
ClearAccess™ **Administrator's Guide**

Version 4.0



Clear Ballot

ClearAccess Administrator's Guide

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Preface

ClearAccess™ is an accessible voting and ballot marking application that allows voters with sight or mobility limitations to vote in an unassisted manner. The software runs on a touchscreen computer installed with an EZ Access keypad and Breeze™ Sip-and-Puff device. The voter may make ballot selections either by touching the monitor, pressing buttons on the keypad, or using the Sip-and-Puff. Ballot selections may be presented on the computer's display, played back over audio headphones, or presented both on the screen and in audio format. Once the voter has finished voting, selections are printed to a paper ballot.

Election and ballot information recognized by ClearAccess is configured in the ClearDesign™ software. This information is programmed to a unique set of election media (typically a USB stick) for every voting location, then installed on the respective ClearAccess unit.



ClearAccess is fully accessible, allowing disabled voters to configure, navigate and vote the ballot in an unassisted manner.



ClearAccess is used to vote and mark ballots with voter selections, but is not used to count, tally or report race or candidate totals.

Audience and scope

This guide is intended to be used by technicians and election administrators responsible for managing ClearAccess stations.

Using this guide

The guide provides technical specifications and support information for the ClearAccess station and accessories.

[Chapter 1. ClearAccess station](#)

Technical specifications and support information for the ClearAccess station.

[Chapter 2. Printer](#)

Technical specifications and support information for the ClearAccess printer.

[Chapter 3. Breeze Sip-and-Puff](#)


Configuration and installation considerations for the Breeze Sip-and-Puff.

[Chapter 4. System Acceptance Test](#)

Provides a detailed acceptance test for the ClearAccess system.

Notation conventions

The following conventions are used in this manual:

Convention	Purpose
Bold	Denotes clickable selections on web pages and dialogs.
<i>Italics</i>	Denotes placeholders for user-defined values.
Monofont	Denotes product keywords and system commands.
	Indicates noteworthy information.

Contact us

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

Chapter 1. ClearAccess station

Specifications for the ClearAccess station are included in the following topics:

- [Models](#)
- [Updating Windows Defender](#)
- [Battery backup](#)
- [Windows Event Viewer](#)
- [Cleaning equipment](#)

The subjects of ClearAccess installation and hardening are addressed in the *ClearAccess Installation and Preparation Guide*.

1.1 Models

The following computer models may serve as ClearAccess stations:

- Dell OptiPlex 3030 All-in-One with optional touchscreen
- Dell Inspiron 13 7000 Series Two-in-One

Both models are intended to run on Windows 8.1 Pro.



Figure 1-1. Dell OptiPlex 3030



Figure 1-2. Dell Inspiron 13 7000

1.2 Updating Windows Defender

Prior to every election, the Windows Defender antivirus program should be updated on every ClearAccess station. The virus definition update must be done off line using removable memory media, since the ClearAccess stations are not connected to the internet:

1. On a computer equipped with a USB port and Internet connection, navigate to <http://support.microsoft.com/kb/923159/en-US>
2. Download the antivirus software according to the instructions on that site - the software is delivered as a single executable named mpam-feX64.exe
3. Insert a flash drive into the USB port of the computer you downloaded the antivirus software to
4. Copy the antivirus file to the flash drive
5. Eject the flash drive from the download computer
6. Install a keyboard on the ClearAccess station
7. Insert the flash drive into the ClearAccess station
8. Copy the antivirus file to the ClearAccess station
9. Eject the flash drive from the ClearAccess station
10. Double-click the antivirus file to launch the installer, and follow the instructions onscreen to complete the installation
11. Remove the keyboard from the ClearAccess station

1.3 Battery backup

This section provides specifications for recommended backup power devices to be used with ClearAccess. The model/s of battery backup used may be determined from the jurisdiction's power management requirements.

The following table provides Universal Power Supply (UPS) specifications, including the ClearAccess device (station, printer) that may be supported and the backup capacity in hours. Note that the SMT 1000 cannot be used with a laser printer, only with the ClearAccess station.

ClearAccess Station	ClearAccess Laser Printer	UPS Size	Available Backup Time
Y		1500	2
	Y	1500	1

Part Numbers:

- APC Smart-UPS 1500VA LCD 120V part number SMT 1500
- APC Smart-UPS 1000VA LCD 120V part number SMT 1000

Battery backup units must be tested over a full back-up period, with voter sessions occurring every few minutes during the back-up period.

To increase the time available for battery backup of the laser printer, additional UPS units should be on hand at the polls. Be sure to replace a marginally charged backup unit prior to a voter beginning a voting session.



