballot, the Contest editor does not indicate which contest belongs to which controller unless the contest names were configured by the ballot designer to contain that information.

To change the selected oval in an SPV controller to match voter intent:

1.  In the Contest editor for the controller, deselect the oval.

2.  Select the oval that reflects the voter's intent.

3.  Click **Next** to navigate to each contest in the Contest editor that is owned or controlled by the controller that you changed. Follow these principles to ensure that voter intent is correctly captured:

    a.  Use the full card image to locate each contest that belongs to the controller. The instructions on the ballot should indicate which contests belong to the controller and which do not.

b. For ovals that were implied by from the previously selected controller oval, follow these steps:

Do not change the previously implied ovals. When you save your adjudication, the resolver will automatically apply the new controller contest selection and update implied ovals accordingly. If you instead click on an implied oval and leave it marked as green, it will be incorrectly treated as an explicit vote when you save your adjudication.

If you do accidentally click an implied oval, click a second time so that the green oval becomes unfilled. This will allow the resolver to apply the controller contest correctly when you save your adjudication.

Do not change or remove the marks in any ovals in the contest that were voter-marked on the original ballot—those marks follow different rules than implied marks.

4. Click **Save** and verify in the side view that the votes were correctly represented for both implied and voter-marked ovals.

## 10.5   Resolving judge initials cards

An election can be configured to require judge initials on its ballot cards by including a contest type called *Judges Initials* (see the *ClearDesign User Guide* for more information).

If fewer than the required number of judge initials appear on a card, no votes are counted. In this instance, the ClearCount system considers *all* votes to be nonvotes, and *all* contests to be undervoted contests.

Election officials should review all judge initials contests carefully to determine whether a card is truly invalid due to a lack of initials. If election officials determine that a card is valid, that card can be resolved with the Card Resolutions tool.

To review judge initials cards:

1. At a CountStation, open the browser and log in to the ClearCount system.

2. Select the election from the Election Index page to open its Dashboard.

3. From the **Reports for *Election_Name*** drop-down list, select **Statement of Votes Cast** to open the Statement of Votes Cast report.

4.  In the Statement of Votes Cast report, click the numeric value in the Undervoted without Vote for this Choice column for the Judges Initials contest.



**Figure 10-20. Undervoted Without Vote for this Choice**

If there is a numeric value in the overvoted column for the judge initials contest, you can ignore it. It simply indicates that there are multiple signatures present. All votes were counted as legitimate votes. You do not need to adjudicate these overvotes.

5.  The Vote Visualization page opens to the Least Confident Nonvotes in Undervoted Ballots section. You can hover over each blank choice zone to view information about the contest.



**Figure 10-21. Vote Visualization page**

6.  Click one of the blank choice zones to view the full card image associated with the contest.

7.  Review the card to determine if it contains the required judge initials.

   •  If the judge initials are not present on the card, you do not need to do anything.

   •  If judge initials are present, adjudicate the card using the procedure that follows.

To resolve the card:

1. Click the **Modify Adjudication** button to access the Configuration editor.

Show visually-annotated card AB-010+10055
Image Name: AB-010+10056.jpg
Image Scan Time: 2016-11-16 13:58:56
Scanned by Computer: ScanStation06
Scanner Model: PaperStream IP fi-6400dj
Scanner Serial: A20DC10378
Precinct Style Name: Precinct 30
Card Style: 3

Modify Adjudication
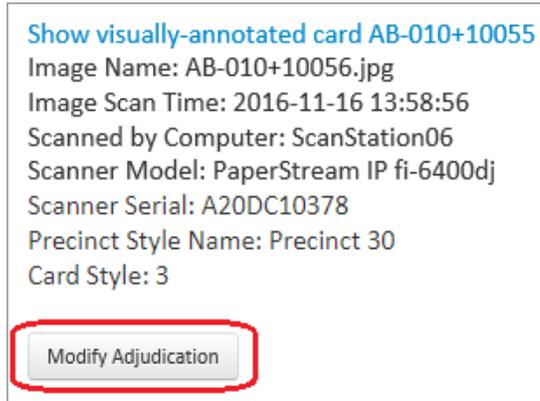
**Figure 10-22. Modify Adjudication button**

2. Ensure that the front side of the card and the correct precinct (and card style) are selected in the Configuration editor.

Configuration                    ?

○ Front Side          ○ Front Side

Precinct 10 (CS 1)    ✕   ▼
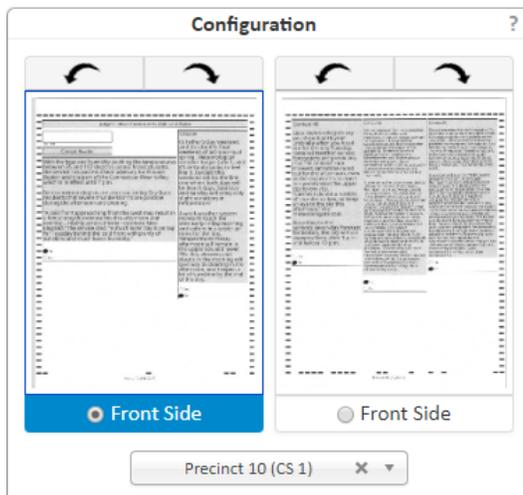
**Figure 10-23. Configuration editor**

3. Under Card Status, select **Votable** and click **Vote**.

Card Status:
◉ Votable
○ Non-ballot
○ Not Votable
○ Multiple

Clear All    Vote    Save
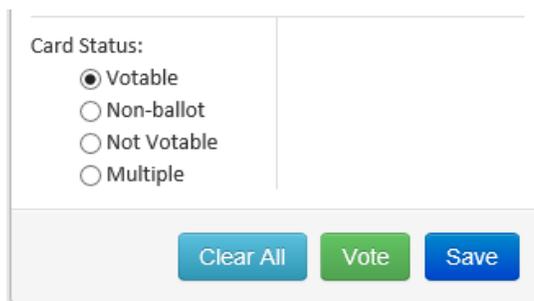
**Figure 10-24. Votable card status**

4.  The Contest editor opens and displays the choices for the first contest on the ballot.



**Figure 10-25. Contest editor**

On the full card image, a green highlight indicates the current contest.

5.  Using the full card image as a guide, recreate the voter's choices using any of the following methods:

- Click the voter-marked contest oval once, and then click **Next** (or the plus **+** key) to move to the next contest.

    This method can be used when more than one vote is allowed in the contest. If more than one vote is allowed for a contest, but the voter did not completely vote it, you can still click **Next** or **+** to proceed.

- Use the number keys to select an oval by its number to vote that choice and move to the next contest.

    For contests with more than nine choices, you must use the mouse to vote for choices greater than nine.

    You can click the **Previous** button (or the minus **–** key) to go back to the previous contest, or the **Clear** button (or C key) to clear the current selection.

- Select **Auto-advance** so that after using the number keys or double-clicking to vote a contest oval, the system goes directly to the next contest, as long as the voting rule for this contest is met.

    If you overvote a contest by mistake, the overvoted selections appear red. Click the votes made in error to deselect them. When the contest is voted correctly, click **Next**. Auto-advance is disabled in such cases.

    Whenever there is a controlling contest on a ballot (such as straight-party or primary party), be sure to review each contest, and respond negatively to any time-saving prompts that would allow you to skip a contest.

6.  When you reach the final contest on the ballot, the Next button is disabled. Vote or review that contest and then click **Save**.

7.  You return to the full card image and a message indicates that the card has been resolved.

## 10.6   Scanning for a specific card

To retrieve a specific original card for review, locate it by using a Fujitsu scanner and Fujitsu's PaperStream Capture application, which is installed on each ScanStation.

**To prepare the cards and the scanner:**

1.  The scanning supervisor obtains the filename of the card from a CountStation.

    The filename appears at the top of the image in the format of *boxID + number*.jpg

    Example: ED-005 + 10123

2.  Retrieve the ballot box with the corresponding box ID and gather its cards at a scanning area.

    > **Note**:    It is critically important to maintain the sequence of the cards in the box. Proper organization helps to maintain card placement.

3.  Begin the card verification process with the stack of cards face up on the left side of the table, with the target card on top (Figure 10-26).

    The scanner should be in the middle. After scanning, the scanned cards should be placed face-down on the right side of the table.
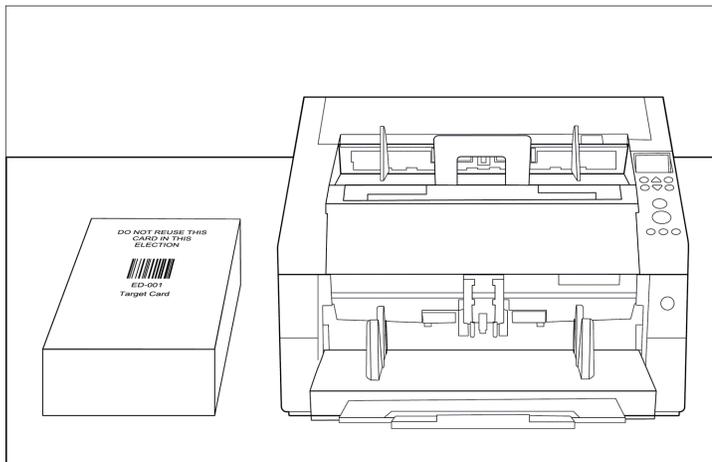


**Figure 10-26. Stack of cards on the left side of the table**

**To set up PaperStream Capture:**

1. On the ScanStation, open the PaperStream Capture program by double-clicking its desktop icon and click **Switch Modes** in the upper right corner (Figure 10-27).
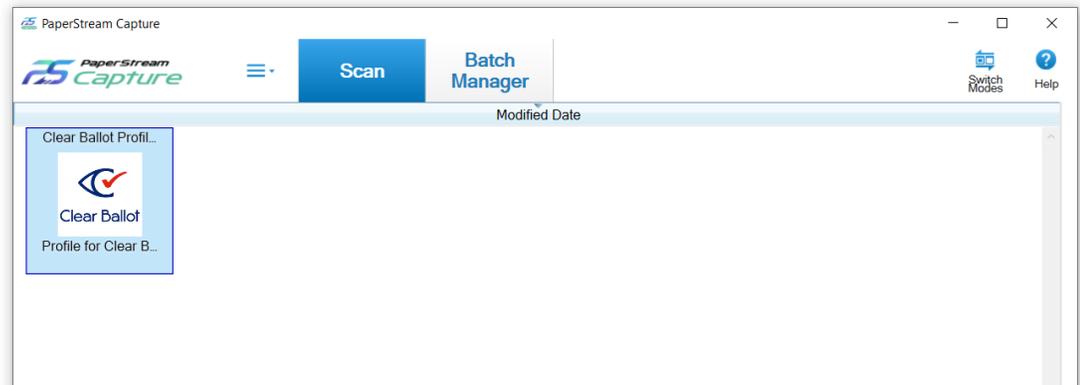


**Figure 10-27. PaperStream Capture application**

PaperStream Capture switches to the Simple Scan mode.

2. Ensure that your scanner is selected by clicking **Select Scanner** and selecting your model if necessary (Figure 10-28).
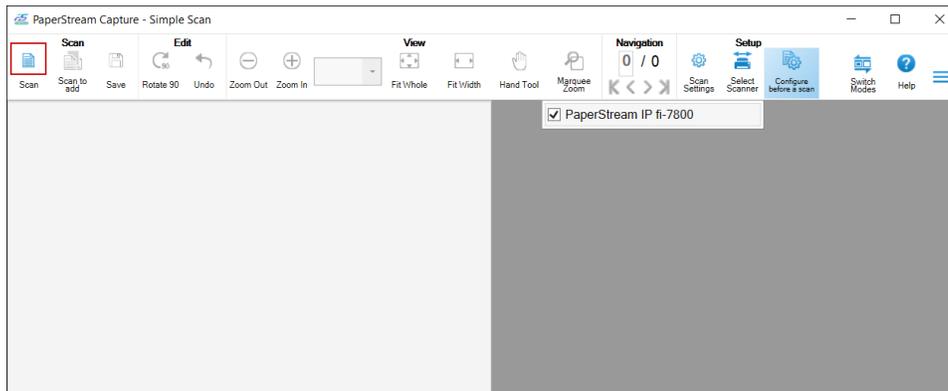


**Figure 10-28. PaperStream Capture - Selecting scanner model**

3. In the PaperStream Capture-Simple Scan dialog, click the **Scan** button in the tool bar (Figure 10-28).

PaperStream Capture displays the Scanning dialog (Figure 10-29).
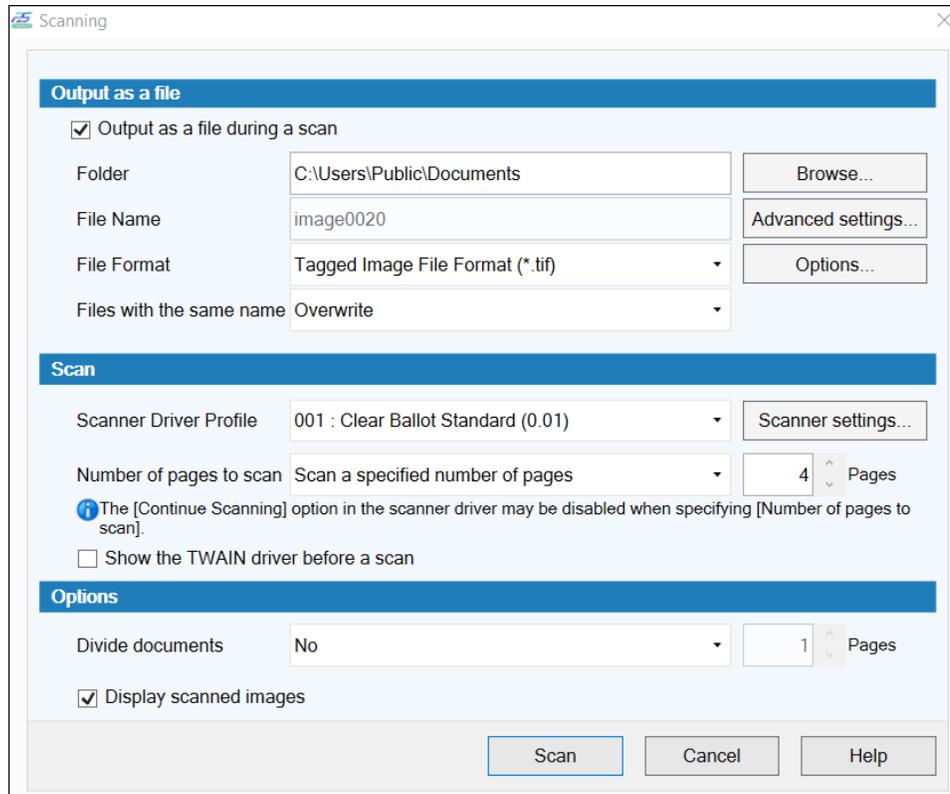


**Figure 10-29. Scanning dialog**

4. In the Scanning dialog, select **Scan a specified number of pages** in the **Number of pages to scan** option and enter the image number from one of the two JPEG images (front and back) created in the initial scan (such as 123), and click **Scan**.

