

Assistive Technology Manual

2023-2024

Published September 2023

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Overview of Testing with Assistive Technology (AT)

This manual provides an overview of the embedded and non-embedded assistive technology (AT) tools that some students with disabilities may need in order to participate fully in the online tests. It includes lists of supported devices and applications for each type of assistive technology that a student may use, as well as setup instructions for the AT that requires additional configuration in order to work with the Test Delivery System (TDS).

- Embedded assistive technology tools include the built-in test tools in TDS, such as the text-to-speech tool. These tools can be accessed without third-party software or hardware and do not require Permissive Mode to be turned on in TDS.
 - The embedded assistive technology tools in TDS are available on both desktop and mobile devices.
- Non-embedded assistive technology tools are the third-party accessibility hardware and software that students use for online testing. These tools require Permissive Mode to be turned on in TDS and may require additional configuration steps prior to testing.
 - **Most of the non-embedded assistive technology tools covered in this manual are supported by Windows and macOS desktops only.** Mobile devices, such as Chromebooks and iPads, do not support Permissive Mode, which is required for non-embedded technology. Detailed system requirements are provided for each assistive technology tool throughout this manual.
 - Permissive Mode on macOS is supported only with Secure Browser version 16.0. Ensure that the proper Secure Browser version is downloaded from the [Rhode Island Next Generation Science Assessment \(RI NGSA\) Portal](#) to allow for testing with Permissive Mode.

Students who use assistive technologies to interact with a standard web browser should be able to use those same technologies with TDS, unless they are web-based applications or browser extensions. The best way to test compatibility with assistive technologies is to take a practice test in the Secure Browser with those technologies turned on. If they do not work, refer to the additional configuration instructions in this manual as required. If you still have questions about the assistive technology tools covered in this guide, please contact the Rhode Island Next Generation Science Assessment (RI NGSA) Helpdesk.

The guide includes the following sections:

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- [Testing with Predictive Text Technology](#)
- [Testing with Alternative Computer Input Technology](#)
- [Testing with Assistive Keyboard and Mouse Input Technology](#)
- [Testing with Screen Magnifier Technology](#)
- [Testing with Text-to-Speech](#)
- [Testing with Assistive Technology for Braille Tests](#)

Using Permissive Mode with Assistive Technology

Permissive Mode is a test setting that allows students to use non-embedded assistive technology to take the NGSA science test in the Secure Browser. It must be turned on for any students testing with third-party assistive technology tools. When Permissive Mode is turned on, the Secure Browser's security settings will be partially lowered to allow students to use tools that would otherwise be blocked. Permissive Mode should be assigned to students in TIDE before they begin testing.

Permissive Mode is available for computers running supported desktop Windows and Mac operating systems only. When using Windows 8 and above, the task bar remains on-screen throughout the test after enabling accessibility software. However, forbidden applications are still prohibited.

When Permissive Mode is turned on, standard keyboard commands in the Secure Browser will be disabled in order to accommodate any potential keyboard commands associated with the assistive technology the student may be using. For information about standard keyboard commands in the Secure Browser, see the *Student Interface Guide to the Test Delivery System*.

How to Use Assistive Technology with Permissive Mode

Permissive Mode only activates when students are approved by their test administrator to begin testing in TDS. The student's assistive technology should already be set up in the TDS when they begin testing with Permissive Mode. The steps below show you how to access a student's assistive technology through the Secure Browser with Permissive Mode enabled.

1. Open the required accessibility software on the student's testing device.
2. Open the Secure Browser. Begin the normal sign-in process up to the proctor approval step.
3. When a student is approved for testing, the Secure Browser allows the operating system's menu and task bar to appear.
 - **Windows:** On Windows, the Secure Browser resizes, and the taskbar remains visible inside the test in its usual position. Students can press **Alt+Tab** to switch between the Secure Browser and accessibility applications that they are permitted to use in their test session.

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4. The student must immediately switch to the accessibility software that is already open on the computer so that it appears over the Secure Browser. The student cannot click within the Secure Browser until the accessibility software is configured.
 - **Windows:** Click the accessibility software application in the task bar.
5. The student configures the accessibility software settings as needed.
6. After configuring the accessibility software settings, the student returns to the Secure Browser and continues the sign-in process. At this point, the student can no longer switch back to the accessibility software. If changes need to be made, the student must sign out and then sign in again.

Once Permissive Mode is turned off, the Secure Browser reoccupies the whole screen, and the student's ability to use assistive technologies or switch between any other applications and the Secure Browser is suppressed.

Testing with Predictive Text Technology

The NGSA science test does not contain any short answer or essay question so predictive text applications or devices are not necessary. If the student requires speech-to-text or other assistive technology, please refer to the *RISAP Accommodations and Accessibility Features Manual* (www.ride.ri.gov/accommodations).

Testing with Alternative Computer Input Technology

Alternative Computer Input (ACI) assistive tools allow students with various impairments (such as physical and visual impairments) to interact with a computer without using a traditional mouse and keyboard setup. For instance, ACI technology such as PCEye Mini tracks students' eye movement, while Dwell Clicker 2 allows students to use a mouse without having to click the left or right mouse buttons.

TDS does not include any embedded alternative computer input tools, but it supports several third-party alternative computer input technologies.

Table 2 provides a list of third-party ACI devices that can be used in TDS. Please note that this list includes only the devices that CAI has thoroughly tested against the Secure Browser, but there may be additional supported ACI devices that have not been tested yet. If your students need to use an ACI device not listed here, please test it in a practice test first to ensure there are no issues with it.

Table 1. Third-Party ACI Devices

Product	System Requirements	Additional Details
PCEye Mini with Windows Control	<ul style="list-style-type: none"> Windows 8.1, 10, 11 	<ul style="list-style-type: none"> Requires additional setup before use in TDS (see configuration instructions)
Dwell Clicker 2 <ul style="list-style-type: none"> Supported Versions: 2.0.1.8 	<ul style="list-style-type: none"> Windows 10, 11; Server 2012 R2, 2016 R2 	<ul style="list-style-type: none"> Requires additional setup before use in TDS (see configuration instructions)
HeadMouse Nano	<ul style="list-style-type: none"> Windows 8.1, 10, 11; Server 2012 R2, 2016 R2 macOS 10.13–10.15 macOS 11.4 	<ul style="list-style-type: none"> Requires additional setup before use in TDS (see configuration instructions)
Access Switch	<ul style="list-style-type: none"> Windows 8.1, 10, 11; Server 2012 R2, 2016 R2 macOS 10.13–10.15 macOS 11.4 	<ul style="list-style-type: none"> N/A
Swiftly <ul style="list-style-type: none"> Supported Versions: SW2 	<ul style="list-style-type: none"> Windows 8.1, 10, 11; Server 2012 R2, 2016 R2 macOS 10.13–10.15 macOS 11.4 	<ul style="list-style-type: none"> Requires additional setup before use in TDS (see configuration instructions)

Configuring PCEye Mini with Windows Control on Student Devices

To configure the PCEye Mini, it should be plugged in to a computer that uses Windows Control software and should be installed by following the product's installation instructions manually.

For students using PCEye Mini with Windows Control Software, the Word Prediction feature should be disabled by opening the application and navigating to **Settings>Keyboard**.

Configuring Dwell Clicker 2

To configure Dwell Clicker 2 settings, open the application and select the keyboard icon, then click the **Options** key. In the window that pops up, make sure the **Use Text Prediction** checkbox is not checked.

Configuring HeadMouse Nano

To configure HeadMouse Nano when using the SofType keyboard, open the SofType application and select **View>Word Bar** from the menu. Then make sure the **Prediction** radio button is not marked.

