

Assistive Technology Manual for Windows & macOS

2023–2024

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Overview of Testing with Assistive Technology

This manual provides an overview of the embedded and non-embedded assistive technology tools that can be used to help students with accessibility needs complete online tests in the Test Delivery System (TDS). It includes lists of supported devices and applications for each type of assistive technology that students may need, as well as setup instructions for the assistive technologies that require additional configuration in order to work with TDS.

- Embedded assistive technology tools include the built-in test tools in TDS, such as the text-to-speech and dictation tools. 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 word prediction, text-to-speech, dictation, and zoom tools in TDS are available on supported desktop and mobile devices.
- Non-embedded assistive technology tools are the third-party accessibility hardware and software that students use to help them complete tests in TDS. 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. More detailed system requirements are provided for each assistive technology tool throughout this manual.
 - Permissive Mode on macOS is supported only with Secure Browser versions 16.0 and 16.5. Ensure that the proper Secure Browser version is downloaded from the OSAS Portal to allow for testing with Permissive Mode. Note: Secure Browser version 16.0 is no longer on the OSAS portal but is supported if installed already on a system. This version will be blocked soon.

Students who use assistive technology tools to interact with a standard web browser should be able to use those same tools with TDS, unless they are web-based applications or browser extensions. The best way to test compatibility for tools is to take a sample test in the Secure Browser with those tools turned on. If they do not work, see the additional configuration instructions in this manual as required. If you still have questions about the assistive technology covered in this guide, please contact the Help Desk.

For more information about taking sample tests, see the *Test Administrator User Guide*.

The manual includes the following sections:

- [Testing with Speech-to-Text Technology](#)
- [Testing with Word Prediction 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 TDS accessibility support that allows students to use non-embedded assistive technology to complete tests 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. This accessibility support should be assigned to students in TIDE before they begin testing. For more information, see the *TIDE User Guide*.

Permissive Mode is available for computers running supported desktop Windows and macOS operating systems only. Permissive Mode on macOS is supported only with Secure Browser versions 16.5 & 16.0. When using Windows devices, the task bar remains on-screen throughout the test after enabling accessibility software. However, forbidden applications are still prohibited.

Permissive Mode activates when students are approved for testing in TDS. The student's assistive technology should already be set up for use with TDS when they begin testing with Permissive Mode.

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 *Test Administrator User Guide*.

Note: *Some of the tools covered in this document may include prohibited features that students can access, even when Permissive Mode is enabled. For such tools, it is recommended that Test Administrators monitor students while testing to ensure they do not use any prohibited features.*

How to Use Assistive Technology with Permissive Mode on Windows

Students can follow the instructions in this section to use assistive technology alongside the Secure Browser with all supported Windows operating systems.

1. Open the required accessibility software on the student's testing device.
2. Open the Secure Browser. Begin the standard 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:** 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.
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.

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- If the student needs to test with multiple accessibility applications simultaneously, they should configure all of them during this step.
6. After configuring all the necessary 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 to the accessibility software, 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.

How to Use Assistive Technology with Permissive Mode on macOS 13.3 & 14.0

The Secure Browser 16.5 for macOS 13.3 & 14.0 requires students to launch approved accessibility software after logging in to the test.

1. Open the required accessibility software on the student's testing device and configure the accessibility software settings as needed.
2. Open the Secure Browser and follow the standard sign-in process.
3. On the first page of the test, click **Applications**  in the global menu. From the **App Launcher** window that pops up, select the appropriate assistive technology software and click **OK**.
4. Return to the Secure Browser and continue testing.
 - **Note:** Students should not close the assistive technology application while the Secure Browser is still open, as they may not be able to relaunch it. If the student accidentally closes the assistive technology application, they must sign out and then sign in again.

Testing with Speech-to-Text Technology

Speech-to-text (STT) technology transcribes a student’s spoken words into text for item responses in TDS. Students with the appropriate accessibility supports may use STT assistive technology while taking tests. It is recommended that students use the embedded STT tool (Dictation) in TDS. This embedded tool can be tracked by OSAS when gathering data about students’ tool use (for more information about the embedded STT tool, see the *Test Administrator User Guide*). If a third-party STT tool still needs to be used, please reference the table below.