The target card is shown in images 1 and 2, the first card is shown in images 3 and 4, and so on. Using either JPEG image number for the back or front retrieves the correct card.

**To scan and locate a specific card:**

1. Place a stack of cards on the input tray of the scanner (Figure 10-30).

   Place the cards as follows:

   - Face up—when using the Fujitsu fi-6400, fi-6800, fi-7800, or fi-7900 scanners.

   - Face down—when using the Fujitsu fi-7180 scanner.
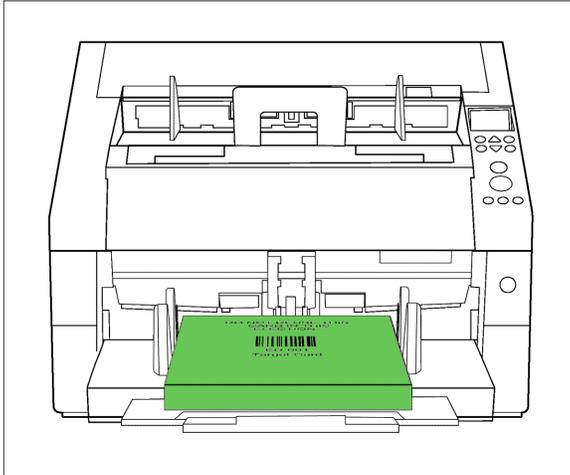


**Figure 10-30. Cards in the output tray of the scanner**

2. Scan all cards.

   Card are delivered to the output tray.

3. Remove the scanned cards from the output tray of the scanner and place them face down on the right side of the table (Figure 10-31).
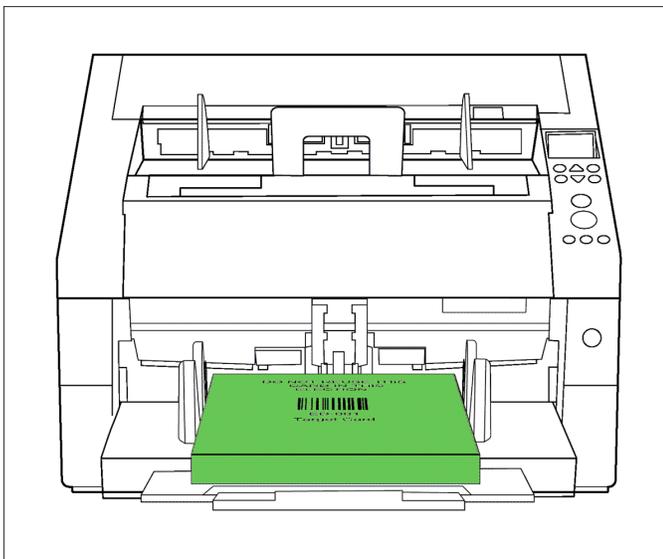


**Figure 10-31. Cards placed face down on the right side of the table**

4. Continue scanning the cards.

The scanner stops when it reaches the appropriate card (Figure 10-32). Note which side is on top and then remove the card from the output tray.
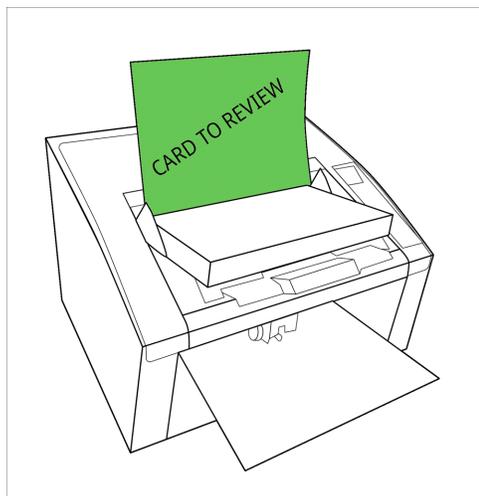


**Figure 10-32. Scanner stopped after reaching the appropriate card**

At this point, election officials can examine the located card to resolve any issues.

**To return the card to its position:**

1. After election officials have completed the card resolution process, return the card to the output tray in the same manner that it was removed.

2. Remove the scanned cards from the output tray and place them face down on the right side of the table.

3. Take the unscanned cards from the input tray and transfer them back to the top of the unscanned deck on the left side of the table (Figure 10-33).
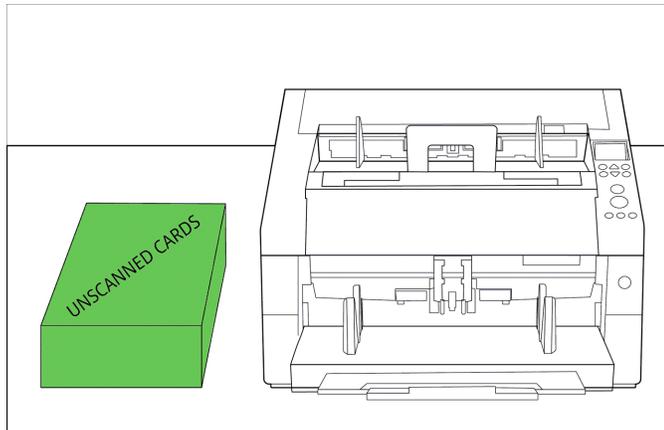


**Figure 10-33. Transferring unscanned cards from the input tray to the deck on the left side of the table**

4. Pick up the scanned cards from the right side of the table and flip them over so the target card is now facing up (Figure 10-34).

   Place this stack on top of the unscanned stack of cards on the left side of the table.
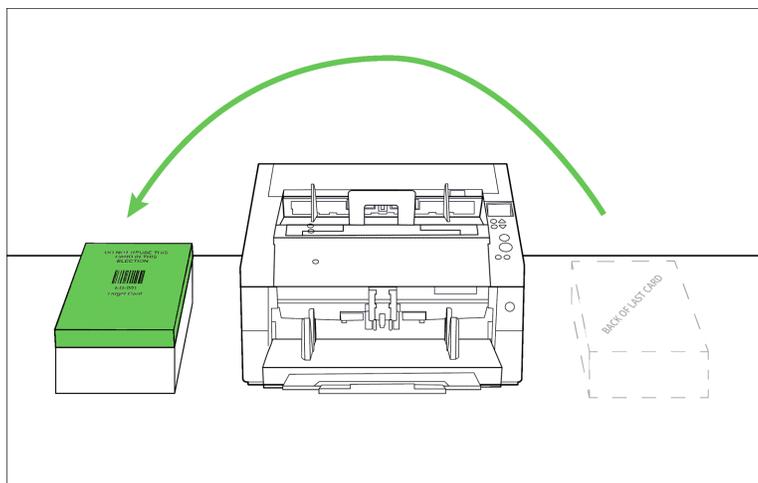


**Figure 10-34. Picking up scanned cards from the right side of the table and turning them over so that target card is facing up**

You now have a complete batch with the target card face up on the left side of the table. The stack of cards is restored to its original sequence (Figure 10-35).
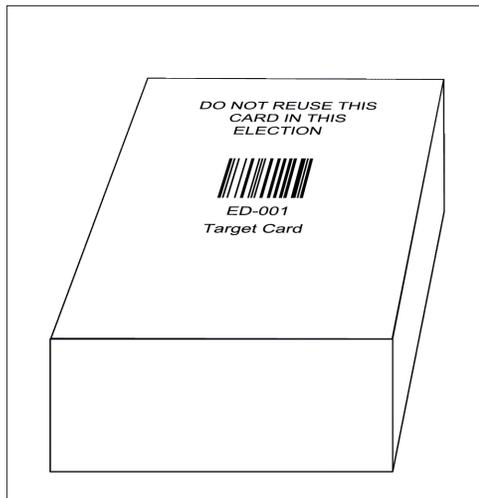


**Figure 10-35. Stack of cards restored to its original position**

5. To prevent the Tabulator application from accidentally counting images from the current session in the next session, the scanning supervisor *must* go to C:\CBGBallotImages (the image capture folder) and delete all of the new images that were scanned.

> **Note**:    Do not continue until the scanning supervisor has deleted all the new images that were scanned.

6. In PaperStream Capture, select **Switch Modes** again to restore PaperStream Capture to Batch Mode.

7. Exit PaperStream Capture.

# Chapter 11. Assigning write-in choices

The ClearCount system captures write-in images for all contests that have write-in choice zones associated with them in an election's BDF.

Election officials can use the Write-in Assignments tool (page 113) to assign candidate names to write-in images. Those assigned write-in choices can then appear in key ClearCount election results reports, such as the Statement of Votes Cast reports. The assigned write-in choices can also be exported as a CSV file.

For information about reports mentioned in this chapter, see the *ClearCount Reporting Guide*.

Write-in assignment capabilities are available only to users whose access level is modify or above.

## 11.1   Accessing write-in images

To access write-in images:

1.   At a CountStation computer, open the browser and log in to the ClearCount system.

2.   Select the election from the Election Index page to open its Dashboard.

3.   On the Dashboard, click the **Report for *Election_Name*** drop-down menu and select **Write-in Contests** from the Other Items section. The Contests with Write-ins report displays.



**Figure 11-1. Contests with Write-ins report**

See the *ClearCount Reporting Guide* for a complete description of this report.

4. Select any desired filters from the Precinct, Counter Group, Box and Mark Type options and click the **Change** button.

   Options for filtering data by mark type include:

   - **Filled ovals**—Limits the data to write-in choice zones with filled ovals, including overvotes

   - **Undervoted unfilled ovals**—Limits the data to write-in choice zones with unfilled ovals that are also undervotes

   - **With text**—Limits the data to write-in choice zones with probable marks in the write-in choice zone, including the oval (based on density)

   - **Unfilled ovals**—Limits the data to write-in choice zones with unfilled ovals

   - **Unreadable cards**—Limits the data to unreadable cards that have write-in choice zones.

     When this filter carries over to the Write-in Assignments tool, the ovals are sorted first by Card ID (grouping all choice zones for that contest on that card together) and then by Choice ID to make adjudication of these unreadable cards easier.

   - **All write-ins**—Does not limit the data; displays all write-in choice zones

5. Click the numeric value in the Unassigned Write-ins column for the desired contest. The Write-in Assignments tool opens and displays up to 5000 of the write-in images that meet your filter selections.



**Figure 11-2. Write-in Assignments tool**

The Write-in Assignments tool consists of the header section at the top, the write-in images section on the left, and the Candidate Assignments panel on the right.

## 11.2   Overview of the Write-in Assignments tool

### A. Header section

The header section of the Write-in Assignments tool indicates the election, the contest, the write-in type, the mark type, the precinct, the counter group, and the box for the write-in choice zones that have been selected from the Contests with Write-ins report.

- The precinct, counter group, box, and mark type are determined by the filters you selected on the Contests with Write-ins report.

- The contest and write-in type are determined by which column link (Total Write-ins, Assigned Write-ins, or Unassigned Write-ins) you selected for a particular contest on the Contests with Write-ins report.

- Click the **Show/Hide Filters** button to control the amount of information displayed.

### B. Candidate Assignments panel

The Candidate Assignments panel lets you enter candidate names to assign to the write-in images. There are also several tools you can use to filter the write-in images section, remove assignments, and perform a bulk assignment for any invalid candidate names (such as, Uncle Sam).

You can also enter candidate names via the Write-in Candidates by Contest report. See the *ClearCount Reporting Guide for information.*

- **All Write-ins**—Indicates the total write-in choice zones available for display for the contest that meet the filter selections you made on the Contests with Write-ins report.

  Clicking the Show All tool (  ) displays all write-in choice zones for the contest and toggles the tool green (  ). This also toggles off the Filter Unassigned tool and updates the information at the top of the Write-in images section to indicate that it is "Displaying all write-ins."

- **Unassigned**—Indicates the number of write-in choice zones that have not been assigned to candidate names.

  Clicking the Filter Unassigned tool (  ) displays only the unassigned write-in choice zones for the contest based on the filter criteria listed in the header section and toggles the tool green (  ). This also toggles off the Show All tool and updates the information at the top of the Write-in images section to indicate that it is "Displaying unassigned write-ins."

- **Add new name**—Type a candidate name (up to 128 characters) and click **Add** (or press Enter) to include the candidate in the list of available names.

- **Candidate name list**—As you add candidate names, they appear below the Add new name field. A blue toggle ( ) indicates the active candidate (to which any selected write-in images will be assigned).

  By default, there is always one candidate name called *Invalid* that you can use to assign to write-in choice zones that are not filled in with valid candidate names or text. The Invalid write-in name can be changed as jurisdictions deem appropriate. See "Write-in Candidates by Contest report" in the *ClearCount Reporting Guide*.
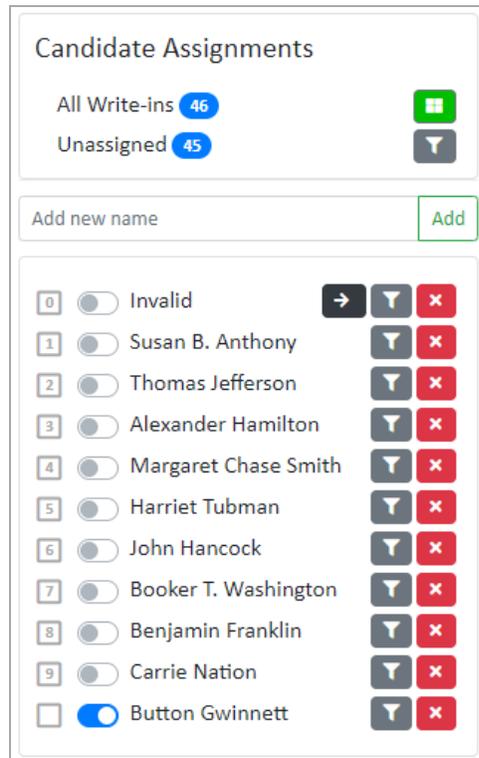


**Figure 11-3. Candidate Assignments page**

  ○ The first nine candidate names are preceded by keypad numbers 1–9, which can be used to perform assignments when a write-in image has been selected. The Invalid candidate name is always 0.

  ○ Clicking the Bulk Move tool ( ) for the Invalid candidate name moves all unassigned write-in images that appear in the currently filtered view of the Write-in images section to the Invalid candidate assignment.

  ○ Clicking the Filter Candidate tool ( ) filters the write-in images to only those that are assigned to that candidate. Clicking the tool again unfilters the Write-in images section.

- ○ Clicking the Remove Assignments tool (  ) removes the write-in images that have been assigned to the candidate in the currently filtered view, and places them back into the unassigned pool.

- ○ Clicking the blue toggle (  ) selects and deselects a candidate name as the active selection for assignments.