Configuring HeadMouse Nano for macOS

The HeadMouse Nano for macOS can be used to mimic mouse-clicking movements only in conjunction with an Access Switch device (such as an AbleNet Switch) and the regular Apple on-screen keyboard. When completing a test with a Switch, students can left-click, drag and drop, double-click, and right-click (right-clicking would require an additional Switch).

To configure HeadMouse Nano when using the Apple on-screen keyboard, open **System Preferences > Keyboard > Text**. Then make sure the following checkboxes are unchecked:

- **Add period with double-space**
- **Capitalize words automatically**
- **Correct spelling automatically**

Configuring Swifty: SW2

To configure Swifty Switch Access according to the student's needs, the following DIP Switches should be set when using Switch. After you modify DIP Switch settings, unplug and re-plug Swifty to activate the settings.

Switch 1	Switch 2	USB Device	Interface Actions
ON	ON	Mouse	Left, Right, Middle
OFF	ON	Joystick	Btn1, Btn2, Btn3
ON	OFF	Keyboard (For iPad)	Enter, Space, Tab
ON	OFF	Keyboard	1,2,3

Testing with Assistive Keyboard and Mouse Input Technology

Assistive Keyboard and Mouse Input tools provide additional support to students with physical impairments who need to use a keyboard and mouse in order to respond to test items. These include keyboards with larger keys, computer mice with trackballs, and other non-embedded assistive technology tools that make it easier for students with limited movement abilities to use a computer.

TDS does not include any embedded assistive keyboard and mouse input tools, as these tools typically involve the use of special hardware, but TDS does support several third-party assistive keyboard and mouse input tools.

Table 3 provides a list of third-party assistive keyboard and mouse input tools that can be used in TDS. Please note, there may be additional supported assistive keyboards and mouse input tools that have not been tested yet. If your students need to use a device not listed here, please test it in a practice test first to ensure there are no issues.

Some third-party assistive keyboards have special function keys that put the computer to sleep. If pressed, the computer will go to sleep and the student will be kicked out of the test and will have to sign back in to resume testing.

Table 2. Third-Party Assistive Keyboard and Mouse Input Technology

Product	System Requirements	Additional Details
Keys-U-See Keyboard	<ul style="list-style-type: none"> Windows 8.1, 10, 11; Server 2012 R2, 2016 R2 	N/A
BigKeys Keyboard <ul style="list-style-type: none"> Supported Versions: Plus, XL 	<ul style="list-style-type: none"> Windows 8.1, 10, 11; Server 2012 R2, 2016 R2 mac 13.3 	N/A
BigTrack2 Trackball	<ul style="list-style-type: none"> Windows 8.1, 10, 11; Server 2012 R2, 2016 R2 mac 13.3 	N/A

Testing with Screen Magnifier Technology

Screen magnifier assistive technology enlarges the content displayed on the computer screen in order to assist students with visual impairments. Although TDS supports some non-embedded screen magnifier tools from third parties, it is recommended that students use the embedded zoom tools in TDS. These embedded tools were designed to magnify test content in the most intuitive and user-friendly manner for students. Embedded zoom tools can also be tracked by NGSAs when gathering data about students' tool use.

The embedded zoom tools in the Secure Browser allow students to magnify test content to the following levels (any zoom levels of 5X and greater require the streamline mode test setting in TDS to be turned on, which will arrange test content vertically):

- 1X
- 1.5X
- 1.75X
- 2.5X
- 3X
- 5X
- 10X
- 15X
- 20X

Table 4 provides a list of third-party screen magnifier tools that can be used in TDS. The non-embedded screen magnifier tools listed below come with an increased risk of interoperability issues, require students to manually pan the magnification tool across the screen, and can include unwanted features that should not be used while testing.

Table 3. Third-Party Screen Magnifier Applications

Product	System Requirements	Additional Details
ZoomText Magnifier <ul style="list-style-type: none"> • Supported Versions: 2021, 2022, 2023 	<ul style="list-style-type: none"> • Windows 8.1, 10, 11; 2012 R2, 2016 R2 	<ul style="list-style-type: none"> • ZoomText includes a SpeakIt text-to-speech tool that could be used to read aloud passages. Students testing with ZoomText should use the magnification features only. We recommend that students who require text-to-speech support use the Secure Browser's embedded TTS tools, and students who require screen readers use JAWS or Fusion.

Product	System Requirements	Additional Details
<p>Fusion Professional (combines JAWS screen reader with zoom text)</p> <ul style="list-style-type: none">Supported Versions: 2021, 2022, 2023	<ul style="list-style-type: none">Windows 8.1, 10, 11; 2012 R2, 2016 R2	<ul style="list-style-type: none">Requires additional setup before use with TDS (see configuration instructions for JAWS).

Testing with Text-to-Speech

Text-to-Speech (TTS) tools read aloud text that appears on the screen. TDS includes embedded TTS tools that can be turned on for students with the appropriate accommodation settings in TIDE. In order for students to test with TTS tools, a supported voice pack will need to be installed on their device before testing begins (if the device does not already include a built-in voice pack). Students testing with TTS should also have a supported headset or headphones.

TTS is available on all operating systems supported by TDS (for a full list of supported operating systems, see the *Quick Guide for Setting up Your Online Testing Technology*).

Table 5 lists the voice packs supported for students testing with TTS. Please note that the voice pack procedure for students taking the Spanish version of the NCSA is the same for students taking the English version. Students can verify that TTS works on their computers by logging in to a practice test session and selecting a test for which TTS is available. Students using TTS for the practice tests must log in using a supported Secure Browser or a supported Chrome, Firefox, or Edge browser.

Table 4. Technology Requirements for Students Testing with TTS

Technology Type	Product
Supported Voice Packs	<ul style="list-style-type: none"> Windows built-in voice packs Mac built-in voice packs iOS built-in voice packs Chromebook built-in voice packs Heather Infovox iVox HQ (macOS only) Rosa Infovox iVox HQ (macOS only)

Note: CAI strongly encourages schools to test the TTS settings before students take operational tests. You can check these settings through the diagnostic page. From the student practice test login screen, click the **Run Diagnostics** link, and then click the **Text-to-Speech Check** button.

How the Secure Browser Selects Voice Packs

This section describes how CAI's Secure Browsers select which voice pack to use.

Voice Pack Selection on Desktop Versions of Secure Browsers

When a student who is using text-to-speech starts a test, the secure browser looks for voice packs on the student's machine. Upon recognizing an approved voice pack, the secure browser uses the one with the highest priority.

If any of the approved voice packs has also been set as the default voice on the computer, then that voice pack will always get the highest priority.

Spanish Voice Pack Selection with Windows

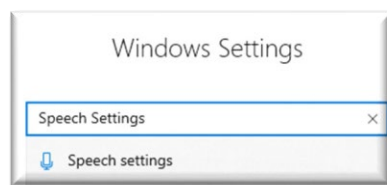
For students using a Windows 10 device with presentation set to Spanish and text-to-speech turned on, the voice pack will need to be installed. If it is not installed, the student will get an error message and the voice pack will not read aloud.

Follow these directions to install the appropriate voice pack:

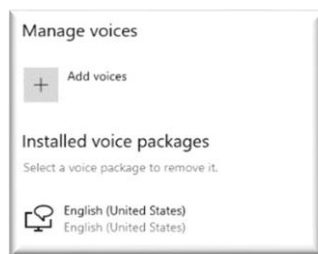
1. Navigate to "Speech Settings"
 - On Start Menu, click Setting cog.