It is imperative that any UPS attached to a laser printer have at least a 1000 watt capacity. For UPS units, watts are not the same as VA, so do not assume that a 1500 VA UPS can output 1000 watts to operate a laser printer.

1.4 Windows Event Viewer

The Windows operating system tracks application, hardware, security, system, and other events in the Windows Event Log. You can use the Windows Event Viewer to monitor all system-level activities taking place on ClearAccess stations.

This section covers the following topics:

- [Accessing Windows Event Viewer](#)
- [Event Viewer content](#)
- [Auditing network events](#)
- [Background information](#)

1.4.1 Accessing Windows Event Viewer

To access the Event Viewer on a Windows 8.1 Pro system, log in as the Administrative user, then search for 'View Event Logs' and select the corresponding search results.

1.4.2 Event Viewer content

The default display order of columns in the Windows Event Viewer is:

1. Level
2. Date and Time
3. Source

4. Event ID

5. Task Category

The most important entries include the Date and Time, and Event ID. Relevant values for Event ID include:

- 10000 - Indicates a connection to the network
- 10001 - Indicates a disconnection from the network

1.4.3 Auditing network events

To audit network events from the Event Viewer:

1. In the left-hand pane, expand **Applications and Services Logs**
2. Select **Microsoft > Windows > NetworkProfile > Operational**

All network connections and disconnections are now displayed. Double-click any event to view its details.

1.4.4 Background information

For an explanation of Windows Event Viewer, consult:

- Windows Event Viewer online help
- <http://windows.microsoft.com/en-us/windows/what-information-event-logsevent-viewer#1TC=windows-7>
- <http://technet.microsoft.com/en-us/library/cc766042.aspx>
- <http://technet.microsoft.com/library/jj134043>

1.5 Cleaning equipment

Ensure that the ClearAccess station body and monitor is cleaned prior to every election as well as in the course of election day. The station should be cleaned according to manufacturer recommendations.

Chapter 2. Printer

Technical specifications and support information for the ClearAccess printer are included in the following topics:

- [Model](#)
- [Configuration](#)
- [Security](#)
- [Paper stock](#)
- [Troubleshooting](#)
- [Equipment preparation](#)
- [Equipment cleaning](#)

2.1 Model

The Brother HL-L2340DW printer is recommended for printing ClearAccess ballots.

A compact laser printer, the Brother HL-L2340DW is capable of duplex printing, and connects to the ClearAccess station by means of a Hi-Speed USB 2.0 interface. The printer features a 250-sheet capacity tray and prints monochrome pages up to 2400 x 600 dpi resolution.



Figure 2-1. Brother HL-L2340DW printer

2.2 Configuration

The Brother HL-2340DW printer may be configured to use either:

- [Letter stock](#)
- [Legal stock](#)

2.2.1 Letter stock

Prepare the Brother HL-2340DW printer for printing to Letter stock as follows.

2.2.1.1 ClearAccess Windows

Set the paper size to 'Letter' in Windows as follows:

1. In the ClearAccess station start menu, search for 'printer'
2. Select 'Devices and Printers' in the search results
3. In the pop-up window, scroll down and right-click on the Brother printer
4. Select **Printing preferences** in the pop-up menu
5. Select the **Advanced** tab
6. Under the **Scaling** option, select the **Fit to Paper Size** radio button and select 'Letter' from the drop-down list below
7. Click on **OK**

2.2.1.2 ClearAccess Chrome

Set the paper size to 'Letter' in Chrome as follows:

1. Launch Chrome
2. Click the **Settings** icon
3. In the **Settings** window, select the **Print** menu
4. In the **Print** menu, click 'More settings'
5. Set **Paper Size** to 'Letter'
6. Select the **Advanced** tab
7. Under the **Advanced** tab, select 'fit to page', then select 'Letter' from the drop-down list

2.2.1.3 Printer

If the letter tray has not yet been installed on the Brother HL-2340DW printer, proceed as follows:

1. Push down the button on the bottom middle of the paper tray (near the A4 label) and pull out the tray until the button clicks into place near the 'Letter' label
2. Adjust the green paper guide to accommodate the letter paper stock
3. Insert the letter size paper and close the paper tray

2.2.2 Legal stock

Prepare the Brother HL-2340DW printer for printing to Legal stock as follows.