**Keyboard shortcuts**

- When typing a candidate name in the Add new name field, you can press the Enter key to add the candidate to the list of available names and retain the focus in the Add new name field.

- When a candidate name is active (blue toggle appears), clicking a write-in image assigns that candidate name to the image. The candidate name appears in blue at the lower left of the image.

- When a candidate name is active (blue toggle appears) and a write-in image is already selected, you can press Enter to assign that candidate name to the image.

## C. Write-in images section

This section displays up to 5000 write-in images that you can scroll through to assign to the candidate names that you create. A message appears at the top of the write-in images section when there are more than 5000 images for the selected contest.

- Information at the top of this section indicates whether all write-in choice zones, only write-in choice zones for a specific candidate name, or only unassigned write-in choice zones are being displayed. This is based on the filtering selections in the Candidate Assignments panel.

- Unreadable cards that have write-in choice zones always appear at the top of the write-in images section.

- Clicking a write-in image applies the focus to that image so that you can assign a candidate name to it. A green outline around the image indicates that it is selected.

- A blue outline around an image indicates that it has been assigned to a candidate name. The candidate name appears in blue at the lower left of the image.

**Keyboard shortcuts**

- Double-clicking a write-in image that has been assigned to a candidate name removes that assignment. Pressing the space bar performs this same function.

- When focus is in the write-in images section, you can press the Tab key to move from the currently selected write-in image down to select the next image. Pressing the right arrow key performs this same function.

- When focus is in the write-in images section, you can press Shift+Tab to move from the currently selected write-in image up to select the previous image. Pressing the left arrow key performs this same function.

- When a write-in image is selected, you can use the computer's keypad to assign a candidate name by pressing the corresponding keypad number (0–9). The candidate name appears in blue at the lower left of the image and the keypad number beside the candidate name turns green.

- When a write-in image is selected, you can right-click or press CTRL-B to open a new browser tab that displays the full ballot card associated with that write-in image.

- When focus is in the write-in images section and a write-in image is selected, you can begin typing a candidate name to display the Assign a name dialog to search for the applicable candidate name and assign it to the image.
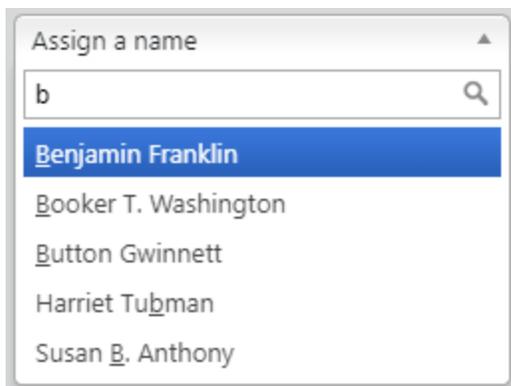


**Figure 11-4. Assign a name dialog**

- ○ Use the keypad arrow keys to select an existing candidate name and then press Enter to assign the selection to the image.

- ○ If there are no partial matches to the candidate name that you have typed, you can type the full name and press Enter to add the new candidate name.

- ○ If the candidate name you typed partially matches another candidate name, but, when typed in full, is not the same as that candidate name (such as, Virginia Black vs Virginia Blackstone), you can press CTRL+Enter to add the new candidate name.

- ○ Press the ESC key or click outside of the Assign a name dialog to close it.

## 11.3   Using the Write-in Assignments tool

The Write-in Assignments tool allows you to quickly enter write-in candidate names that you can then assign to the write-in images for contests. See "Overview of the Write-in Assignments tool" on page 110 for information about the tools and keyboard shortcuts available.

For optimum performance, Clear Ballot recommends that jurisdictions not perform other tasks while using the Write-in Assignments tool—especially jurisdictions with large elections. Clear Ballot recommends limiting the number of candidate names in the Candidate Assignments panel to no more than 300 at a time.

To add and assign candidate names:

1.  Access the Write-in Assignments tool as described in "Accessing write-in images" on page 108.

    Clear Ballot recommends beginning the write-in assignments using the Filled Ovals mark type.



**Figure 11-5. Write-in Assignments tool**

If multiple people are using the Write-in Assignments tool to assign candidate names for the same contest, candidate names may be duplicated as they are added. Candidate names entered by others appear in the Candidate Assignments panel whenever the browser page refreshes.

Duplicate names and any write-in images assigned to them can be merged into a single candidate name with combined results using the options in the Write-in Candidates by Contest report. See the *ClearCount Reporting Guide* for more information.

2.  Select a write-in image from the Write-in images section on the left and begin typing the candidate name that has been written in. The Assign a name dialog appears and searches for any existing candidate names that match.
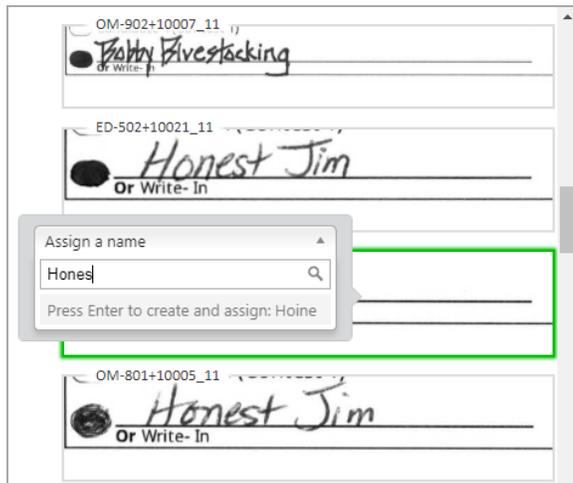


**Figure 11-6. Assign a name dialog**

3.  When you have finished typing the candidate name, press the Enter key to add the name and assign it to the write-in image. The candidate name appears in blue at the lower left of the image, and a blue outline around the image indicates that it has been assigned. The count of Unassigned write-in images in the Candidate Assignments panel decreases accordingly.
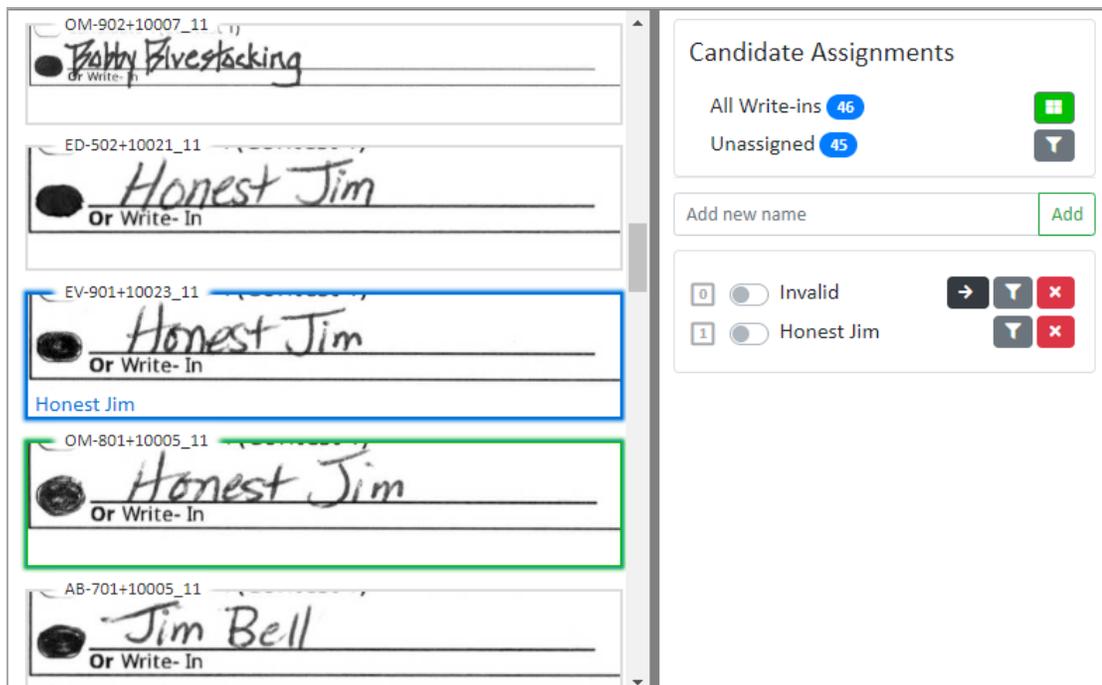


**Figure 11-7. Candidate Assignments**

4.  The next write-in image becomes selected and you can begin typing the candidate name.

    a.  If the candidate name already exists, you can use the keypad arrow keys to select it, if necessary, and then press Enter to assign it to the image.

    b.  If the candidate name does not exist, press Enter after you finish typing it to add it and assign it to the image.

    If the majority of write-in images appear to be for a single candidate, you can select the toggle for that candidate name in the Candidate Assignments panel and then click each write-in image to assign it to that candidate.

5.  Continue assigning candidate names until all write-in images with valid candidate names have been assigned.

    You can click the Filter Unassigned tool to display only those write-in images that are unassigned.

6.  Click the toggle for the Invalid candidate name to select it and then click each write-in image with an invalid candidate name to assign it to the Invalid category.

7.  Return to the Contest with Write-ins report, select additional filters for the current contest or keep the filters and select a new contest.

8.  Continue assigning write-ins using each of the Mark Type options for each contest that contains write-in choice zones.

    For efficiency in assigning write-in images, Clear Ballot recommends selecting the Mark Type options in the order in which they are listed.

9.  When all write-in images for all contests have been assigned, you can validate the assignments by clicking the **Show All** tool, selecting a candidate name to make it active, clicking the **Filter Candidate** tool for that candidate, and then scrolling through the write-in images to ensure they are assigned accordingly.

Candidate names can be deleted, edited, merged and added via the Write-in Candidates by Contest report. See the *ClearCount Reporting Guide* for more information.

The most efficient method of adding write-in candidate names using the Write-in Assignments tool is described above. However, you can also add candidate names (without assigning them to write-in images) using the method below.

To add candidate names:

1.  In the Candidate Assignments panel, type a candidate name (up to 128 characters) into the Add new name field and click **Add** to include the candidate in the list of available names. Continue adding candidate names.

2.  When you are ready to make assignments, click the toggle for a candidate name to make it active and then click write-in images to assign them to that candidate name.

# Chapter 12. Log files

ClearCount tracks all user and system actions, both normal and abnormal, in the following read-only logs:

- Election activity log—Includes the selected election
- Web activity log—Includes all current elections of a jurisdiction

Users with a read access level or above can view both logs on a CountStation. They can also copy, export, and print the logs.

ClearCount displays all pages for the logs when 100 or fewer events are in the date range, no matter how many entries per page are selected.

## 12.1 Election activity log

For each election, ClearCount generates an election activity log. Every action in an individual election is recorded for its election activity log. Election backups include the election activity log.

The election activity log lists the following events:

- User access to election reports and logs
- Tabulator application start, processing, and end events
- Probable target card and scanning error identification
- Server warning and error messages
- Overall scanning rate and progress across ScanStations
- ClearCast Logs that have been merged in with ClearCast Results with the ResultsUploader
- The status of results being uploaded with the ResultsUploader

**To navigate to the election activity log:**

1. Log in to a CountStation.

2. From the **Reports for *Election_Name*** drop-down list, select **Election Activity Log**.

   ClearCount displays the election activity log. Figure 12-1 shows an example.

**Figure 12-1. Example: Election Activity Log**

By default, the election activity log displays results for only the current day.

**To change the date range:**

1. Enter a different range in **Start Date** and **End Date** fields.

2. Click **Change**.

   The time that it takes to display results is affected by the size of the new date range.

**To copy, export, and print the activity log:**

- To copy the log to the clipboard, click **Copy**.

  You can then paste the copied text into another application, such as Notepad.

- To export the log to a comma-separated values (CSV) file:

  a. Click **CSV**.

     ClearCount downloads the file to the location specified in your Google Chrome settings. The default location is your Windows Downloads folder.

  b. Navigate to the download location on your computer and move the file to the desired location, such as a USB drive.

- To print the log (if the CountStation is connected to a printer):

  a. Click **Print Table**.

     The print view of the log appears in the browser window.

  b. Use the print options of your browser to print the log.

**To filter only imported ClearCast logs**:

1. Select ClearCast from the **Source** dropdown list.

2. Click **Change**.

---

## 12.2  Contents of the election activity log

The election activity log contains one row for each event recorded for the selected election. The log contains the following columns.

### Time

Date and time of the election-specific event

### Source

Source of the election-specific event.

Table 12-1 lists and describes the values that can appear in the Source column.

**Table 12-1. Values that appear in the Source column**

| Value | Description |
| --- | --- |
| AdminDB | Changes made through the Election Administration page (URL equivalent to //*serverName*/admin/db). |
| Background | Tasks performed through background jobs, such as backing up the named election. |
| DeleteBox | Deletions of data and images for scanned boxes (so they can be rescanned). |
| Resolver | Changes made through the Card Resolutions tool (URL equivalent to //*serverName*/remaking). |
| Write-in Assignments | Changes made through the Write-in Assignments Tool. |
| Write-in Candidates by Contest | Changes made through the Write-in Candidates by Contest report. |
| Tabulator | Tabulator application activity at ScanStations, such as startup, boxes being scanned, and errors (there is no URL). |
| WebServer | All election-specific events not covered by the other sources (for example, most user requests and interactions with reports and logs, and background job cancellations). Also includes the initial entry for any DeleteBox utility action. |
| ClearCast | Logs that were merged into the election activity log with the ClearCast results from a ClearCast unit. |

**Table 12-1. Values that appear in the Source column (continued)**

| Value | Description |
| --- | --- |
| ResultsUploader Pre-Check | Logs that originate from the checking process of the ResultsUploader.<br><br>Logs that are from the process of checking if the results about to be uploaded from the ResultsUploader to ClearCount are relevant to the current state of ClearCount. |
| Saving Encrypted Files | Logs that are from the ClearCast results merge process that is saving the uploaded results to ClearCount, |
| ResultsUploader | Logs from the ResultsUploader application and process of merging ClearCast Results into ClearCount. |
| Validating Files for Election | Logs from the process that validates the files after they have been uploaded, but before the results have been merged into the ClearCount database. |
| Merging Results | Logs from the process of merging results into the ClearCount database, this does not include merging the images into the ClearCount database. |
| Uploading Images for Election | Logs from the process of merging the uploaded images into the ClearCount database. |

### Election

Name of the election

### User

Name of the user:

- Web-based events—Unique user who interacted with the CountServer through a web browser at a CountStation

- Tabulator and DeleteBox events—ScanStation where the event occurred

This cell is empty or contains the name of the logged-in user if a second user attempts to log in and fails, usually because he or she entered invalid credentials.

### Machine

Name or IP address of the computer where the event originated. The ClearCount system provides the IP address if the name is unavailable.

## Severity

The value shown in the Severity column indicates the seriousness of the event. The following table lists and describes the values that can appear in the Severity column.