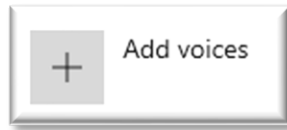
2. Search for Speech Settings



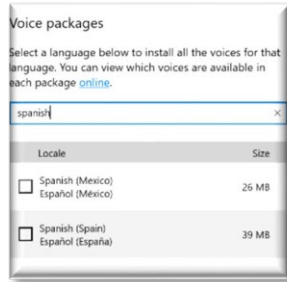
3. Scroll down to Manage Voices



4. Click Add Voices



5. Download "Spanish (Mexico)"



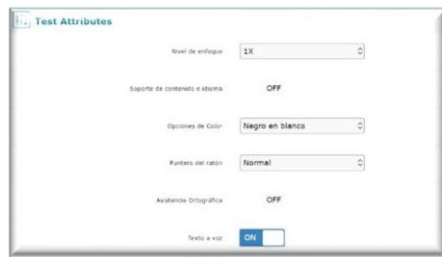
6. Please close and reopen the speech settings application as well as the Web Browser or Secure Browser



7. To test the voice pack, go to the [Practice Test Interface](#).



8. Enable "Texto a voz"



9. Under the Audio verification, you will first see the English Voice packs.

- Click on the speaker icon and the voice will play.
- Then, select “Eschuche la voz”

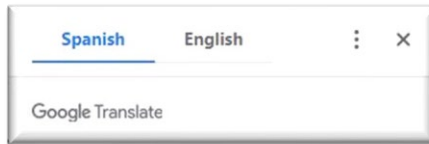


10. The page will refresh with the two Spanish (Mexico) voice packs available for Text to Speech.

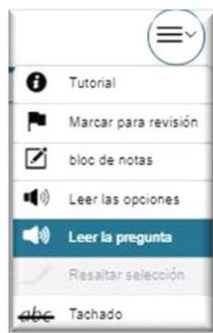
- Click the speaker icon and listen to the Spanish voice read aloud the text and click “Continuar”



11. When starting the test, Google Chrome will show the following Language pop-up



12. The menu will have the following options available



Voice Pack Selection on Mobile Versions of Secure Browsers

The Mobile Secure Browser uses the device’s native voice pack. Additional voice packs downloaded to a mobile device are not recognized by the Mobile Secure Browser.

Text-to-Speech and Chromebooks

Text-to-speech (TTS) in Windows, Mac, and iPads includes a feature that allows students to pause and then resume TTS in the middle of a passage. On Chromebooks, however, students should highlight the desired text to be read as the pause feature does not allow students to pause and resume reading again.

Testing with Assistive Technology for Braille Tests

Braille tests administered in TDS require the use of multiple assistive technology devices and applications, including embossers used by Test Administrators to print test content.

Braille embossers are needed to read all the content in the Next Generation Science Assessment.

It is recommended to order the pre-printed paper test booklets for braille, however, if a district decides to use braille embossers, please contact Heather Heineke (heather.heineke@ride.ri.gov).

TDS includes several embedded tools that facilitate braille testing, such as braille presentation settings, various print tools for embossing content, and streamlined mode, which arranges test content vertically.

Table 7 provides a list of embossers and embossing software supported for TA computers. Embossers must be used to print all content on the Next Generation Science Assessment. Different embossing software is required for printing PRN and BRF file types. The printed file types depend on the content.

Table 5. Embossers and Embossing Software Supported for TA Computers

Embosser / Embossing Software	System Requirements	Additional Details
<p>Duxbury Braille Translator</p> <ul style="list-style-type: none"> Supported Versions: 12.1, or 12.2, 12.5 or 12.6 	<ul style="list-style-type: none"> Operating Systems: Windows 8.1, 10, 11 Minimum Requirements: 1 GHz Processor, 1 GB RAM (for 32-bit), 2 GB RAM (for 64-bit) 	<ul style="list-style-type: none"> Requires additional setup before use with TDS (see configuration instructions) Used for embossing BRF files (from print requests containing only text or formatted tables)
<p>ViewPlus Max Embosser, ViewPlus Premier Embosser, ViewPlus Columbia Embosser, or ViewPlus Columbia 2 Embosser</p>	<ul style="list-style-type: none"> Windows 8.1, 10, 11 	<ul style="list-style-type: none"> Requires additional setup before use with TDS (see configuration instructions) Used for embossing PRN files (from print requests with tactile or spatial components, such as images) PRN files are formatted for a specific printer driver (e.g., Max embosser). Thus, you may need to convert the PRN file in Tiger Designer for use with another supported embosser (see PRN conversion instructions for more details).
<p>ViewPlus Desktop Embosser (driver for ViewPlus Embossers and Tiger Viewer Software)</p>	<ul style="list-style-type: none"> Windows 8, 8.1, 10, 11 	<ul style="list-style-type: none"> Download and install your embosser driver prior to embossing any files. The Tiger Viewer software is downloaded in the printer driver folder.

Embosser / Embossing Software	System Requirements	Additional Details
Tiger Designer <ul style="list-style-type: none"> Supported Versions: 6, 7, 8 	<ul style="list-style-type: none"> Windows 8.1, 10, 11 	<ul style="list-style-type: none"> You should download Tiger Designer prior to testing, as some PRN files will need to be converted in this program before embossing. Please see PRN conversion instructions for more details. Tiger Software Suite is included with all ViewPlus embossers and its license can be used on up to two devices.

Configuring JAWS Screen Readers on Student Computers Before Testing Begins

This section includes instructions for the additional JAWS configuration steps that Technology Coordinators must follow before students use JAWS for online testing. Optional voice adjustments in JAWS can also be made from the **Options>Voices>Voice Adjustment** window in JAWS. To ensure JAWS is properly configured, students should take practice tests using JAWS before taking operational tests.

The configuration instructions in this section apply to JAWS 2021, JAWS 2022, JAWS 2023 as well as Fusion Professional.

Configuring JAWS to Recognize the Secure Browser

You must edit the JAWS configuration file so that the software recognizes the Secure Browser. The examples below are for JAWS 2021 installed to the default location. If your version is installed to a different location, navigate to the appropriate directory.

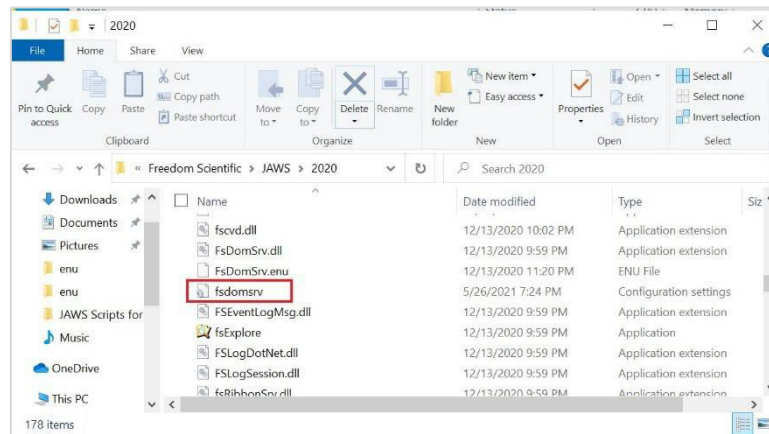
- To modify the configuration file, open the JAWS ConfigNames.ini file. This file may appear in two folders. Depending on how JAWS is installed on your computer, you may need to modify both files:
 - Required: Start > All Programs > JAWS 2021 > Explore JAWS > Explore Shared Settings
 - Optional: Start > All Programs > JAWS 2021 > Explore JAWS > Explore My Settings
- In the ConfigNames.ini file, locate the line of text containing `firefox:3=firefox`. At the end of this line, press **Enter** and type `RISecureBrowser16=firefox`
- Save the file.
 - If you receive an error that you don't have permission to save the .ini file to this location, save the file to your desktop as `ConfigNames.ini`. Then copy the updated .ini file to the folder containing the original .ini file referenced in step [1](#).