2.2.2.1 ClearAccess Windows

Set the paper size to 'Legal' in Windows as follows:

1. In the ClearAccess station start menu, search for 'printer'
2. Select 'Devices and Printers' in the search results
3. In the pop-up window, scroll down and right-click on the Brother printer
4. Select **Printing preferences** in the pop-up menu
5. Select the **Advanced** tab
6. Under the **Scaling** option, select the **Fit to Paper Size** radio button and select 'Legal' from the drop-down list below
7. Click on **OK**

2.2.2.2 ClearAccess Chrome

Set the paper size to 'Legal' in Chrome as follows:

1. Launch Chrome
2. Click the **Settings** icon
3. In the **Settings** window, select the **Print** menu
4. In the **Print** menu, click 'More settings'
5. Set **Paper Size** to 'Legal'
6. Select the **Advanced** tab

7. Under the **Advanced** tab, select 'fit to page', then select 'Legal' from the drop-down list

2.2.2.3 Printer

If the Legal tray has not yet been installed on the Brother HL-2340DW printer, proceed as follows:

1. Push down the button on the bottom middle of the paper tray (near the A4 label) and pull out the tray until the button clicks into place near the 'LGL' label
2. Adjust the green paper guide to accommodate the legal paper stock
3. Insert the legal size paper and close the paper tray

2.3 Security

When the Brother HL-2340DW printer is configured for wired connectivity via a USB cable, wireless activity is turned off by default. In order to secure this configuration, set a four digit password to lock the machine settings.

Refer to the User's Manual packaged with the printer for any other settings or information required. For other printer models, refer to the packaged or online documentation for information on how to secure the system.

To lock the machine settings, refer to the following topics:

- [Setting the password](#)
- [Changing the password](#)

2.3.1 Setting the password

To set the password:

1. Press ▲ or ▼ to select the **General Setup** option, then press **OK**
2. Press ▲ or ▼ to select the **Setting Lock** option, then press **OK**
3. Enter a four-digit number for the password
4. To enter each digit, press ▲ or ▼ to select a number, then press **OK**
5. When the LCD displays **Verify**: re-enter the password
6. Press **OK**

You will be given the option to enable **Setting Lock** immediately after setting the password.

2.3.2 Changing the password

To change the password:

1. Press ▲ or ▼ to select the **General Setup** option, and then press **OK**
2. Press ▲ or ▼ to select **the Setting Lock** option, then press **OK**
3. Press ▲ or ▼ to select the **Set Password** option, then press **OK**
4. Enter the current four-digit password, pressing ▲ or ▼ to enter each digit, followed by **OK**
5. Enter a new four-digit password
6. To enter each digit, press ▲ or ▼ to select a number, then press **OK**
7. When the LCD displays **Verify**: re-enter the password
8. Press **OK**

2.4 Paper stock

Paper stock used to print ClearAccess ballots must conform to the following specifications:

- Color: White
- Finish: Matte
- Dimensions: 8.5" x 11" or 8.5" x 14"

To print ballots on this stock, the printer should be configured with the following settings:

- Thickness: THICK
- DPI: 600

2.5 Troubleshooting

The following topics offer recommended strategies for troubleshooting the ClearAccess printer:

- [General](#)
- [Print queue](#)

2.5.1 General

The following are general troubleshooting recommendations for the ClearAccess printer:

- Check the ClearAccess interface for any printer related warning message
- Check the printer for error or warning messages
- If the printer is low on or out of paper, add more paper
- If the printer is low on ink, install a new ink cartridge
- If a paper jam has occurred, clear the jam and retry printing the ballot
- If printer does not display an error message and no ballot was printed, verify that the:
 - Printer is properly attached to the computer
 - Print job is in the printer's internal job list
 - Printer is awake

2.5.2 Print queue

The following procedure is used to troubleshoot a printing disruption by checking the ClearAccess station's print queue:

1. Reattach or enable access to the keyboard
2. Press the Win+U keys (Windows key and letter 'u' key at the same time) to open the **Ease of Access Center** portion of the **Control Panel**
3. Type 'devices' in the **Search Control Panel** field in the top right of this window
4. Select 'Devices and Printers' in the list of search results
5. In the **Devices and Printers** window, scroll down to **Printers** and select the printer in use
6. Once selected, press **Enter** or double-tap the icon on the screen to bring up the **Printer** queue view
7. To access printer properties or preferences, select the **Printer** top menu item from the **Printer** menu

When printer diagnosis is complete, close the **Printer** and **Devices and Printers** windows and continue with ClearAccess. Remove or prevent access to the keyboard again prior to allowing the voter access to ClearAccess.

2.6 Equipment preparation

Ensure that the toner supply is adequate for every ClearAccess printer. If test pages appear to be on the pale side, be sure to replace the toner. Spare toner cartridges should also be made available prior to every election.

2.7 Equipment cleaning

Ensure that the printer is cleaned prior to every election as well as in the course of election day. The printer should be cleaned according to manufacturer recommendations.