**Table 12-2. Values that can appear in the Severity column**

| Value | Description |
|---|---|
| Info | Used for informational messages that describe the page the user is accessing or the action. Most log entries are Info messages. <br><br> Example: *Login successful for user name*. |
| Warning | Provides an alert to nonstandard, but not system-threatening, actions. <br><br> Example: *Login failure for xyz*. |
| Error | Indicates that there is a nonfatal problem. <br><br> Example: *Ballot image filename not found*. <br><br> The system continues to execute. Errors may also include the related HTTPS error. |
| Fatal | Indicates an error that stops normal execution. Some fatal errors require box deletion and a restart of the Tabulator application. <br><br> Example: *Scanner: Target page not read correctly (SEPARATOR0001+10001.jpg). Restart this program to delete the partial box, and then rescan entire box.* |

## Message

Description of the event.

The level of detail varies, depending upon the event. This column can include status or error information. The Message column can display a status message from the Tabulator.

Example: *Tabulator started*

The Message column can also display an error message.

Example: *ERROR: AB-005+10483.jpg: Image height (15") is not a normal ballot - scanner probably pulled in more than one page (MULTI-GRAB)*.

These are the same messages that the Tabulator window displays during scanning and adjudication.

If the event is logging user access to an election report or other browser page, the message consists of the page name the user is accessing.

Example: dash/ma_clearcounty_2018g.

For warning and error messages, Clear Ballot Technical Support may request this information to resolve the problem. For a list of error messages and their corrective actions, see "ClearCount messages" on page 140.

### URL

Address of the web server or other event as described in the Source column that caused the event to begin or to be logged.

Example: dash/ma_clearcounty_2018g

The HTTPS server that resides on the CountServer serves these URLs in a browser on the CountStations. Although these communications use the HTTPS protocol, all connections between computers take place over a closed, wired Ethernet. There is no Internet connectivity or use of the Internet in any phase of an election.

### Validate

This column is imported with ClearCast logs if applicable. This column contains one of three values:

- Blank

  Indicates a ClearCount log. The value is blank because ClearCount logs are not validated because they do not come from an external source.

- Validated

  Indicates an imported ClearCast log that has not been modified since it was originally generated.

- Invalid HMAC

  Indicates that an imported ClearCast log has changed since it was originally generated. This status can occur naturally and is not a call for alarm. However, for security reasons, ignore this entire row of the log.

## 12.3   Web activity log

The ClearCount system provides a unified web activity log that tracks all users' browser-based actions for all of the jurisdiction's elections. This includes logins, logouts, and authentication failures, user access to election reports and card images, and administrative changes to elections or users.

**To navigate to the web activity log:**

1. Log in to a CountStation.

2. From the drop-down list next to your user name in the upper right corner, select Web Activity Log.

   ClearCount displays the Web Activity Log. Figure 12-2 shows an example.

**Figure 12-2. Example: Web Activity Log**

By default, the web activity log displays results for only the current day.

**To change the date range:**

1. Enter a different range in **Start Date** and **End Date** fields.

2. Click **Change**.

    The time that it takes to display results is affected by the size of the new date range.

**To copy, export, and print the activity log:**

- To copy the log to the clipboard, click **Copy**.

    You can then paste the copied text into another application, such as Notepad.

- To export the log to a comma-separated values (CSV) file:

    a. Click **CSV**.

        ClearCount downloads the file to the location specified in your Google Chrome settings. The default location is your Windows Downloads folder.

    b. Navigate to the download location on your computer and move the file to the desired location, such as a USB drive.

- To print the log (if the CountStation is connected to a printer):

    a. Click **Print Table**.

        The print view of the log appears in the browser window.

    b. Use the print options of your browser to print the log.

## 12.4   Contents of the web activity log

The web activity log contains one row for each event currently recorded in the ClearCount database. The log contains the following columns.

### Time

Date and time of the event

### Source

Source of the event.

Table 12-3 list and describes the values that can appear in the Source column.

**Table 12-3. Values that appear in the Source column**

| Value | Description |
| --- | --- |
| AdminDB | Changes made through the Election Administration page (URL equivalent to //*serverName*/admin/db). |
| Background | Tasks performed through background jobs, such as backing up the named election. |
| Resolver | Changes made through the Card Resolutions tool (URL equivalent to //*serverName*/remaking). |
| Write-in Assignments | Changes made through the Write-in Assignments Tool. |
| Write-in Candidates by Contest | Changes made through the Write-in Candidates by Contest report. |
| Tabulator | Tabulator application activity at ScanStations, such as startup, boxes being scanned, and errors (there is no URL). |
| WebServer | All election-specific events not covered by the other sources (for example, most user requests and interactions with reports and logs, and background job cancellations). Also includes the initial entry for any DeleteBox utility action. |
| ResultsUploader Pre-Check | Logs that are from the process of checking if the results about to be uploaded from the ResultsUploader to ClearCount are relevant to the current state of ClearCount. |
| Saving Encrypted Files | Logs that are from the ClearCast results merge process that is saving the uploaded results to ClearCount, |

**Table 12-3. Values that appear in the Source column (continued)**

| Value | Description |
|---|---|
| ResultsUploader | Logs from the ResultsUploader application and process of merging ClearCast Results into ClearCount. |
| Validating Files for Election | Logs from the process that validates the files after they have been uploaded, but before the results have been merged into the ClearCount database. |
| Merging Results | Logs from the process of merging results into the ClearCount database, this does not include merging the images into the ClearCount database. |
| Uploading Images for Election | Logs from the process of merging the uploaded images into the ClearCount database. |
| Update Merging DB | Logs from the process that changes which election is merging results. |
| Error During Merge Process | Logs from handling errors while merging ClearCast results into ClearCount. |
| Linux | Logs coming from the Linux operating system the server is running on. |

## Election

Name of the election the web event is related to.

If a user action is not related to a specific election, this cell is empty. Examples of such events include login attempts, accessing the Election Index, accessing the Election Administration page (page 27) or User Administration page (page 17), and manually entering the name of a nonexistent election in the browser's navigation bar (resulting in an error message in the Message column).

## User

Name of the user:

- Web-based events—Unique user who interacted with the CountServer through a web browser at a CountStation
- Tabulator and DeleteBox events—ScanStation where the event occurred

This cell is empty or contains the name of the logged-in user if a second user attempts to log in and fails, usually because he or she entered invalid credentials.

## Machine

Name or IP address of the computer where the event originated. The ClearCount system provides the IP address if the name is unavailable.

## Severity

The value shown in the Severity column indicates the seriousness of the event. The following table lists and describes the values that can appear in the Severity column.

**Table 12-4. Values that can appear in the Severity column**

| Value | Description |
|---|---|
| Info | Used for informational messages that describe the page the user is accessing or the action. Most log entries are Info messages.<br><br>Example: *Login successful for user name*. |
| Warning | Provides an alert to nonstandard, but not system-threatening, actions.<br><br>Example: *Login failure for xyz*. |
| Error | Indicates that there is a nonfatal problem.<br><br>Example: *Ballot image filename not found*.<br><br>The system continues to execute. Errors may also include the related HTTPS error. |
| Fatal | Indicates an error that stops normal execution. Some fatal errors require box deletion and a restart of the Tabulator application.<br><br>Example: *Scanner: Target page not read correctly (SEPARATOR0001+10001.jpg). Restart this program to delete the partial box, and then rescan entire box.* |

## Message

Description of the event.

The level of detail varies, depending upon the event. This column can include status or error information. The Message column can display a status message from the Tabulator.

Example: *Tabulator started*

The Message column can also display an error message.

Example: *ERROR: AB-005+10483.jpg: Image height (15") is not a normal ballot - scanner probably pulled in more than one page (MULTI-GRAB)*.

These are the same messages that the Tabulator window displays during scanning and adjudication.

If the event is logging user access to an election report or other browser page, the message consists of the page name the user is accessing.

Example: dash/ma_clearcounty_2018g.

For warning and error messages, Clear Ballot Technical Support may request this information to resolve the problem. For a list of error messages and their corrective actions, see "ClearCount messages" on page 140.

### URL

Address of the web server or other event as described in the Source column that caused the event to begin or to be logged.

Example: dash/ma_clearcounty_2018g

The HTTPS server that resides on the CountServer serves these URLs in a browser on the CountStations. Although these communications use the HTTPS protocol, all connections between computers take place over a closed, wired Ethernet. There is no Internet connectivity or use of the Internet in any phase of an election.

## 12.5   Exporting Windows logs

The Microsoft Windows operating system keeps logs of all pertinent Windows events on the ScanStation and CountStation computers. You can access the Application, Setup, Security and System logs via the Windows Event Viewer to view and export them.

To access Windows logs:

1. From the task bar, type **event** in the Search field and select **Event Viewer** from the search results.

   Windows displays the Event Viewer dialog (Figure 12-3).
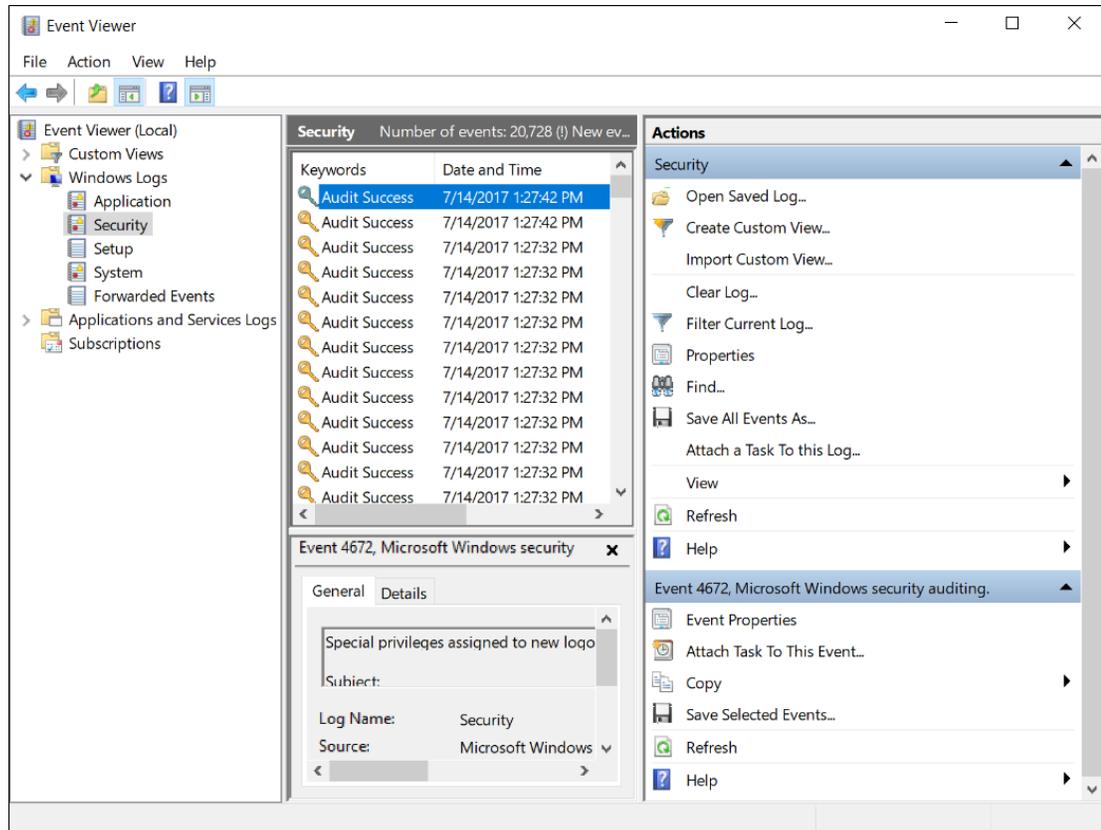
   

**Figure 12-3. Event Viewer dialog**

2. Click the **Windows Logs** drop-down menu on the left and select the type of Windows log you want to export.

   a. To export all events for that log type, select the **Save All Events As** option from the Actions pane, browse to a location to save the file, enter a filename, select the desired file type from the **Save as Type** drop-down menu, and click **Save**.

   b. To export selected events for that log type, CTRL-click to select each desired event, select the **Save Selected Events** option from the Actions pane, browse to a location to save the file, enter a filename, select the desired file type from the **Save as Type** drop-down menu, and click **Save**.

# Chapter 13.  Updating third-party software

When updating third-party software on the ScanStations and CountStations, you may need to disable the software restriction policy temporarily. The software restriction policy was implemented during system hardening. If you are unable to update third-party software, follow the steps below and then re-enable the software restriction policy.

Follow these steps:

1. Log in to the computer as the Windows administrator.

2. From the task bar, type *gpedit* into the Search field and select **Edit group policy** from the search results. The Local Group Policy Editor dialog opens.

3. In the left pane, select **Computer Configuration> Windows Settings> Security Settings> Software Restriction Policies> Security Levels.**

4. In the right pane, double-click **Unrestricted** to open the Unrestricted Properties dialog.

5. Click the **Set as Default** button and then click **OK**.

6. Close the Local Group Policy Editor.

7. Update the desired software program.

    Because the computers used in an election must *never* be connected to the Internet, you must download any necessary software to a computer with Internet access and then copy it to the CountStation computer or ScanStation computer using removable media.

8. Re-enable the software restriction policy:

    a. Open the Local Group Policy Editor as before.

    b. In the navigation pane, select **Computer Configuration> Windows Settings> Security Settings> Software Restriction Policies> Security Levels.**

    c. In the right pane, double-click **Disallowed** to open the Disallowed Properties dialog.

    d. Click the **Set as Default** button and then click **OK**.

    e. Close the Local Group Policy Editor.

# Chapter 14.  Uninstalling ClearCount

## 14.1  Removing the ClearCount software from the CountServer computer

You do not have to uninstall a previous version of the ClearCount software before installing a new version.

If you need to remove the ClearCount software, wipe the hard disk on the CountServer computer.

## 14.2  Removing scanning software from ScanStations

To uninstall supporting software from ScanStation computers, type **programs** in the **Search** field on the Windows taskbar and select **Add or remove programs** from the search results.

# Chapter 15.  Breakdown and storage

This chapter describes how to break down and store the ClearCount equipment after an election.

## 15.1   Breaking down the system

After the election, all ClearCount hardware components should be powered down, physically unplugged from their power supplies and from the network switch, and packed. Clear Ballot recommends that jurisdictions pack, transport, and store the hardware used in the ClearCount operation in its original boxes. Alternatively, jurisdictions can purchase custom storage cases from a third-party manufacturer. For details, contact your Clear Ballot representative.

## 15.2   Storing the system

Between elections, jurisdictions are expected to store computers and scanners in a secure, climate-controlled location. Jurisdictions should consult the model-specific documentation for their commercial hardware to obtain specific guidance. At a minimum, the following conditions for storage are required:

- 15°–35°C
- 20–80% humidity

# Appendix A.  Login credential rules and guidelines

Clear Ballot provides the following rules and guidelines for creating and maintaining login credentials for ClearCount user accounts.