Additional Configuration for JAWS 2019 and 2020

There is a known issue in which older versions of JAWS do not run properly with the Secure Browser. To ensure these versions of JAWS function properly, you must download an additional JAWS file and replace the existing version of that file that appears in your JAWS settings folder. These steps do not need to be performed for JAWS 2021.

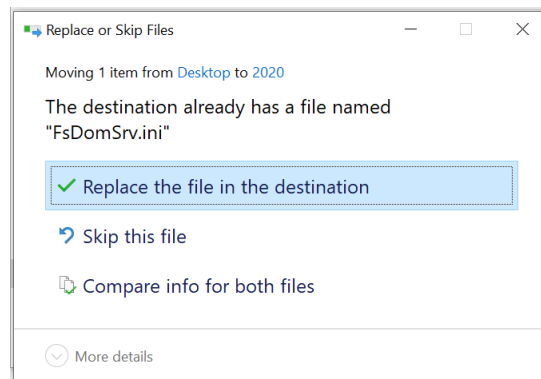
1. [Click here](#) to download the **fsdomsrv.ini** zip file and save it to your desktop.
2. Locate the JAWS folder that contains the existing **fsdomsrv** file:
 - **Folder location for JAWS 2019:** Local Disk > Program Files > Freedom Scientific > JAWS > 2019
 - **Folder location for JAWS 2020:** Local Disk > Program Files > Freedom Scientific > JAWS > 2020

Figure 1. Original fsdomserv File Location



3. Drag and drop the newly downloaded **fsdomsrv.ini** file from the desktop into the folder listed in step 2. In the **Replace or Skip Files** window, select **Replace the file in this destination**.

Figure 2. Replace or Skip Files Window



Registering AccessibleHandler.dll

To ensure that JAWS works properly with the Secure Browser, you should register AccessibleHandler.dll on the student's testing device. These steps should be performed for all supported versions of JAWS.

1. From the **Start** menu, search for *File Explorer*, then select **Enter** on the keyboard. After the *File Explorer* or *Home* window populates, navigate to the left-hand panel, then select **Local Disk (C:)** or **Windows (C:)** under *This PC*.
2. Open the **Program Files** folder, then locate the downloaded Secure Browser folder: *RISecureBrowser*.
3. Find the *Windows Batch File Type* with the name *RegisterAccessibilityLibs*.
4. Right click on the *RegisterAccessibilityLibs.bat* file and select **Run as Administrator**. If you are prompted to choose between *Yes* and *No* in a pop-up box, choose **Yes**.
5. A command prompt window appears briefly with a message confirming successful registration.

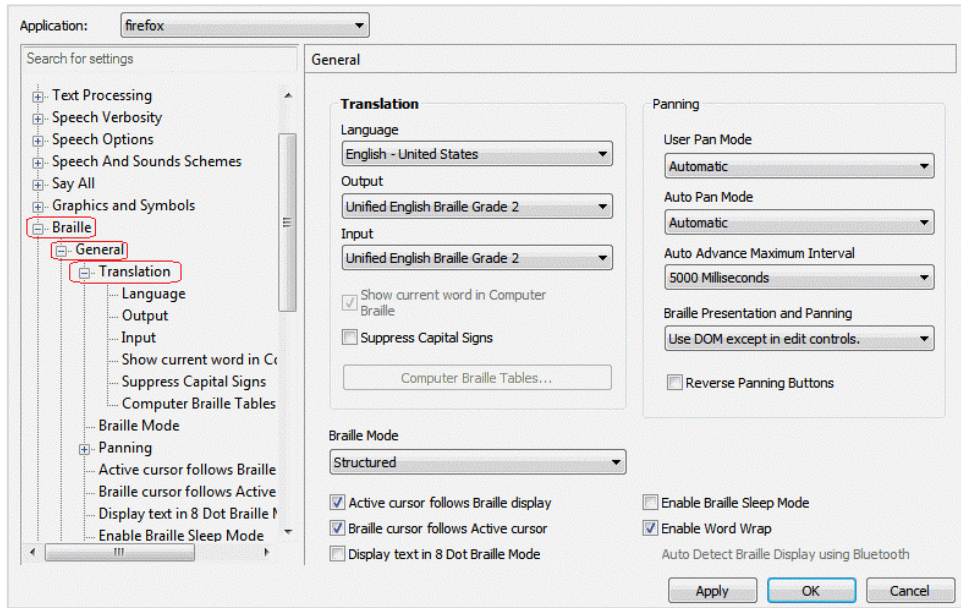
A message appears indicating that the action was successful. Press OK on this prompt and the command window automatically closes.

Applying Settings for Contracted Braille

In order for students to use contracted or uncontracted literary braille with their Refreshable Braille Display (RBD), the correct JAWS settings must be applied prior to launching the Secure Browser.

1. To apply the correct JAWS settings, open JAWS and go to **Utilities > Settings Center**. The **Settings Center** window opens.
2. From the **Application** drop-down list at the top of the window, select **firefox**.
3. Expand the *Braille* settings, *General* sub-settings, and *Translation* sub-settings in the *Search for settings* panel on the left. The **Settings Center** window displays the options for Braille Translation (see [Figure 3](#)).
 - a. In the *Translation* section, verify the **Language** drop-down list is set to **English – United States**. For contracted braille, select **Unified English Braille Grade 2** from the **Output** and **Input** drop-down lists.

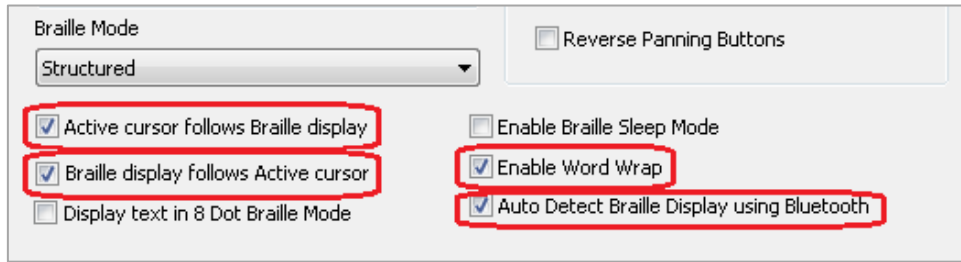
Figure 3. JAWS Settings Center Window



4. In the *Braille Mode* section (see [Figure 4](#)), ensure that only the following settings are checked:

- Active cursor follows Braille display
- Braille cursor/display follows Active cursor
- Enable Word Wrap
- Auto Detect Braille Display using Bluetooth (if available)