Chapter 3. Breeze Sip-and-Puff

Clear Ballot Group recommends the use of the Breeze™ USB Sip-and-Puff Switch, model BZ2.

Sip-and-puff-related topics include:

- [Breeze Sip-and-Puff configuration](#)
- [Replacing the Breeze Sip-and-Puff mouthpiece](#)
- [Installing the voter's Sip-and-Puff](#)

3.1 Breeze Sip-and-Puff configuration

The Breeze Sip-and-Puff should be configured with the four dip switches set as follows:

1. On
2. Off
3. On
4. On

For more information, refer to the *Breeze Sip-and-Puff User Guide*.

3.2 Replacing the Breeze Sip-and-Puff mouthpiece

A replaceable mouth tube is held in position with an integral stainless steel forming wire. The tube and wire can be bent and cut to adapt to individual needs. A thin, pliable connecting tube interfaces to Breeze with a simple twist connector. Simply slide the halves together and gently twist the lock nut. The nut should not be over tightened.

3.3 Installing the voter's Sip-and-Puff

While Clear Ballot Group recommends the use of the Origin Breeze Sip-and-Puff at the polls, it is also possible to voters' own sip-and-puff devices, provided that they are compatible and properly configured for use with ClearAccess.

Accommodating a voter's sip-and-puff device consists of two steps:

- [Installing the voter's sip-and-puff](#)
- [Detaching the voter's sip-and-puff](#)

3.3.1 Installing the voter's sip-and-puff

To install a voter's sip-and-puff device:

1. Remove the seal from the EZ Access keypad USB connector
2. Record the seal removal
3. Disconnect the EZ Access keypad USB connector from the ClearAccess station
4. Insert the voter's sip-and-puff USB connector into the ClearAccess port used previously for the keypad
5. Apply a seal to the voter's sip-and-puff USB connector so that it adheres to both the connector and the ClearAccess station base
6. Record the newly applied seal number

3.3.2 Detaching the voter's sip-and-puff

To reattach the EZ Access keypad:

1. Remove the seal from the voter's sip-and-puff USB connector
2. Record the seal removal
3. Disconnect the voter's sip-and-puff USB connector from the ClearAccess station
4. Insert the EZ Access keypad USB connector into the ClearAccess port used to accommodate the voter's sip-and-puff device
5. Apply a seal to the EZ Access keypad USB connector so that it adheres to both the connector and the ClearAccess station base
6. Record the newly applied seal number

Chapter 4. System Acceptance Test

The following Acceptance Test should be performed when the jurisdiction takes ownership of the ClearAccess system.

System Acceptance Test					
Criteria	Yes	No	Completed by	Issues	Resolution
Physical Analysis					
ClearAccess station undamaged					
All system components present					
No damage to system components					
UPS functional					
Diagnostic Analysis					
Verify printer model					
Verify station model					
Verify station OS					
Test all I/O devices					
Verify ClearAccess version					
Verify Chrome install					
Verify Chrome version					
Verify default Chrome printer					
Verify model number/ type of input devices					
Functional Analysis					
Verify system hardening					
Verify that ClearAccess launches when logging in as secure user					
Verify Maintenance role					

System Acceptance Test					
Criteria	Yes	No	Completed by	Issues	Resolution
Verify Administrator role					
Verify Administrator can open election in ADF file on USB stick					
Verify Administrator can vote test ballots					
Verify Voter can vote live ballots					
Verify polls open					
Verify ballot printing					
Verify touchscreen functionality					
Verify keypad functionality					
Verify Sip-and-Puff functionality					
Verify help appears on request					
Verify audio reads the complete screen					
Verify visual ballot suppression					
Verify Settings functionality					
Verify ballots printed value increments after each ballot printed					
Verify pollworker can input credentials & reprint ballot					
Verify voting session can be canceled					

System Acceptance Test					
Criteria	Yes	No	Completed by	Issues	Resolution
Verify ClearAccess ballots can be scanned and tabulated into ClearCount correctly					
Verify election can be closed					
Verify logs can be reviewed					
Verify Shutdown function					
When equipment passes Acceptance Test, affix label with date of test and initials of tester					
Ensure each station is configured with correct media					
Ensure Acceptance Test follows test plan					
Ensure Acceptance Test is fully documented					
Ensure Acceptance Test results are as expected					
Did all participants sign off?					
Security Analysis					
Ports and cables secured with tamper-evident tape					
Windows passwords are of sufficient complexity					
Verify hardened windows user cannot access Windows charms bar or other Windows features outside of ClearAccess					

System Acceptance Test					
Criteria	Yes	No	Completed by	Issues	Resolution
with keyboard removed					
If a wireless printer is used, verify wireless is disabled & printer is secured via password					