## Login credential rules

User names can consist of up to 16 alphanumeric characters. Valid characters are limited to A–Z, a–z, 0–9, spaces, underscores, and dollar signs. Special characters (such as, apostrophes, quotation marks, single quote marks, hyphens, periods, question marks, ampersands, letters with diacritical marks, and others) are not allowed.

## User name guidelines

User names appear extensively in the ClearCount reports and logs. Clear Ballot recommends using:

- All lowercase characters
- Employee names or derivatives, rather than roles

## Requirements for passwords

The following requirements apply to passwords:

- A password must be at least 14 characters long.
- When you change a password, you cannot reuse any of the five previous passwords.
- If you enter a password incorrectly five times in a row, your account will be locked for five minutes.
- When logged in at the console, you will be automatically logged out after 15 minutes of inactivity.

## Password-management guidelines

Clear Ballot also strongly recommends the following password-management guidelines:

### Maintain privacy.

Passwords should be known by as few people as possible. A good practice is that each password should be known to only one person. Each person needing access to the system should be provided with a separate account.

### Keep the password secret.

The password should not appear in clear text in any physical or digital media that is not stored securely (that is, it should not be taped to the monitor).

### Longer passwords are more secure.

The general rule is that longer passwords are more secure than shorter passwords. Common practice is for a password to be at least eight characters long, but Clear Ballot recommends a password that is at least 14 characters.

### Create a password that is easy to remember.

There is often a tradeoff between security and convenience. Short passwords are easy to remember but are insecure. Long passwords offer greater security but can be difficult to remember. One way to choose a password that is long enough to be secure, and yet still easily remembered, is to choose a phrase and to then use the first few letters of each word in that phrase.

### Mix at least three of: uppercase letters, lowercase letters, digits, and nonalphanumeric characters.

Using a variety of characters in a password offers greater security because it makes it more complex and, therefore, more difficult to guess.

### Do not use a word listed in a dictionary of any language.

Many password-guessing programs start with a dictionary of known words. This is another reason why deriving a password from a phrase makes password guessing more difficult.

### Change passwords frequently.

Even a strong password can be discovered. For example, a password that is mistakenly entered in the user name field can be logged. An individual, possibly one not authorized to use the system, may discover someone's password.

### Keep the system current.

An account on the system should have its access level changed to *none* when the owner of that account is no longer an active or permitted user of the system.

### Create a unique password.

Do not use the same passwords for multiple applications or systems. If a reused password is discovered, the security of the other applications or systems is compromised.

The ClearCount system allows an administrator to reset a user's password if it is lost or compromised. Forgotten passwords *cannot* be recovered.

# Appendix B. Process flows

The checklists in this appendix summarize the various stages of the election process. To assist your team, you can print them for use while scanning ballots.

## B.1 Preparing the site and cards

Figure B-1 show an example of the setup of the ballot preparation table.
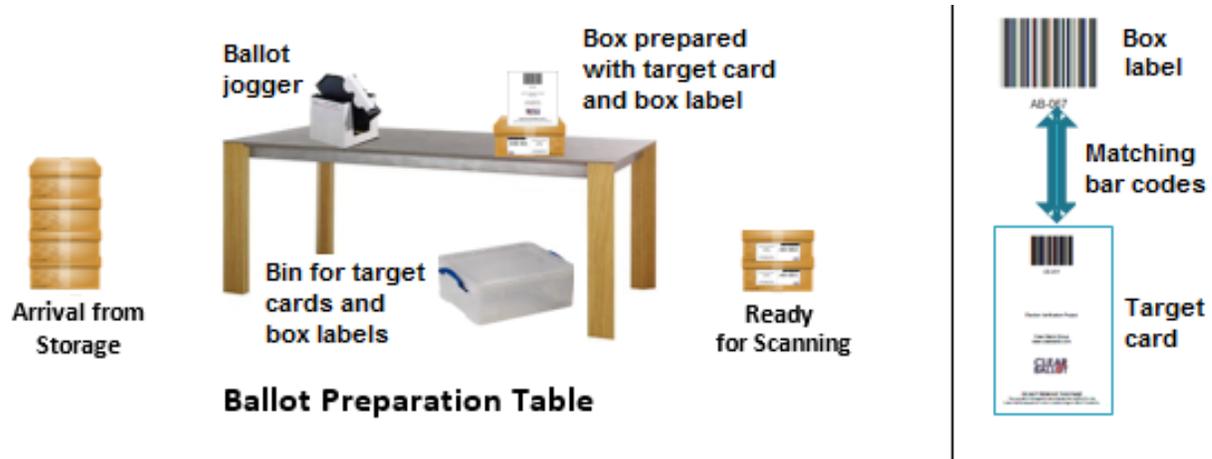


**Figure B-1. Example of ballot preparation table**

Complete the task in the remainder of this section to set up the site, cards, and ballot preparation table.

### A. Setting up the site

1. Set up the ballot preparation table next to the scanning area.

2. Set the bin for the target cards and box labels under the table.

3. Next to the table, designate areas named:

   • Arrival from storage

   • Ready for scanning

4. Print target cards and box labels by counter group (such as AB, EV, ED, PR, VBM) and place them in the bin.

### B. Sorting ballot boxes by counter group

In the arrival-from-storage area, prepare to scan *all* cards from *one* counter group at a time. For example, make a separate pile for the cards in each of these groups:

• Absentee (AB)

• Accessible vote center (AVC)

- Early voting (EV)
- Election day (ED)
- Other (OT)
- Provisional (PR)
- Uniformed and Overseas Citizens Absentee Voting Act (UOCAVA)
- Vote-by-mail (VBM)

## C. Preparing each ballot box

1. Open the box.

2. Align the cards (using a jogger if available). Orientation is not important.

3. Place the cards in the box.

## D. Adding target cards and box labels to boxes

1. Select the next sequential target card and corresponding box label for the counter group.

2. Place the box label on the box adjacent to the existing election label.

3. Place the corresponding target card *face up* on top of the cards.

4. Close the box and move it to the ready-for-scanning area.

# B.2   Initializing the ScanStations

Initialization at the beginning of each day of scanning ensures that ScanStations are configured properly. At each ScanStation:

1. Power on the scanner.

2. Power on and log in to the ScanStation computer.

3. Run the scanner update application:

   a. Double-click the desktop shortcut to the P: drive.

   b. Double-click the UpdateScanner.bat file. (The .bat extension may be hidden.)

   c. Respond to all prompts.

   d. When the update finishes, turn off and restart the scanner.

4. Ensure no card image files from the previous scanning session remain on the computer:

   a. Navigate to C:\CBGBallotImages and verify that the folder is empty.

   b. Navigate away from C:\CBGBallotImages.

5. (Optional) Scan test images *outside* of the ClearCount system.

6. Have your scanning supervisor start the Tabulator application:

   a. Double-click the desktop shortcut to the P: drive.

   b. Double-click the StartTabulator.cmd file. (The .cmd extension may be hidden.) A command window appears, followed by the ScanStation Password dialog.

   c. Enter the password and click **OK**. The Tabulator window appears.

7. Check the information on the left of the Tabulator window. It should display the:

   • Name of the active election (for example, ClearCounty_2018g)

   • Name of the ScanStation computer (such as SCANSTATION03)

   • Model of the scanner connected to the ScanStation (such as Fujitsu fi-7800)

   • Serial number of the scanner (such as 1002951234)

## B.3  Scanning cards

Figure B-2 shows an example of the setup of a scanning table.



**Figure B-2. Example of scanning table**

Follow the guideline in the remainder of this section to position and scan cards.

## A. Positioning the cards

1. Move *one* ballot box from the arrival area to the left side of the scanning table.

2. Open this ballot box and confirm that a target card is on top of the card stack.

3. Place the target card in the input tray of the scanner.

   • Face up—If using the Fujitsu fi-6400, fi-6800, fi-7800, or fi-7900 scanners

   • Face down—If using the Fujitsu fi-7180 scanner

4.  Place the cards in the unscanned ballot area.

5.  Move the empty ballot box to the scanned ballot area.

### B. Scanning the cards

1.  Push the Scan button on the scanner. The scanner captures the target card and moves it from the input tray to the output tray.

2.  Confirm that the Tabulator data, target card, and box label all match.

3.  Place the target card face down in the scanned ballot area.

4.  Move cards from the unscanned stack to the scanner's input tray. Do not overload the tray. Orientation is not important.

5.  When asked whether to continue scanning, press the scanner's **Scan** button or click **Scan** in the dialog.

6.  Transfer the scanned cards from the scanner's output tray to the scanned ballot area *without* changing the order or orientation. Cards scanned first are on the bottom.

7.  Repeat steps 4–6 until the entire stack of ballots is scanned.

8.  Click **Finish** when the message asks whether to continue scanning. This completes the box.

9.  Place the scanned cards face down in the original ballot box (with the target card on the bottom), seal the box and place it in the completed area.

Repeat Tasks A and B until no boxes remain in the arrival area.


## B.4   Checklist 4: Solving common problems

This section describes common problems. When in doubt, delete and rescan a box to avoid errors. For additional information, refer to the scanner documentation, or contact Clear Ballot Technical Support.

### Scanner does not start

Scanning cannot occur if cards do not trigger the paper sensor on the document feeder (for example, because the paper is curled upward). In these cases, there is no response to the Scan button or the scanner incorrectly reports that the input tray is empty. With your fingers, press down at the center of the leading edge of the paper and press the Scan button.

### Scanner misfeed

If the scanner reports a multifeed or paper jam, remove the offending cards from the scanner and reinsert them in the input tray for rescanning. (If cards are crumpled, folded, or torn, attempt to smooth them to aid in the scanning process.) If the identity of the target card is lost, rescan the box of ballots.

If a significant number of multifeeds occur, check the sensors within the scanner. Occluded sensors can cause multifeeds.

## Target card not read

Close the Tabulator application when it reports this error, delete the box, restart the Tabulator application, and rescan the box, ensuring the target card is placed so the scanner reads the bar-coded side first.

## Box requires rescanning

If a scanner operator accidentally terminates a box before all cards are scanned, or cards fall out of order, the scanning supervisor must run the DeleteBox utility and start the standard procedure for scanning a box from the beginning.

## Nonfatal Tabulator message

A Tabulator message or exception appears with a yellow highlight in the Tabulator Alerts pane. Take the action indicated by the message and allow the Tabulator application to continue. The Tabulator application may need to be closed and restarted. If the message repeats continuously, contact Clear Ballot Technical Support.

## Fatal Tabulator error

A Tabulator error message or exception appears with a red highlight in the Tabulator Alerts pane. Close the Tabulator application, delete the box being scanned, restart the Tabulator application, and rescan the box. Report the error to Clear Ballot Technical Support.
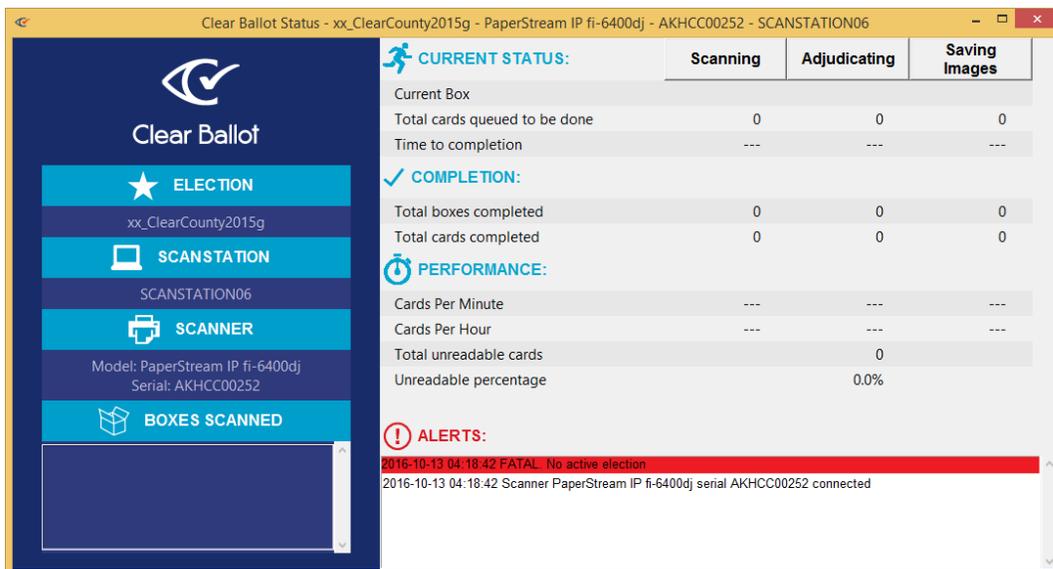


**Figure B-3. Example of fatal Tabulator error**

# Appendix C.  ClearCount messages

ClearCount messages include:

- Warnings—These issues do not cause the system to stop functioning but may require operator action.

- Recoverable errors—These issues impede the operation of the system and can be resolved. In the event of a recoverable error, the system processes do not stop running.

- Fatal errors—These issues cause the system to stop functioning. They can often be resolved with operator intervention, but the system process in question must be restarted before operations can continue.

The lists in this appendix provide *all* possible errors, including those for terminal conditions that might require software changes. The errors whose sole resolution is *Contact Clear Ballot* are for extremely rare situations and are unlikely to be seen in the course of operations.

## C.1   Warnings

### {ballot_id}: Previous adjudication is no longer available since remaking instruction was created. Replacing with manual adjudication.

Cause: The resolution instruction indicates that the automatic adjudication should be preserved, but the automatic adjudication no longer exists. Using manual adjudication instead.

Action: None.

### {name} field is too large -- truncating!

Cause: There are fields in the BDF that are larger than can be stored in the database.

Action: Refer to the file, row and field that was truncated and shorten the value if desired. For example, the message "choices: ChoiceName field in row 6 is too large -- truncating!" refers to the choices.csv file and the ChoiceName value in the sixth row.

To correct the issue, see the ClearDesign Ballot Definition File Guide.

### An error occurred while adding USB drive {}: {}

Cause: Internal programming error.

Action: Check the error at the end of this message to see if it is problematic or listed elsewhere in this document.

### An error occurred while removing USB drive {}: {}

Cause: Internal programming error.

Action: Check the error at the end of this message to see if it is problematic or listed elsewhere in this document.

### Candidate \"{name}\" no longer exists on the server. Try reloading the page.

Cause: The name being assigned to has been modified to a different name on the server. This can happen if the name was modified after the page was loaded, for example by another user.

Action: Reload the page to pick up changes from the server.

### Candidate \"{old_name}\" has changed to name \"{new_name}\" on the server. Try reloading the page.

Cause: The name being assigned to no longer exists on the server. This can happen if the name was deleted after the page was loaded, for example by another user.

Action: Reload the page to pick up changes from the server.

### DeleteBox: No records or files were deleted for {box}. Are you sure {box} (case-sensitive) is spelled correctly?

Cause: An attempt to delete a box that does not exist, probably due to misspelling the box ID.