Figure 4. Braille Mode Section



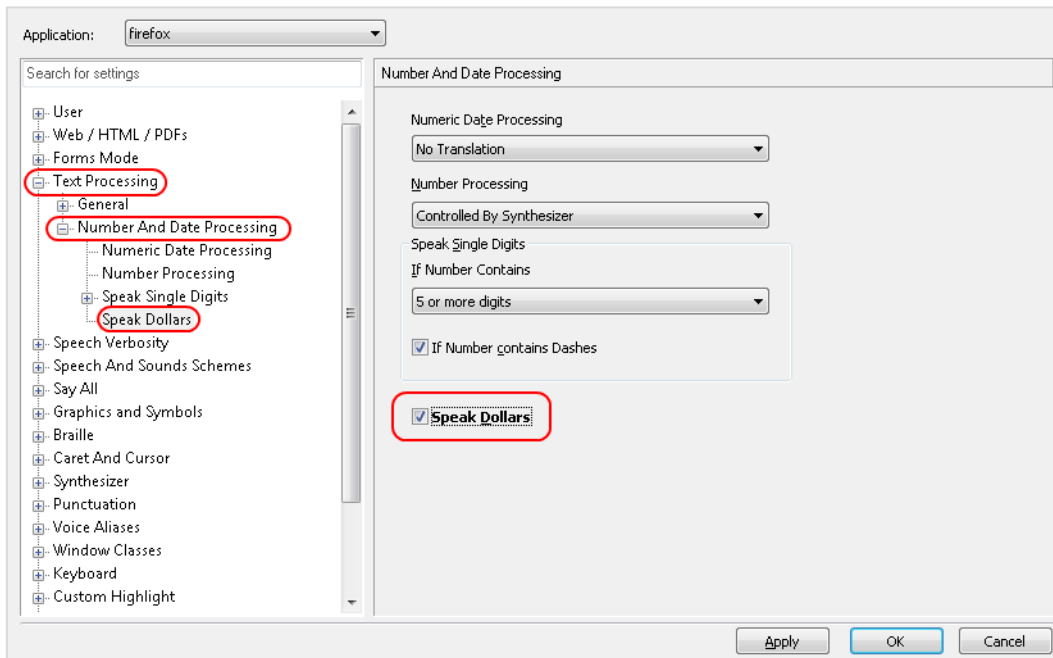
5. Click **Apply**, and then click **OK**.

Configuring JAWS to Speak “Dollars”

If a test includes content with the dollar symbol (\$), you should configure JAWS to correctly speak this symbol.

1. Open JAWS and go to **Utilities > Settings Center**. The **Settings Center** window opens.
2. In the *Search for settings* panel on the left, expand the *Text Processing* settings and *Number And Date Processing* sub-settings. Click **Speak Dollars**. The **Settings Center** window displays the *Number And Date Processing* options (see [Figure 5](#)).

Figure 5. Number and Date Processing



3. Mark the **Speak Dollars** checkbox.
4. Click **Apply**, and then click **OK**.

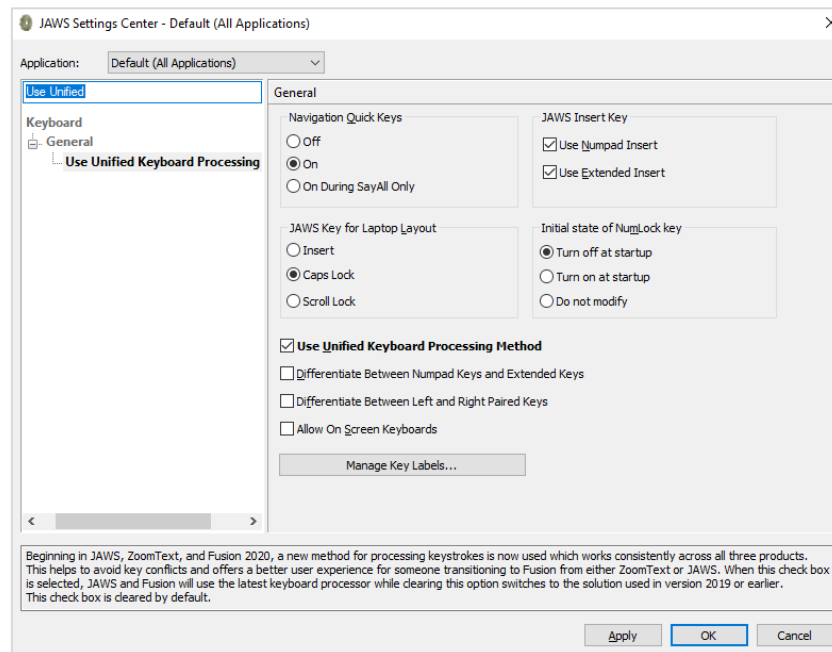
JAWS Unified Keyboard Settings

JAWS 2020 includes a unified keyboard setting that allows students to use **Alt+Tab** to return to the Secure Browser when Permissive Mode is turned on. If students are using JAWS 2019 or earlier, test administrators may need to help students return focus to the test by manually clicking the Secure Browser. Students using a full-sized keyboard may also be able to press the backslash key on the number pad to return focus to the test.

The unified keyboard setting is turned on by default in JAWS 2020, but you should still verify it is enabled for students using JAWS 2020 before they begin testing.

1. Open JAWS 2020 and navigate to **Utilities > Setting Center**.
2. Search in the Settings Center for “Unified Keyboard” and mark the **Use Unified Keyboard Processing Method** checkbox (see [Figure 6](#)).

Figure 6. Use Unified Keyboard Processing Setting

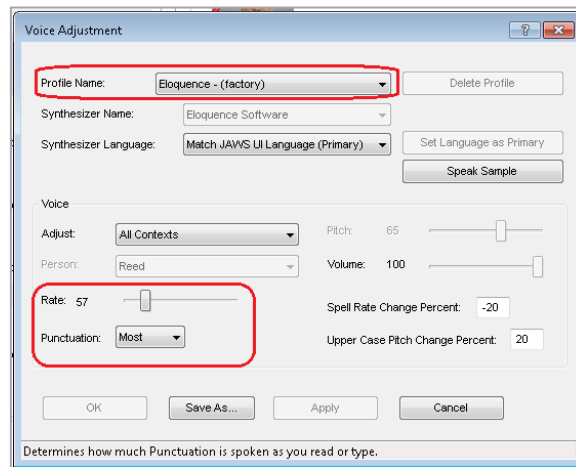


Optional JAWS Voice Adjustment Settings

Prior to launching the Secure Browser, you can adjust JAWS voice settings for students based on their individual needs. Students should take practice tests using JAWS so they can determine whether these settings need to be adjusted. You must set the Voice Profile, Speaking Rate, and Punctuation settings prior to administering assessments.

1. To adjust JAWS voice settings, open JAWS and go to **Options>Voices>Voice Adjustment**. The **Voice Adjustment** window opens (see [Figure 7](#)).

Figure 7. JAWS Voice Adjustment



2. To adjust the voice profile, in the *Profile* section, select a voice profile from the **Profile Name** drop-down list. Click **Apply**.
3. To adjust the voice rate, in the *Voice* section, drag the **Rate** slider to the desired rate speed (the lower the rate, the slower the words are read aloud). Click **Apply**.
4. To adjust the punctuation, click the **Punctuation** drop-down list. Select from the following options: **None**, **Some**, **Most**, or **All**. Click **Apply**.
5. When all settings are saved, click **OK**.

Administering Braille Tests

This section explains how TAs set up the test settings for braille tests and emboss braille print requests from students. It also provides information about how students navigate the Secure Browser with JAWS.

Setting Up Braille Test Sessions

TAs must make sure that students have the correct test settings applied before approving them to take braille tests. Any test settings that cannot be changed from the TA Site or Secure Browser will need to be set in TIDE. Please note that some test settings may vary between Practice and Operational tests.

For more detailed instructions about starting test sessions, see the *Test Administration Manual (TAM)*.

1. To administer braille tests, the TA logs in to the appropriate TA Site and starts a test session.
2. The TA opens JAWS on the student testing devices.
3. The TA opens the Secure Browser on the student testing devices.
4. Students sign in to the test session and select their tests.
5. The TA reviews the student's test settings and verifies the following:

- *Presentation* is set to **Braille**. This should be set for any students testing with JAWS, regardless of whether those students are braille users. Setting the Presentation to Braille will automatically enable streamlined mode, which arranges test content vertically.
- *Print on Demand* is set to the appropriate option for the selected test.
- *Permissive Mode* is turned on. This setting must be enabled in order for students to use the keyboard commands associated with JAWS.

6. When all the correct settings are applied, the TA approves students for testing.

Embossing Braille Print Requests for BRF and PRN Files

This section provides instructions for TAs who will emboss BRF and PRN files during a test session. As students progress through their tests, emboss requests will be sent to the TA Site, either automatically or manually, depending on the test settings. TAs must review and approve these emboss requests in order to send the files to the embossers. BRF files may be embossed with Duxbury Braille Translator. PRN files may be embossed with either Tiger Designer or Tiger Viewer. However, Tiger Designer is the recommended embosser, as it also allows you to convert file types if necessary.

When the test session is over, you must delete and discard all test materials. This may require you to [remove files](#) from the web browser download archive.

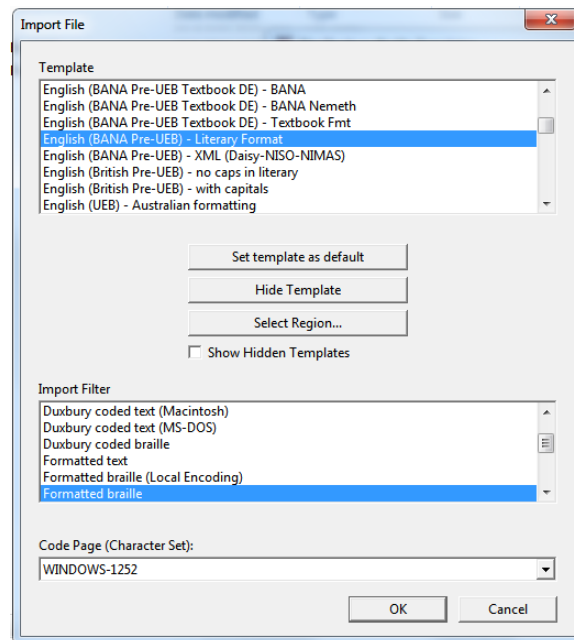
For tips and troubleshooting advice for embossing braille files, see [Appendix A](#).

Sending BRF Files to the Embosser

BRF files must be embossed with Duxbury Braille Translator. For information about setting up Duxbury Braille Translator prior to testing, see the section [Configuring Duxbury Braille Translator for BRF Files](#).

6. When you approve a print request for a BRF file, either open the file directly from the browser or save it and open it in Duxbury Braille Translator. See [Appendix A](#) for more information about saving and opening print requests.
 - a. If you opened the file directly from your browser and Duxbury Braille Translator is the default application for printing BRF files, the **Import File** window appears (see [Figure 8](#)). If not, launch Duxbury Braille Translator and then select **File > Open** to select the downloaded BRF file.

Figure 8. Import File Window



2. Ensure that the following are selected:
 - Template:
 - For Duxbury 11.2 or earlier: **English (American) – Standard Literary Format**
 - For Duxbury 11.3 or later: **English (BANA Pre-UEB) – Literary Format**
 - Import Filter: **Formatted braille**
3. Click **OK**. The *Duxbury Braille Translator* preview window opens.
4. Go to **File > Emboss**. The *File: Emboss* window opens.
5. Ensure that only one copy is being printed, the page range is set to **All**, and the Braille Device is set to **ViewPlus Max** (or other ViewPlus embosser). Then click **OK**.

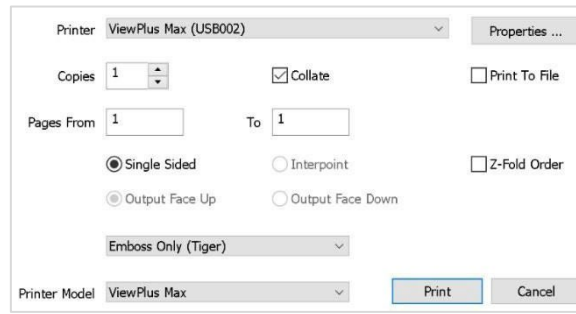
Sending PRN Files to the Embosser with Tiger Designer

Tiger Designer is the recommended software for embossing PRN files. For information about setting up Tiger Designer prior to testing, see the section [Configuring ViewPlus Tiger Designer or Tiger Viewer for PRN Files](#).

1. When you approve a print request for a PRN file, either open the file directly from the browser or save it and open it in Tiger Designer. See [Appendix A](#) for more information about saving and opening print requests.

- a. If you opened the file directly from your browser and Tiger Designer is set as the default program for PRN files, a **Print** window should appear automatically. If not, launch Tiger Designer and select **File > Print** to select the downloaded PRN file.
2. Ensure that only one copy is being printed and the *Printer Name* is set to **ViewPlus Max** (or whichever supported ViewPlus embosser you are using), then click **Print**.

Figure 9. Tiger Designer Print Window

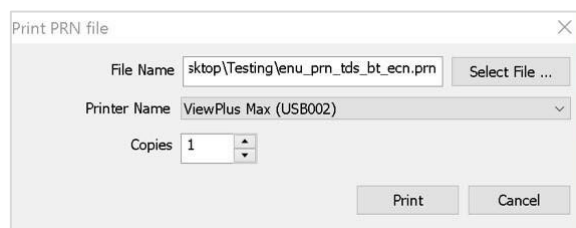


Sending PRN Files to the Embosser with Tiger Viewer

You can also emboss PRN file print requests in Tiger Viewer. However, if the print option is grayed out when printing a file, you will not be able to convert the file with Tiger Viewer. PRN files can only be converted in Tiger Designer. For information about setting up Tiger Viewer prior to testing, see the section [Configuring ViewPlus Tiger Designer or Tiger Viewer for PRN Files](#).

1. When you approve a print request for a PRN file, either open the file directly from the browser or save it and open it in Tiger Viewer. See [Appendix A](#) for more information about saving and opening print requests.
 - a. If you opened the file directly from your browser and Tiger Viewer is the default application for printing PRN files, the **Print PRN File** window appears. If not, launch Tiger Viewer and then select **File > Print File** to select the downloaded PRN file.
2. Ensure that only one copy is being printed and that the *Printer Name* field is set to the embosser that you will be using to emboss the braille files. Then click **Print**.

Figure 10. Print PRN File Window



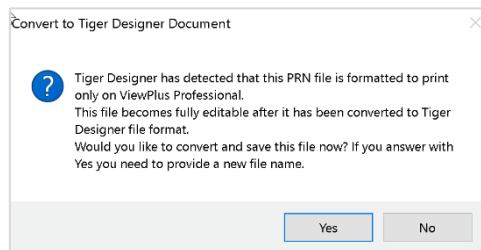
- If the option to **Print** is grayed out, you will need to [convert the file in Tiger Designer](#).

Converting PRN Files in Tiger Designer for Embossing

If you are using an embosser other than VP Max or Premier, you may encounter PRN embossing issues that cause the Tiger Viewer **Print PRN File** window or the Tiger Designer **Print** window to appear grayed out. In most cases, you can follow the steps below to resolve this issue. If these steps do not work, please consult the NGS Helpdesk.