Action: Correct the box ID.

### INFO: Scanner: Scanner software is slow to finish writing image file {file}. Waiting....

Cause: Some other process is reading an image file, preventing the Tabulator application from accessing it. Automatically waiting for process to stop reading image file.

Action: Wait for the process to finish.

### INFO: Scanner: Successfully gained exclusive access to {file}.

Cause: Some other process is reading an image file, preventing the Tabulator application from accessing it. This message indicates that the image file was finally accessible.

Action: Confirm that the file became accessible.

### Please eject the drive using Windows File Explorer

Cause: A USB drive could not be ejected automatically.

Action: Use Windows File Explorer to eject the USB drive safely.

### Safe to eject drive in Windows File Explorer

Cause: A USB drive could not be ejected automatically.

Action: Use Windows File Explorer to eject the USB drive safely.

### The write-in for card {0}, choice {1} no longer exists on the server.

Cause: The write-in assignment cannot be saved because the write-in no longer exists on the server. This can happen if a box has been deleted after the page was loaded.

Action: Reload the page to pick up changes from the server.

**There was an error starting the uploader. Please proceed normally. This will not impact performance or results. Contact your System Administrator for more Information.**

Cause: Error attempting to track this ResultsUploader instance in order to prevent multiple uploaders from running at the same time.

Action: No action required.

**Unable to assign name: {}. Reloading the page may fix this error. This will update to only show current write-ins, so the total number displayed may change.**

Cause: The write-in assignment cannot be saved because the write-in no longer exists on the server. This can happen if a box has been deleted after the page was loaded.

Action: Reload the page to pick up changes from the server.

**USB {} contains image files, but the election is set to upload result totals only**

Cause: ClearCount is merging results only, but the data on this ClearCast USB also contains images.

Action: Verify you really want to upload ClearCast results without images.

**WARNING: Input database has already been merged (nothing new).**

Cause: The input database has already been merged.

Action: None.

**WARNING: Precinct from Target Card ({pct}) is not associated with this card style ({style}).**

Cause: The targeted precinct is valid, but the card style is not valid for that precinct (making the scanned ballot unreadable).

Action: Locate the precinct that the ballot belongs to and rescan or digitally resolve the ballot.

**WARNING: Scanner: Deleting improperly named image file ({file}), presumably due to incorrectly read target page.**

Cause: Pages were scanned without a target card preceding them, causing them to be named incorrectly (such as, SEPARATOR...). The incorrectly named images were automatically ignored and deleted.

Action: Confirm that the file does not exist.

**WARNING: Scanner: {file} is not an odd+even numbered pair... Waiting for "missing file."**

Cause: There was an unusual delay in writing image files, causing them not to appear in consecutively named pairs. Automatically waiting for image to show up.

Action: Confirm that the file exists.

## WARNING: Scanner: Pair of files do not have consecutive sequence numbers ({file1}, {file2})... Waiting for missing file.

Cause: There was an unusual delay in writing image files, causing them not to appear in consecutively named pairs. Automatically waiting for image to show up.

Action: Confirm that the file exists.

## WARNING: Scanner folder {folder} does not exist. Creating the folder.

Cause: The Tabulator application was started when the scanner folder did not exist. The scanner folder is automatically created.

Action: Confirm that the folder exists.

## WARNING: Signed BDF validation was bypassed (either PIN is forgotten or BDF was intentionally modified).

Cause: The BDF being imported was signed, but the user chose to bypass validation and did not provide the election PIN.

Action: None

## WARNING: Unable to read the current election configuration file {}.

Cause: The file that stores the current ClearCount election cannot be read. This message should only be seen in development environments.

Action: This warning should not be seen in a production environment. If it is, contact Clear Ballot.

## Write-in candidate {} not found.

Cause: The write-in candidate name no longer exists. This can happen if the name was deleted by another user since the page was loaded.

Action: Reload the page to pick up changes from the server.

## Your ClearCount digital certificate will expire in {num_days} days. Please ask your administrator to generate a new certificate. Instructions for generating and installing digital certificates are in the ClearCount Installation Guide.

Cause: The ClearCount digital certificate is expiring soon.

Action: Generate a new digital certificate and install it on your ScanStations and CountStations.

## C.2  Recoverable errors

### {0.url} from user {0.user}. Error details: Resource {0.url} Not Found

Cause: Bad Request during HTTP GET or POST that returned a 404 status code or not found.

Action: Verify the page or resource you are trying to access is really supposed to be there, then contact Clear Ballot for support.

### {0.url} from user {0.user}. Error details: User does not have sufficient permissions for this operation

Cause: Bad Request during HTTP GET or POST that returned a 403 status code or forbidden error.

Action: Verify with your election administrator your user has permissions to do the attempted action.

### {0.url} from user {0.user}. Error details: User is not authenticated

Cause: Bad Request during HTTP GET or POST that returned a 401 status code or unauthorized error.

Action: Verify with your election administrator your user has permissions to do the attempted action.

### {ballot_id}: {msg}—ignoring resolution instruction for this ballot.

Cause: Addendum indicating that instruction is ignored.

Action: See rest of message for more details.

### {ballot_id}: Choice {choice_id} {choice_name}, {party_id}: New {NewVoteType} ({new_ score:.2f}) seems incompatible with guessed {GuessVoteType} ({auto_score:.2f})? Possible human error. But moot because automatic adjudication was preserved.

Cause: Attempt to override automatic field value with a manually entered value.

Action: Contact Clear Ballot.

### {ballot_id}: Existing name is '{name}.' new name is '{new_name}.'

Cause: Attempt to override automatic value with a manually entered value.

Action: Contact Clear Ballot.

### {name} field is blank.

Cause: Invalid resolution instruction.

Action: Contact Clear Ballot.

### {name} field is missing.

Cause: Invalid resolution instruction.

Action: Contact Clear Ballot.

### {name} field is not a date/time object.

Cause: Invalid resolution instruction.

Action: Contact Clear Ballot.

### {name} field is not a known image ({value}).

Cause: Invalid resolution instruction.

Action: Contact Clear Ballot.

### {name} field is not numeric.

Cause: Invalid resolution instruction.

Action: Contact Clear Ballot.

### {table} records are being translated to new {field}, and duplicates eliminated, but not all records with the same key have the same data values! (key = {key}, existing value = {existingvalue}, this value = {thisvalue})

Cause: While loading a historical BDF, inconsistencies were discovered between old and new field values.

Action: Contact Clear Ballot.

### {table}: Unknown field {name} - ignoring...

Cause: There is a problem with the BDF.

Action: Contact Clear Ballot.

### (Unknown Scanner Model!).

Cause: The scanner model is unknown and, therefore, cannot be stored with election data, probably because the update procedure was not performed prior to scanning.

Action: Re-execute the update script for the applicable scanner.

### (Unknown Scanner Serial!).

Cause: The scanner model is unknown and, therefore, cannot be stored with election data, probably because the update procedure was not performed prior to scanning.

Action: Reexecute the update script .

### A different database, {}, is merging right now. Stop merging that database before merging this one.

Cause: Stop merging was clicked when a different election was being merged.

Action: Refresh the page to update the screen to see the correct current state for the given election.

### Access denied.

Cause: An attempt was made to delete an election using an account with an insufficient access level.

Action: Use an account with the correct access level.

### Access denied or credentials were incorrectly entered.

Cause: An attempt was made to use an account with an insufficient access level.

Action: Use an account with the correct access level.

### An error occurred. The results have not been merged. To try again, remove the USB drive and re-insert it.

Cause: An unexpected error occurred while merging the ClearCast results.

Action: Follow the instructions given in the error message.

### An error occurred while logging in. Please try again or contact your administrator.

Cause: The most likely cause of this message is invalid credentials, but it can also be caused by a bad connection to ClearCount.

Action: Enter the correct credentials for the account.

### An I/O error occurred on the ResultsUploader with USB drive {}: {}.

Cause: A USB was removed from the ResultsUploader while it was still uploading to ClearCount.

Action: Re-insert the USB drive.

### Another instance of the ResultsUploader is running. Use the currently running version or close it before opening a new uploader.

Cause: Another instance of the ResultsUploader is running on this machine.

Action: Close the new ResultsUploader and upload with the currently running ResultsUploader.

### Ballot image filename not found.

Cause: Image filename supplied to URL does not exist.

Action: Check image filename and correct or contact Clear Ballot.

### BallotRemakingStatus is an invalid code.

Cause: Invalid resolution instruction.

Action: Contact Clear Ballot.

### BallotStyleID and Side are required to overlay more than one whole image file.

Cause: Improperly constructed image URL.

Action: Contact Clear Ballot.

### BoxID from target card ({box_id}) is not in expected format, preventing the precinct name from being read.

Cause: The barcode on the target card is not in the expected format.

Action: Discard the invalid target card, delete the box and rescan it with a valid target card.

### Bundle for box id {0}, {1}

Cause: This is part of a larger error message caused by the failure of ClearCast to merge results.

Action: Find the error message described in your version of {1} in this document and follow the directions there.

### Cannot adjudicate without knowing ballot style.

Cause: Attempted to adjudicate without a known ballot style.

Action: Contact Clear Ballot.

### Cannot create temporary database for merge.

Cause: The program was not able to create a temporary database for the merge. CountServer storage is full.

Action: Delete some boxes or an election to free up disk space, if possible.

### Cannot read ballot record - no such BallotID.

Cause: Invalid resolving instruction.

Action: Contact Clear Ballot.

### Cannot read ballot record without BallotID.

Cause: Internal programming error.

Action: Contact Clear Ballot.

### Cannot set precinct reported override. No precinct exists with id "{}".

Cause: The precinct that you are attempting to modify no longer exists on the server.

Action: Refresh the page. If the problem persists with a precinct that should exist, contact Clear Ballot.

### Counter group cannot be found in ballot image name {filename}.

Cause: Image filename does not contain a valid counter group.

Action: Check that target cards contain a counter group name as defined by the election BDF.

### CountServer is not accepting requests.

Cause: The maximum number of automatic retries was exceeded with the request returning "Service Unavailable" each time.

Action: Contact Clear Ballot.

### Crop rectangle has zero or negative width/height.

Cause: Improperly constructed image URL.

Action: Contact Clear Ballot.

### Crop rectangle is out of bounds.

Cause: Improperly constructed image URL.

Action: Contact Clear Ballot.

### Database access denied.

Cause: User not allowed access to database.

Action: Use an account with the correct access level.

### Database cannot be dropped - does not exist.

Cause: Attempt to delete a database that does not exist.

Action: Correct the election name.

### Database SQL backup file cannot be found.

Cause: The database backup file could not be written.

Action: Check available disk space or contact Clear Ballot.

## DeleteBox ERROR: {box} was scanned by {scan_computer}, not {computer_being_ checked}. You can only delete box {box} on that computer. Ignoring request...

Cause: An attempt was made to delete a box from a ScanStation other than the ScanStation that originally scanned the box. This is unsafe because the ScanStation that originally scanned the box may still have some of the images from that box on its hard disk.

Action: Reissue the request on the ScanStation that processed the box.

## DeleteBox web server request failed ({0}).

Cause: Error deleting a box.

Action: Contact Clear Ballot.

## Duplicate record.

Cause: An attempt was made to scan/tabulate the same box twice.

Action: Delete the box and then rescan the box.

## Duplicate write-in candidate \"{}\".

Cause: A write-in candidate already exists with the specified name, and the "Merge if duplicate" checkbox was not checked.

Action: Make the candidate name unique or select the "Merge if duplicate" checkbox.

## Election name not specified.

Cause: Improperly constructed image URL.

Action: Contact Clear Ballot.

## ERROR: {table:} Required BDF table not found.

Cause: There is a problem with the BDF.

Action: Contact Clear Ballot.

## ERROR: Access denied.

Cause: User not allowed access to database.

Action: Use an account with the correct access level.

## ERROR: Archive folder %s does not exist.

Cause: The provided argument for archive (processed) folder is not correct.

Action: Correct the argument or contact Clear Ballot.

### ERROR: Attempt to overwrite {name} ({value}) with different value ({new_value}).

Cause: Attempt to override automatic field value with a manually entered value.

Action: Contact Clear Ballot.

### ERROR: Ballot style from code channel not in ballotmapper table.

Cause: The BDF used to create the election does not correspond to the ballots being scanned. Verify that the BDF matches the ballots being scanned.

Action: If it matches, contact Clear Ballot.

### ERROR: BDF metadata table has a required field that is empty: '{0}'

Cause: The election metadata table in the BDF is missing a required field.

Action: Generate a new BDF with the required field.

### ERROR: BDF %s table contains a duplicate key, one of which is: %s.

Cause: The BDF table contains at least one duplicate key in the CSV data.

Action: Delete the duplicate keys and retry the operation or contact Clear Ballot.

### ERROR: BDF %s table is not encoded with UTF-8 file format and appears to contain non-ASCII characters. Convert to UTF-8.

Cause: The CSV file inside the BDF contains non-ASCII characters but was not encoded using UTF-8 file encoding.

Action: Correct the encoding of the BDF's CSV file to use the UTF-8 format.

### ERROR: BDF has been digitally signed with a PIN. Please provide the correct election PIN.

Cause: An invalid PIN was provided for a signed BDF. The BDF digital signature cannot be verified without the correct election PIN.

Action: Enter the correct PIN.

### ERROR: BDF has been encrypted with a PIN. Please provide the correct Election PIN.

Cause: An invalid PIN was provided for an encrypted BDF. The BDF cannot be decrypted without the correct election PIN.

Action: Enter the correct PIN.

### ERROR: BDF has been modified since it was signed by {program} {version} on {date}: {tables}.

Cause: The BDF contents have been altered since it was created and signed.

Action: If this was not intentional, discard this BDF and obtain the original unaltered BDF.

### ERROR: Cannot copy image file {file} to {output} ({msg}).

Cause: A problem was encountered trying to save an image file. This could be due to being out of disk space, or a network communication error.

Action: Check for out-of-disk-space or network communication error.

### ERROR: Cannot create database {db}; no BDFs supplied.

Cause: Cannot create an election because a BDF was not supplied by the user.

Action: Supply the missing BDF and retry.

### ERROR: Cannot delete image file {file} ({msg}).

Cause: Cannot delete image file from local hard disk because it is still being accessed by another process or user.

Action: Wait for the process to release access, and the file deletion will be retried automatically.

### ERROR: Cannot mount {device}.

Cause: There was a problem trying to mount the backup device.

Action: Check that the backup device is and try again.

### Error: Different box ID requested for this drive letter

Cause: The ResultsUploader was looking for a different USB that was likely unplugged.

Action: Unplug the USB, wait a few seconds, and then plug it in again. Make sure the previous USB was also merged successfully.

### Error: Do not remove the USB drive before it is safe to do so. Please re-insert the USB drive.

Cause: A USB was removed from the ResultsUploader while it was still uploading to ClearCount.