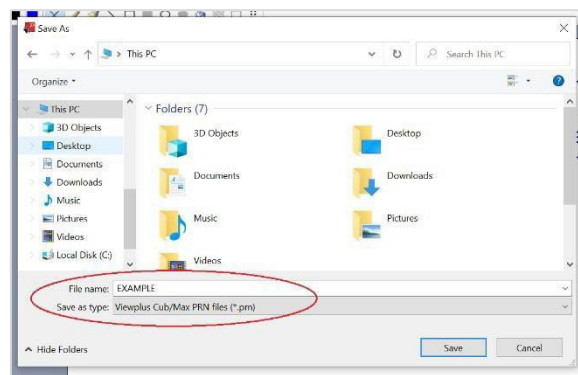
1. Launch Tiger Designer.
2. Go to **File>Open**. Then select the file that is not embossing properly and click **Open**.
 - a. You may need to use the dropdown above the **Open** button to change the file type to **Tiger PRN files (*.prn)**.
3. Some improperly formatted PRN types will trigger the message shown in Figure 11.

Figure 11. Convert File Message



- If this popup message appears, click **Yes**.
- If this popup message does not appear, navigate to **File > Save As**. Choose the destination where you wish to save the file, and then select **Viewplus Cub/Max PRN files (*.prn)** from the **Save as Type** dropdown (see [Figure 12](#)).

Figure 12. Resaving the PRN File




4. Exit Tiger Designer, then reopen the newly saved PRN file in Tiger Designer.
5. In the top toolbar, select **File > Print**.

- a. A **Print** window appears. Ensure that only one copy is being printed and the *Printer Name* is set to **ViewPlus Max** (or whichever supported ViewPlus embosser you are using), then click **Print**.


Removing Files from the Web Browser Download Archive

Most supported web browsers automatically save downloaded files. If your computer saves the BRF and PRN files from print requests, for security purposes, you must delete all test-related files from your browser's download archive.

To remove files in Google Chrome:

1. Open the Chrome menu  icon in the upper-right corner.
2. Select **Downloads**. The **Downloads** page opens.
3. Remove all test-related files by doing one of the following:
 - For each file, click **X**.
 - Click **Clear all** in the upper-right corner. Files saved to your computer are not deleted.

To remove files in Edge:

1. Open the Edge Hub (favorites, reading list, bookmarks and downloads)  icon in the upper-right corner.
2. Select **Downloads** from within the downloads list.
3. Select each file and click **X** to delete it.

To remove files in Mozilla Firefox:

1. Open the **Tools** menu and select **Downloads**. The **Library** window opens.
2. Delete all test-related files by doing one of the following:
 - Select each file and press **Delete** on your keyboard.
 - Click **Clear Downloads** at the top of the window (if available). Files saved to your computer are not deleted.

Navigating the Student Testing Site with JAWS

JAWS allows students to use keyboard commands to navigate through the Student Testing Site. Students using Refreshable Braille Displays (RBDs) with router keys may also press the router key above the text for a button to move the cursor to that button. They can press the router key again to select that button instead of using the provided keyboard commands.

The actions associated with each JAWS keyboard command depends on the context in which the students presses the key. In other words, the same key may have different effects depending on

whether the student is on the Sign-In pages, the test pages, or within the items and stimuli of the test pages.

Note: The **Tab** key is best used to move among elements such as buttons, text boxes, etc.

Table 8 provides an overview of how to use JAWS keyboard commands in each context. In order for students to use these keyboard commands, Permissive Mode must be enabled for them in TDS. If JAWS enters Forms Mode, these keyboard commands may not work. In order to exit Forms Mode, press **Esc** or **NUM PAD PLUS**.

Table 6. Overview of JAWS Keyboard Commands in the Student Testing Site

Key	Action
Navigating the Sign-In Pages with JAWS Keyboard Commands	
Insert + F10 (standard keyboard) Space + S (Perkins Braille keyboard)	Returns the focus to the Secure Browser if the student navigates to the JAWS application window while signing in Keyboard layouts may vary by device. Please refer to the manual provided by the device manufacturer for more information.
Tab	Moves the focus to the next field or button on the page
Shift + Tab	Moves the focus to the previous field or button on the page
Down Arrow	Reads the next line on the page
Up Arrow	Reads the previous line on the page
Enter	Selects the button that is currently in focus

Key	Action
Navigating Test Pages with JAWS Keyboard Commands	
R	<p>Navigates to the next landmark region on the test page. A test page has up to three primary landmark regions:</p> <ul style="list-style-type: none"> • Banner Region: The banner contains the test information row. This row displays the current question numbers, test name, student name, test settings button, pause button, and help button. • Navigation and Test Tools Region: This region displays the navigation and tool buttons. • Test Content Region: This region consists of the <i>Stimulus</i> section and the <i>Question</i> section: <ul style="list-style-type: none"> ○ <i>Stimulus Section:</i> Contains the stimulus title, stimulus context menu, and stimulus content. ○ <i>Question Section:</i> Contains a question number, question labels (labels that appear when you mark an item for review, print an item, or enter a note for an item), question context menu, question prompt, and the response area.
H	<p>Jumps to the next heading on the page.</p> <p>In general, the following test components are defined with a heading:</p> <ul style="list-style-type: none"> • Test name (H1) • Student name (H2) • Passage title (H3) • Question number (H3) <p>On test pages that have multiple questions, students can jump directly from one question to the next. To do so, press H and then press the Down arrow twice. The question prompt is read aloud.</p>
Shift + R	Jumps to the previous region on the page.
Shift + H	Jumps to the previous heading on the page.
Tab	<p>Moves to the next component on the page. In general, the following test elements are components:</p> <ul style="list-style-type: none"> • Navigation and tool buttons • Question number (and associated prompt text) • Context menu • Response options
Shift + Tab	Moves to the previous component on the page
Enter	Selects a button or response option or open a context menu.

Key	Action
Down Arrow	Moves to the next line on the page
Up Arrow	Moves to the previous line on the page
Insert + Down Arrow	Reads everything on the page (from the current point of focus)
Ctrl	Stops JAWS from reading
Opening and Using Context Menus with JAWS Keyboard Commands	
Enter	Pressing Enter when JAWS reads “Menu button” will open the context menu. This is the only way to open the context menu when streamlined mode is turned on.
Down Arrow	Moves the focus to the next option in the menu. JAWS will read this option aloud.
Up Arrow	Moves the focus to the previous option in the menu. JAWS will read this option aloud.
Space	Selects the menu option currently in focus
Esc	Closes the context menu without selecting any options
Responding to Items with JAWS Keyboard Commands	
Tab	<ul style="list-style-type: none"> Students can use the Tab key to navigate to the item prompt, which JAWS will read aloud. After JAWS reads the prompt aloud, students can press Tab again to navigate to the response area. They may need to press Tab multiple times depending on the item type and whether any question labels appear for the item. In the response area for an item, students can press Tab to navigate between each answer option, text box, selectable text field, keypad button, or check box, depending on the item type.
Shift + Tab	Navigates to the previous answer option, text box, selectable text field, keypad button, or check box, depending on the item type.
Up and Down Arrow Keys	<ul style="list-style-type: none"> For multiple choice and multi-select items, pressing the arrow keys will move between each answer option. For edit task choice items, pressing the arrow keys will move between each line of text in the item. After users open an edit menu by pressing Space, the arrow keys can be used to move between the answer options in the drop-down list.

Key	Action
Space	<ul style="list-style-type: none"> • For multiple choice and multi-select items, pressing Space will select the answer option in focus. • For edit task items, pressing Space will open the edit menu in which students type or select a response. • For table match items, pressing Space will mark the checkbox in focus.
Enter	<ul style="list-style-type: none"> • For hot text items, pressing Enter will choose the selectable text area in focus as the answer option. • For edit task choice items, pressing Enter will select an answer option from the drop-down list in the edit menu. • For equation items, pressing Enter will select the keypad button in focus.
Alt + 7	<ul style="list-style-type: none"> • For equation items, pressing Alt + 7 will open a popup menu with special characters. Students can use the arrow keys to move between the special characters in the list and then press Enter to insert a special character in the response area.

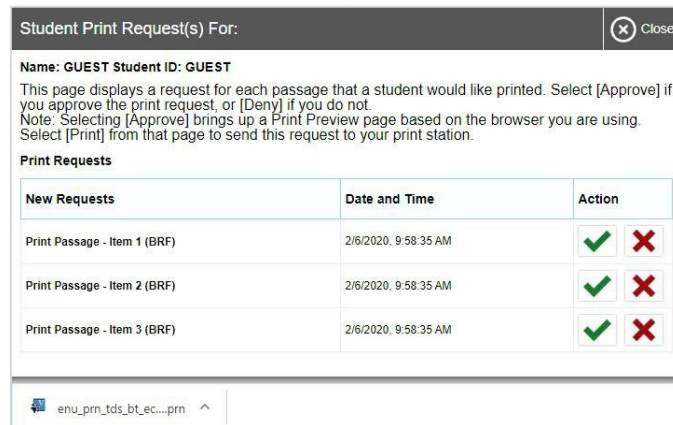
Please note that the keypad of the Desmos calculator tool in the Student Testing Site cannot be navigated entirely with the **Tab** key. However, all buttons within the keypad can be navigated or selected using JAWS or Desmos keyboard commands. For a list of Desmos keyboard commands, see <https://www.desmos.com/graphingshortcuts>.

Appendix A. Tips for Embossing Braille Files

This appendix provides tips for approving print requests and embossing braille files.

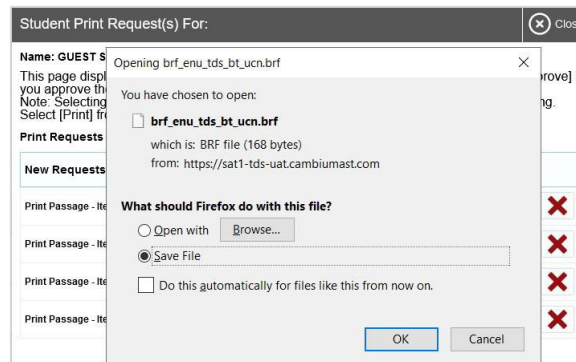
- The auto-emboss setting in TDS automatically queues multiple print requests in advance as students progress through a test. If a student testing with auto-emboss pauses their test before you print all their queued requests, then when the student resumes testing, they must send manual print requests for any unprinted items that were previously in the queue.
- When approving print requests, you can either save a file to your computer and manually open it in the embossing software, or you can open it directly from the browser. The steps for saving and opening braille files depend on which browser you are using:
 - *For Google Chrome users:* The browser displays the downloaded file at the bottom of the screen (see [Figure 13](#)).

Figure 13. Downloading Braille Files in Chrome



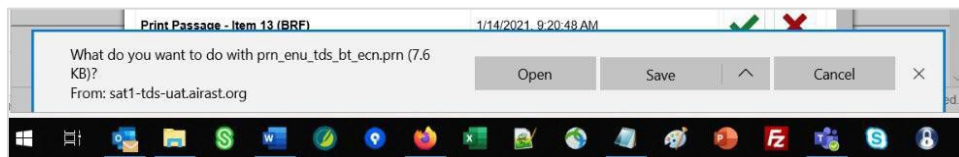
- To open the file directly from the browser, double-click the downloaded file.
- To save the file to your computer, click the up arrow icon beside the downloaded file and select **Open**.
- *For Firefox users:* The browser opens a dialog window (see [Figure 14](#)).

Figure 14. Downloading Braille Files in Firefox



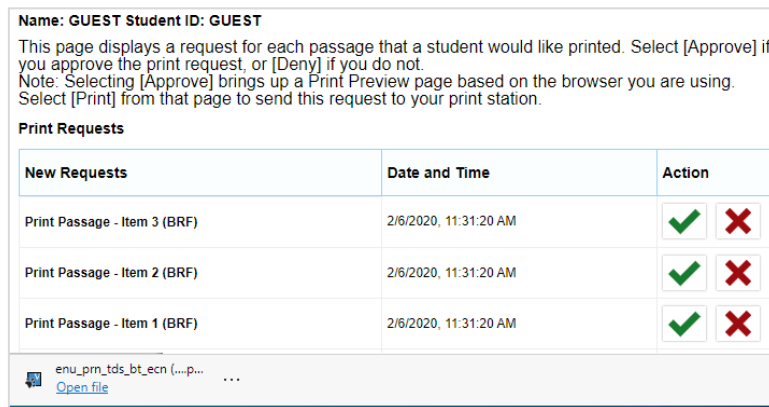
- To open the file directly from the browser, mark the **Open with** radio button and make sure the appropriate embossing software is selected in the menu (Duxbury Braille Translator for BRF files; Tiger Designer or Tiger Viewer for PRN files). Then click **OK**.
- To save the file to your computer, mark the **Save File** radio button and click **OK**.
- *For Edge users (version 44 and earlier):* The browser displays the downloaded file in a dialog box at the bottom of the screen (see [Figure 15](#)).
- To open the file directly from the browser, click **Open**.
- To save the file to your computer, click **Save**.

Figure 15. Downloading Braille Files in Edge 44



- *For Edge users (Chromium version 79 and later):* The browser shows the downloaded file in the bottom left corner of the screen (see [Figure 16](#)).

Figure 16. Downloading Braille files on Chromium-Based Edge



- To open the file directly from the browser, click the blue **Open File** link.
- To save the file to your computer, click the three-dot menu icon and select **Show in folder**. This will open File Explorer to the location where the file is saved in your downloads folder.
- If you cannot find a downloaded braille file after approving a print request, you may need to modify your browser’s download settings (please contact your local IT support for assistance editing these settings).

- It is highly recommended that you rename downloaded files to correspond with the item number listed on the TA Site’s **Print Request** window, so you can keep track of printouts when downloading multiple files at once. For example, Item 10 shown in [Figure 17](#) would download with the name *brf_enu_tds_bt_ecn*, but you can simply add *item10* to the beginning of the file name so that it becomes *item10_brf_enu_tds_bt_ecn*.

Figure 17. TA Print Request Window

Print Requests		
New Requests	Date and Time	Action
Print Passage - Item 10 (BRF)	10/19/2020, 1:43:59 PM	<input checked="" type="checkbox"/> <input type="checkbox"/>
Print Passage - Item 11 (BRF)	10/19/2020, 1:44:02 PM	<input checked="" type="checkbox"/> <input type="checkbox"/>
Print Passage - Item 12 (BRF)	10/19/2020, 1:44:07 PM	<input checked="" type="checkbox"/> <input type="checkbox"/>

- Always plug the embosser into the same USB port used when it was first set up. Otherwise, the computer may identify the embosser as a new device and require you to set it up again.
- If the **Print** button for a PRN file is grayed out in Tiger Designer or Tiger Viewer, you may need to [convert the file in Tiger Designer](#) before embossing it.

User Support

For additional information and assistance in using assistive technology with the Secure Browser, contact the Rhode Island Next Generation Science Assessment Helpdesk.

Rhode Island Next Generation Science Assessment Helpdesk

Toll-Free Phone Support: 1.866.757.9437

Email Support: rihelpdesk@cambiumassessment.com

Please provide the Helpdesk with a detailed description of your problem, as well as the following:

- The brand and version number of the assistive technology being used
- Any error messages and codes that appeared, if applicable
- Operating system and browser information, including version numbers (for example, Windows 10 and Firefox 72 or Mac OS 10.14 and Safari 11)