Action: Re-insert the USB drive.

### ERROR: Election {db} cannot be made for the currently active election. Required file (webAdmin.ini) is missing.

Cause: Cannot set the current election because webAdmin.ini cannot be found. Installation problem.

Action: Contact Clear Ballot.

### ERROR: File "{}" is not an XSLT file.

Cause: The file uploaded for use as an XSLT stylesheet does not have the correct extension.

Action: Upload a file with an .xslt extension.

### ERROR: Invalid virtual coordinate {position} of oval.

Cause: Incorrectly formed BDF.

Action: Contact Clear Ballot.

### ERROR: Merge into {db} failed: {msg}.

Cause: An error occurred doing a merge.

Action: Check related message for more details.

### Error: Multiple USB drives attached at once. Remove all new drives

Cause: Multiple USB drives were attached at once while attempting to upload ClearCast results; only one USB at a time is supported.

Action: Unplug all of the new USBs.

### Error: New USB was added before the 1st was removed. Remove the new USB drive

Cause: A new USB was plugged in before the one being used by the ResultsUploader was removed.

Action: Remove the new USB.

### ERROR: No password provided for encrypted BDF.

Cause: The BDF being imported was encrypted, and no election PIN was provided.

Action: Provide the election PIN.

### ERROR: No password provided for signed BDF.

Cause: The BDF being imported was signed, and no election PIN was provided.

Action: Provide the election PIN or bypass validation.

### ERROR: No XSLT file supplied.

Cause: Import XSLT was clicked, but no XSLT file was provided.

Action: Select a valid XSLT file.

### ERROR: Password is not valid.

Cause: User entered incorrect password.

Action: Enter correct password.

### ERROR: Restore of {db} failed: {msg}.

Cause: An error occurred doing a restore.

Action: Check related message for more details.

### ERROR: Scanner: Cannot open file {file} (file locked by scanner?)

Cause: Some other process is reading an image file, preventing the Tabulator application from accessing it (after waiting).

Action: Check if any user is reading image files or contact Clear Ballot.

### ERROR: Scanner: Cannot parse sequence numbers from filename {file} ({msg}).

Cause: Image filenames do not have valid sequence numbers.

Action: Contact Clear Ballot.

### ERROR: Scanner folder %s does not exist.

Cause: Provided argument for scanner folder is not correct.

Action: Correct the argument or contact Clear Ballot.

### ERROR: Still cannot delete image file {file} on program exit! ({msg}).

Cause: Cannot delete image file from local hard disk because it is still being accessed by another process or user.

Action: Find the image file in the C:\CBGBallotImages folder and manually delete it.

### ERROR: The password you specified is incorrect; display of vote totals was not changed.

Cause: The user password is incorrect. Therefore, the display of vote totals cannot be changed.

Action: Try the operation again and provide the correct user password.

### Error: The USB drive does not appear to contain election results.

Cause: There are no ClearCast results files at the correct location on the USB stick that was plugged into the computer running the ResultsUploader.

Action: Find the USB that does have the ClearCast results.

### Error: USB drive does not appear to contain valid election results.

Cause: There are no ClearCast results files at the correct location on the USB stick that was plugged into the computer running the ResultsUploader.

Action: Find the USB that does have the ClearCast results.

### ERROR: User name '{user}' is not valid.

Cause: User name contains invalid characters.

Action: Consult documentation on acceptable characters and construct a different user name using only acceptable characters.

### ERROR: You cannot change the access of your own account.

Cause: You are not allowed to change the access of your own user account.

Action: Have an election official with the proper access level change your user account for you.

### ERROR: You cannot delete your own account.

Cause: You are not allowed to delete your own user account.

Action: Have an election official with the proper access level delete your user account for you.

### Error during pre-validation for USB drive {}: {}

Cause: There was an error when validating that ClearCount wants to merge the USB currently attached to the ResultsUploader.

Action: Look at the USB, the error message at the end of this message, and the ClearCount log to gather further information.

### Error Occurred While {}: {}.

Cause: Another error was thrown which triggered this message to the user.

Action: Read the error message after the colon and find that message in this document to determine what to do next.

### Exception encountered in {method}: {exception}. {stack}

Cause: An error was encountered while retrieving information from the server, and this message is being logged. The specific error message may provide directions.

Action: If the specific error message is not listed in this appendix, contact Clear Ballot.

### Exception encountered setting Reported override for Precinct with ID {precinct_id} to "{value}": {exception}. {stack}

Cause: An unexpected error was encountered while setting the reported override value for the precinct.

Action: Contact Clear Ballot.

### Exception {}

Cause: An unexpected error was encountered, and the exception details are being displayed to the user.

Action: If the specific error message is not listed in this appendix, contact Clear Ballot.

### File already exists: {name}.

Cause: Attempted to upload a file that already exists on the server.

Action: If you are rescanning a box of ballots, you must delete the box first and then rescan the box.

### FIPS 140-2 mode must be enabled in order to use encrypted connections from this PC.

Cause: You are not allowed to connect via TLS if the system is not in FIPS 140-2 mode.

Action: Enable FIPS 140-2 mode in the Windows Group Policy Editor.

### FIPS 140-2 mode must be enabled via Windows Policy Editor in order to use encrypted connections from this PC.

Cause: You are not allowed to connect via TLS if the system is not in FIPS 140-2 mode.

Action: Enable FIPS 140-2 mode in the Windows Group Policy Editor.

### Folder containing results does not exist

Cause: The ClearCast results were not properly saved to ClearCount during upload.

Action: Attempt to merge the same USB. If the same or another error occurs, run DeleteBox against the box_id for that USB and then try again.

### Historical vote target %s, translated as %s, does not exist in current database.

Cause: While loading a historical BDF, a value was encountered that cannot be mapped to the current database.

Action: Contact Clear Ballot.

### Illegal regular expression in BoxID_Precinct.

Cause: The metadata.BoxID_Precinct field is an illegal regular expression.

Action: Contact Clear Ballot.

### Image directory for {db} not found.

Cause: Image folder is missing when doing a backup or a restore.

Action: Contact Clear Ballot.

### Image file already exists.

Cause: Attempted to merge an image file that already exists. The box of cards has been scanned, then merged, then rescanned.

Action: Delete the box and remerge.

### Image file {name} not found in database.

Cause: Requested image is missing.

Action: Ensure the URL specifies a valid image file.

### Image file {name} not found in folder.

Cause: The image file requested is missing from the image folder.

Action: Ensure the image files exist on the server or contact Clear Ballot.

### Image filename not specified.

Cause: Improperly constructed image URL.

Action: Contact Clear Ballot.

### Image folder for database {db} does not exist.

Cause: Election is missing the image file folder on the server.

Action: Contact Clear Ballot.

### Incomplete set of images for a ballot.

Cause: Internal programming error.

Action: Contact Clear Ballot.

### Incorrect Election on USB Drive: {}

Cause: The election on the USB stick that is attempted to be merged into ClearCount does not match the election that is currently accepting new results.

Action: Verify which election you would like to merge results into and change the election on ClearCount if necessary. Then if the USB has results for the correct election, retry merging them.

### Incorrect format for Default parameter. Must be 2 numbers separated by 'x' or 1 integer.

Cause: The image URL is improperly constructed.

Action: Contact Clear Ballot.

### Incorrect format for Size parameter. Must be 2 numbers separated by 'x.'

Cause: Improperly constructed image URL.

Action: Contact Clear Ballot.

**Incorrect format of Crop parameter. Must be 4 numbers separated by commas, ordered as (left, top, right, bottom), in pixels relative to upper left corner.**

Cause: Improperly constructed image URL.

Action: Contact Clear Ballot.

**Incorrect format of ExtendBox parameter. Should be 4 numbers separated by commas, e.g., (left, top, right, bottom).**

Cause: Improperly constructed image URL.

Action: Contact Clear Ballot.

**Incorrect username or password. Please double-check and try again**

Cause: Incorrect credentials were entered by the user.

Action: Enter the correct credentials.

**Incorrect pin used. Please try again.**

Cause: An invalid pin was provided for turning on merging ClearCast results.

Action: Enter the correct pin.

**Input database backup file cannot be found.**

Cause: The input database backup file could not be found. The input backup folder is incomplete.

Action: Check for corruption.

**Input database is not the same election definition and cannot be merged.**

Cause: The backup file is not the same election definition. Attempted to merge results for the wrong election.

Action: Verify that the correct election is in the input folder.

**Invalid action: {action}.**

Cause: Invalid command line arguments to background job.

Action: Contact Clear Ballot.

**Invalid adjudication codes in instruction.**

Cause: Invalid resolution instruction.

Action: Contact Clear Ballot.

### Invalid BallotStyleID ({style_id}) assigned to CVR object.

Cause: Invalid resolving instruction, or BDF, or election database.

Action: Contact Clear Ballot.

### Invalid ChoiceID {choice_id} assigned to oval at position {position}.

Cause: Invalid resolving instruction, or BDF, or election database.

Action: Contact Clear Ballot.

### Invalid data/server Error

Cause: An error occurred while trying to prepare ClearCount to accept this set of results.

Action: Try to merge that USB stick again, and if the error persists, set the USB aside for later analysis.

### Invalid Election State: "{}". Restore the election on a ClearCast machine and close the polls to merge this USB drive.

Cause: The USB shows the ClearCast machine was not in the proper state to merge results when this USB stick was removed.

Action: Restore the election on a ClearCast machine and close the polls to merge this USB drive.

### Invalid format for EndDate (use YYYY-MM-DDTHH:MM).

Cause: An invalid date was supplied to log URL.

Action: Correct the date format as described by the message.

### Invalid format for StartDate (use YYYY-MM-DDTHH:MM).

Cause: An invalid date was supplied to log URL.

Action: Correct the date format as described by the message.

### Invalid Parameters sent to server.

Cause: Internal programming error.

Action: Contact Clear Ballot.

### Invalid position {position} assigned to oval with ChoiceID {choice_id}.

Cause: Invalid resolving instruction, BDF, or election database.

Action: Contact Clear Ballot.

### Invalid precinct name read from target card ({value}).

Cause: The precinct ID on the target card is not valid.

Action: Discard the invalid target card, delete the box and rescan it with a valid target card.

## Invalid Upload ID sent.

Cause: The upload ID sent to start the ClearCast merge process did not match what ClearCount was expecting.

Action: Unplug the USB that caused the error and re-try merging it. If the issue persists, contact an Election Official.

## Invalid value given for page width/height.

Cause: Page width/height is not a valid number.

Action: Correct the page width/height and retry.

## Login failed.

Cause: Login failure due to missing fields or incorrect username or password.

Action: Re-enter correct username and password.

## Login failure for {user}.

Cause: Login failure due to missing fields or incorrect user name or password.

Action: Reenter correct user name and password.

## Logs for election on ClearCast failed to validate. Continuing merge process

Cause: The ClearCast log files did not validate on ClearCount when merging ClearCast results.

Action: Run DeleteBox against that Box ID and try merging again with the other ClearCast USB stick.

## Merging has not been activated!

Cause: Merging is not on for this election.

Action: The election administrator must turn on merging in the VoteCenter page of ClearCount.

## More than one entry %s in ballotmapper maps to more than one historical %s, e.g. %s...

Cause: While loading a historical BDF, a unique mapping between historical data and current databases could not be determined.

Action: Contact Clear Ballot.

## No Active Election

Cause: There is no active election in ClearCount while trying to merge ClearCast results with the ResultsUploader.

Action: Activate an election in ClearCount and turn on results merging for it, then try again.

## No images found with this criteria.

Cause: Improperly constructed image URL.

Action: Contact Clear Ballot.

## No output file available for job {id}.

Cause: Requested job output file does not exist.

Action: Specify a job that contains an output file.

## No position assigned to oval with ChoiceID {choice_id} for BallotStyleID.

Cause: Invalid resolving instruction, BDF, or election database.

Action: Contact Clear Ballot.

## No results are being accepted.

Cause: A USB was attempted to be merged, but there is no election on ClearCount that is currently merging results.

Action: Turn on merging results for the election that is associated with the results on that USB stick and then retry merging the results.

## No such ballot.

Cause: Invalid resolution instruction.

Action: Contact Clear Ballot.

## No such BallotID.

Cause: Requested ballot ID does not exist.

Action: Reenter the ballot ID. Contact Clear Ballot, if necessary.

## No such BallotStyleID.

Cause: Invalid resolution instruction.

Action: Contact Clear Ballot.

## No such job ID.

Cause: Requested job ID does not exist.

Action: Specify a valid job ID.

## No such PrecinctID.

Cause: Invalid resolution instruction.

Action: Contact Clear Ballot.

### Not all %s values are being mapped!

Cause: While loading a historical BDF, not all of the data could be mapped.

Action: Contact Clear Ballot.

### No XSLT files exist on the server. Upload a new XSLT file.

Cause: No XSLT file has been uploaded.

Action: Upload an XSLT file to use when generating the custom election report.

### One or more files failed to upload because of an HTTP error: {}

Cause: There was an HTTP error when attempting to do an action.

Action: Check the HTTP error at the end of this message and find it in this document to determine what to do next.

### Only one USB drive can be connected at the same time. Please remove any additional drives.

Cause: Multiple USB drives were connected to the computer running the ResultsUploader while it is trying to upload.

Action: Remove all new USB drives, leave the initial drive so it can finish uploading.

### Orientation parameter is not an integer.

Cause: Improperly constructed image URL.

Action: Contact Clear Ballot.

### Please remove all USB drives before stopping upload or logging out.

Cause: Uploading was attempted to be stopped, or the ResultsUploader application was attempted to be closed, while a USB stick was still attached.

Action: Remove all USBs once they are done merging, and then try again.

### Please remove and re-insert the USB drive. If the problem persists, contact your administrator.

Cause: USB drive error when attempting to use it with the ResultsUploader.

Action: Remove and re-insert the USB drive.

### Remaking ChoiceID {choice_id} is not valid.

Cause: Invalid resolution instruction.

Action: Contact Clear Ballot.

### Results are not being accepted

Cause: A USB stick is attempted to be merged just as results stop being accepted.

Action: Turn merging back on to merge the rejected USB.

### Rotate parameter is not an integer.

Cause: Improperly constructed image URL.

Action: Contact Clear Ballot.

### Scanner: Incomplete set of images for a ballot.

Cause: Internal programming error.

Action: Contact Clear Ballot.

### Some existing %s in table '%s' with IDs %s were not translated!

Cause: While loading a historical BDF, not all entries could be translated.

Action: Contact Clear Ballot.

### Table cannot be created - already exists.

Cause: Attempt to create a table that already exists.

Action: Contact Clear Ballot.

### The display of vote totals is not yet allowed.

Cause: The user is not allowed access to this page at this point of time in the election.

Action: None.

### The image files have been changed after having been already merged (must perform Delete Box function and remerge): Box(es) {boxes}

Cause: An image file cannot be merged into the active election because a file already exists with different image file contents.

Action: Delete the box and remerge the images.

### The results have been changed after having been already merged (must perform DeleteBox function and remerge).

Cause: The input database has some duplicate records.

Action: Run the DeleteBox utility and then remerge the database.

**There is no active election in ClearCount. After the election administrator has activated the election and enabled uploading, restart the ResultsUploader.**

Cause: No active election in ClearCount while trying to merge ClearCast results with the ResultsUploader.

Action: Activate an election in ClearCount and turn on results merging for it, and then try again.

**There is no database merging right now. Refresh the page to click start merging.**

Cause: Stop merging was clicked on the vote center page when no election was merging.

Action: Refresh the page to update the screen to see the correct current state for the given election.

**There was an error uploading USB Drive {0}: {1}.**

Cause: There was an error (the last argument to the message), for a given USB (the first argument to the message).

Action: Attempt to upload the given USB again, or search for the specific error message in this document for further mitigation steps.

**These image files do not have standard sequence numbers in their filenames, and, therefore, cannot be located.**

Cause: The image files do not have the standard filenaming convention.

Action: Rescan the cards using standard filenaming.

**Unable to calculate election statistics. See the Web Activity Log for details.**

Cause: There is an issue with the election which prevents the generation of election statistics.

Action: See the Web Activity log for the specific error message. Contact Clear Ballot and provide the error message if you need help resolving the issue.

**Unable to create write-in candidate: {}.**

Cause: A write-in candidate name cannot be created for the given contest.

Action: Verify the contest still exists in the election or contact Clear Ballot.

**Unable to get candidate names: {}.**

Cause: The write-in candidate names cannot be loaded for the given contest.

Action: Verify the contest still exists in the election or contact Clear Ballot.

**Unable to get write-ins: {}.**

Cause: The write-ins cannot be loaded for the given contest.

Action: Verify the contest still exists in the election or contact Clear Ballot.

## Unknown server '{address}'.

Cause: An attempt was made to access a web server with an unknown name or address.

Action: Verify that the server is still running.

## URL syntax not found.

Cause: The URL requested is incorrect.

Action: Contact Clear Ballot.

## USB {} already seen by database

Cause: The USB with this corresponding ID has already been merged into ClearCount.

Action: If this was a mistake and the same USB stick has already been merged, then just put the USB stick aside. If the USB has been updated with new results, run DeleteBox to remove the old results, and then merge in the USB again.

## USB {} does not have required data

Cause: There are no ClearCast results files at the correct location on the USB stick that was plugged into the computer running the ResultsUploader.

Action: Find the USB that does have the ClearCast results.

## USB {} is missing image files.

Cause: There are no ClearCast image files on the given USB despite ClearCount expecting to merge images.

Action: Find the USB that does have the ClearCast results you are looking for, or merge results without images.

## User cannot be created - already exists.

Cause: An attempt was made to create a user that already exists.

Action: None.

## User '{0}' does not have sufficient permissions to upload results. Users must have at least 'append' permissions in ClearCount.

Cause: The account you are attempting to log in with does not have sufficient permissions to upload ClearCast results.

Action: Log in with an account that has append or higher permissions.

### Validating Files for Election

Cause: This is part of a larger error message showing that one of the .tar files containing ClearCount results failed to validate.

Action: Attempt to merge the other USB stick associated with this election or recover the election on the ClearCast machine to try again. If the issue persists, rescan the associated ballots.

### WARNING: Input CSV file for %s not found.

Cause: There is a problem with the BDF.

Action: Contact Clear Ballot.

### Write-in {} could not be deleted.

Cause: The write-in candidate name exists, but it cannot be deleted.

Action: Contact Clear Ballot.

### You are not authorized to perform this action. Contact your administrator.

Cause: The account you are attempting to log in with does not have sufficient permissions to upload ClearCast results.

Action: Log in with an account that has append or higher permissions.

### You cannot turn merging on for an election that isn't active

Cause: ClearCast result merging was attempted to be turned on in the VoteCenter page for an election that is not currently active.

Action: Make the current election active and then attempt to turn on merging again.

## C.3  Fatal errors

### {} files besides these also in error.

Cause: ClearCast files being copied are duplicated or are invalid and not all of the invalid files are listed in the error message.

Action: Attempt to merge the other USB drive associated with this election or recover the election on the ClearCast machine and try again. If this produces the same issue, rescan the ballots.

### {0.url}: Service Unavailable

Cause: Error occurred during HTTP GET or POST that returned a 503 service unavailable error.

Action: Check the ClearCount logs to diagnose the problem.

### {0.url}: Unhandled error

Cause: An unhandled error occurred while processing an HTTP request.

Action: Check the ClearCount logs to diagnose the problem.

### {0.url} from user {0.user}. Error details: Bad Request

Cause: Bad request during HTTP GET or POST that returned a 400 status code.

Action: Try to do the action again. If the issue persists contact Clear Ballot.

### {0.url} from user {0.user}. Error details: Internal Server Error

Cause: A server error, or 500 error occurred.

Action: A server error occurred. Check the ClearCount logs to diagnose the problem and contact Clear Ballot for support.

### An error occurred during {} for Box ID: {}. Contact your administrator

Cause: An error occurred during a stage of the merge process of ClearCast results with a given Box ID. The stage the error occurred in is the first argument and the Box ID is the second.

Action: Contact your administrator, then look through the ClearCount logs to see what went wrong in the ClearCast result merging process. If the solution is not clear, Contac. Clear Ballot.

### An error occurred on the ResultsUploader: {}

Cause: Internal programming error.

Action: Look at the error at the end of this message, and if that does not help, contact Clear Ballot.

### An error occurred on the ResultsUploader with USB drive {}: {}

Cause: Internal programming error.

Action: Look at the error at the end of this message, and if that does not help, contact Clear Ballot.

### An error occurred while attempting to save the results to ClearCount

Cause: An error occurred while attempting to save the results to ClearCount.

Action: This could be caused by a few underlying issues. Check there is plenty of storage on the ClearCount server, then contact ClearBallot for support.

### Box ID in election_state.txt file does not match the Box ID in the cast vote record. Results have not been merged.

Cause: Validation failed because the election state values do not match the internal CVR values.

Action: Attempt to merge the other USB drive associated with this election or recover the election on the ClearCast machine and try again. If the issue persists, rescan the associated ballots.

### Error during {}: {}

Cause: An error occurred during a stage of the merge process of ClearCast results with a given Box ID. The stage the error occurred in is the first argument and the Box ID is the second.

Action: Contact your administrator, then look through the ClearCount logs to see what went wrong in the ClearCast result merging process. If the solution is not clear, contact Clear Ballot.

### Error During Merge Process

Cause: This is part of a larger error message showing that there was an unexpected error while attempting to merge ClearCast results.

Action: Read the other part of the error message and find it in this document to determine what to do next.

### Error: HTTP {0.code} accessing

Cause: Error occurred during HTTP GET or POST that returned a non-200 status code. This is a base class other error messages extend from.

Action: Try to do the action again. If the issue persists, contact Clear Ballot.

### Files already exist or are not valid files: {}.

Cause: Files being copied are duplicated or are invalid.

Action: Attempt to merge the other ClearCast USB or recover from the ClearCast unit. If this produces the same issue, rescan the ballots.

## Cannot perform graphical prompting.

Cause: The library for displaying graphical applications is missing.

Action: Contact Clear Ballot.

## Failed to find any archive.tar file.

Cause: When validating the ClearCast results are ready to merge, no results file was found on this USB.

Action: Find the other copy of the USB drive or restore the election on the ClearCast machine that tabulated these results onto new USB drives so that one of those USBs can be used to merge these results into ClearCount.

## FATAL: Box %s has already been tabulated (Target card used twice?).

Cause: An attempt has been made to tabulate a ballot with the same name twice.

Action: If you are attempting to replace a previous box of ballots, delete that box first.

## FATAL: Box %s has already been copied (Target card used twice?).

Cause: An attempt has been made to copy a ballot with the same name twice.

Action: If you are attempting to replace a previous box of ballots, delete that box first.

## FATAL: No active election.

Cause: The Tabulator application or the DeleteBox utility was run without having an active election.

Action: Activate an election using the Election Administration page.

## FATAL: Output folder {folder} does not exist.

Cause: The Tabulator application output folder does not exist.

Action: Check the command line to verify that the output folder exists.

## FATAL: Saving: Incomplete set of images for a ballot.

Cause: Internal programming error.

Action: Contact Clear Ballot.

## FATAL: Scanner: Target page not read correctly ({file}). Restart this program to delete the partial box, and then rescan entire box.

Cause: Image files have an improper name, likely meaning that the target card was not read properly.

Action: Delete the box of ballots and rescan it.

### FATAL: Scanner model and serial are unknown (run Update script).

Cause: The scanner model/serial number is unknown and, therefore, cannot be stored with election data, probably because the update procedure was not performed prior to scanning.

Action: Re-execute the update script for the applicable scanner.

### FATAL: Windows Event Log service is not running. Please start the service.

Cause: The Windows Event Log is not running.

Action: Start the Windows Event Log service through the Control Panel.

### Invalid number of image tar files. Got {0}, expected {1}

Cause: More image files than expected were detected on the USB.

Action: Find the other copy of the USB drive or restore the election on the ClearCast machine that tabulated these results onto new USB drives so that one of those USBs can be used to merge these results into ClearCount.

### This record was never requested!

Cause: The ClearCast results attempted to be merged without first being validated that they match what ClearCount is expecting.

Action: Unplug the USB and try again. If the issue persists, contact Clear Ballot.

# Appendix D.   Registration failure messages

Registration failure messages include the following:

- Ballot side 1 code channel information is missing.

- Both sides of ballot appear to be the same side.

- Cannot interpret ESS code channel 4-bit seq1 number ({*seq1*}).

- Cannot interpret ESS code channel Seq code ({*seq3*}, {*seq2*}).

- Code channel barcode has incorrect number of digits.

- Could not find all edges of outline box (missing {*edges*} edge{s}).

- Did not find both sets of long marks on side 1.

- Did not correctly locate corner marks; found long marks in all 4 corners, which is not valid.

- Did not correctly locate corner marks; found short marks in all 4 corners, which is not valid.

- Either a misread of the side1 code channel or a Control Card ({*value*}).

- Expected oval position {coords} does not match timing marks found.

- Found more than one {*edge*} edge line ({*actual*}).

- Header card treated as nonballot.

- Image height ({*actual*}\") is not a normal ballot. Scanner probably pulled in more than one page (multigrab).

- Image is badly truncated ({*actual*}\" height is too small; should be at least {*desired*}\").

- Image too twisted ({*twist*} pixels) to accurately locate ovals due to lack of timing marks on all sides.

- Incomplete or incorrect configuration of corners found ({*long*} long, {*short*} short).

- Incorrect number of corner marks found ({actual}).

- Invalid code channel bit number in parser parameters.

- Invalid code channel checksum ({*actual*} versus {*desired*}).

- Invalid ballot style read from code channel ({*value*}).

- Invalid election code {ballot_code} on ballot.

- Invalid election date {ballot_date} on ballot.

- Invalid election type "{election_type}" on ballot.

- Invalid precinct or ballot style read from code channel ({*value*}).

- Invalid Side1 checksum ({*actual*} versus {*desired*}).

- Invalid Split checksum ({actual} vs. {desired}).

- Invalid Type checksum ({actual} vs. {desired}).

- Left-right timing mark count mismatch ({*counts*}).

- Misread of Side2 constant in code channel ({value}).

- No corner marks found; probable nonballot.

- No outline box found; probable nonballot.

- No timing marks found; probable nonballot.

- Nonzero bits in thought-to-be-unused portions of code channel.

- Nonzero bits in thought-to-be-unused portions of code channel ({*value*}).

- Number of BOTTOM marks inconsistent with TOP marks.

- Outline box lines are not connected at corners.

- Possible tear in {*edge*} code channel.

- Precinct from Target Card ({pct}) is not associated with this card style.

- Required PrecinctID is not defined in code channel layout.

- Rotated image once, and still have more timing marks on bottom than top.

- Rotated image once, and still have more timing marks on top than bottom.

- Rotated image once, and still want to rotate it a second time.

- Side 2 orientation cannot be determined.

- The sides of ballot are not the same physical orientation.

- The sides of ballot are not the opposite physical orientation.

- Timing marks found on one side, but not on the other side.

- Unable to read 40 coding marks on the side of the ballot.

- Unable to find 14-digit code channel barcode on upper left side of ballot.

- Unable to read 16 code channel marks.

- Unable to read 32 coding marks.

- Wrong number of {*edge*} code channel guide marks ({*actual*} at most, expected {*desired*}).

- Wrong number of {edge} corners found ({actual}).

- Wrong number of {*edge*} timing marks ({*actual*}).

- Wrong number of {*edge*} timing marks ({*actual*} at most, expected {*desired*}).

# Appendix E.  Access log for the CountServer

Use the table below to track access to the CountServer via the Unix administrator account.

**Table E-1. CountServer access log**

| Date | Time | Reason | Signature 1 | Signature 2 |
|------|------|--------|-------------|-------------|
|      |      |        |             |             |
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|      |      |        |             |             |
|      |      |        |             |             |
|      |      |        |             |             |
|      |      |        |             |             |

**Table E-1. CountServer access log (continued)**

| Date | Time | Reason | Signature 1 | Signature 2 |
|------|------|--------|-------------|-------------|
|      |      |        |             |             |
|      |      |        |             |             |

# Appendix F.  Changing time on CountServers, CountStations, and ScanStations

This appendix describes how to change the time on CountServers, CountStations, and ScanStations.

## F.1   Changing time on the CountServer

To change the time on the CountServer:

1.  Get the password for the CountServer from the Installation checklist.

    The person who installed ClearCount recorded system information on the Installation checklist. See the *ClearCount Installation Guide*.

2.  Log in to the CountServer as an administrator.

3.  From the desktop, select the icon in the upper left corner and select the command window.

4.  At the command prompt, enter:

    ```
    date and time
    ```

    The CountServer displays the current date and time.

5.  At the time prompt, enter a command in the following format to change the date and time:

    ```
    timedatectl set-time HH:MM:SS
    ```

    The value *HH:MM:SS* is a placeholder for the actual date and time in 24-hour format.

6.  At the command prompt, enter:

    ```
    reboot
    ```

    The CountServer restarts with the new date and time that you entered.

## F.2   Changing the date and time on CountStations and ScanStations

To change the date and time on CountStations and ScanStations:

1.  Get the password for the CountServer from the Installation checklist.

    The person who installed ClearCount recorded system information such as passwords on the Installation checklist. See the *ClearCount Installation Guide.*

2.  Log in to the CountStation or ScanStation where you want to change the date and time.

3.  On the Windows desktop, right-click the date in the Window taskbar at the bottom right corner of the screen and select **Adjust date/time**.

4.  In the Date & Time dialog, change any desired settings.