Students using STT technology will need to use a headset while testing. Any wired headset with a 3.5mm or USB connection should be compatible.

[Table 1](#) provides a list of third-party STT applications that can be used in TDS.

Table 1. Third-Party STT Applications

Product	System Requirements	Additional Details
Dragon Naturally Speaking Home & Individual Professional—Windows <ul style="list-style-type: none"> Supported Version: 15, 16 Professional 	<ul style="list-style-type: none"> Windows 10, 11; Server 2016 R2 Windows 10, 11; Server 2016 R2; 2019 R2 	<ul style="list-style-type: none"> Requires additional setup before use in TDS (see configuration instructions) Note: <i>TDS cannot confirm appropriate configurations are in use during an exam, so students may be able to access prohibited features.</i> Dragon Naturally Speaking Home was discontinued. However, you can continue to use it if it is already installed on student devices. Use this application at your discretion.
Windows Built-in Speech Recognition <ul style="list-style-type: none"> Supported Version: 8.0 	<ul style="list-style-type: none"> Windows 10, 11; Server 2016 R2 	<ul style="list-style-type: none"> Requires additional setup before use in TDS (see configuration instructions) Note: <i>TDS cannot confirm appropriate configurations are in use during an exam, so students may be able to access prohibited features.</i>
WordQ+SpeakQ (WordQ5) <ul style="list-style-type: none"> Supported Version: 5.4.29 	<ul style="list-style-type: none"> Windows 10, 11; Server 2016 R2 	<ul style="list-style-type: none"> Requires additional setup before use in TDS (see configuration instructions) Exam Mode must be enabled before students begin testing. Note: <i>This tool also includes a text prediction feature that cannot be disabled.</i>

Product	System Requirements	Additional Details
Read&Write—Windows <ul style="list-style-type: none"> Supported Version: 12.0.77 	<ul style="list-style-type: none"> Windows 10, 11; Server 2016 R2 	<ul style="list-style-type: none"> Exam Mode must be enabled before students begin testing. Also includes text prediction features that students may use if they have the proper accommodations. Locked Browser Mode disables the STT functionality in Read&Write. You should not use Locked Browser Mode when using Read&Write for STT.

Note: Mac Built-in-Dictation is no longer supported as CAI no longer supports macOS 10.15 or Secure Browser 12.5. Embedded dictation may be used on all Mac devices across all assessments.

Configuring Speech-to-Text Applications

Some applications listed in [Table 1](#) require additional configuration before use during online testing. Necessary configurations are described below. Some applications send data to the cloud for processing by default. Where noted, this should be disabled to ensure the security of test data.

After you configure an application, CAI strongly recommends testing that application on a sample test administered through the Secure Browser prior to using it for operational testing.

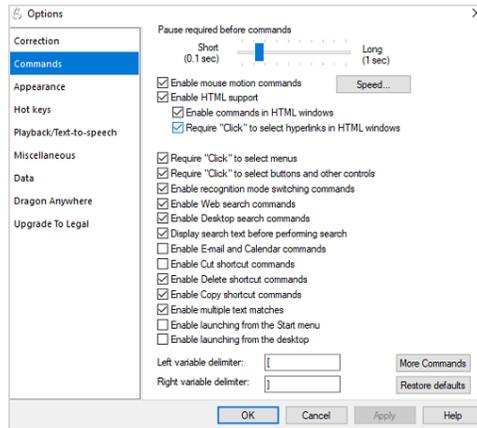
Dragon Naturally Speaking Home or Professional Individual for Windows

Necessary configurations for Dragon Naturally Speaking can be made from the **Options** dialog box, which is accessed from the **Tools** drop-down menu on the DragonBar.

- From the **Commands** tab, uncheck the following settings:
 - Enable launching from the Start menu
 - Enable launching from the desktop
 - Enable E-Mail and Calendar commands
 - Enable Cut shortcut commands

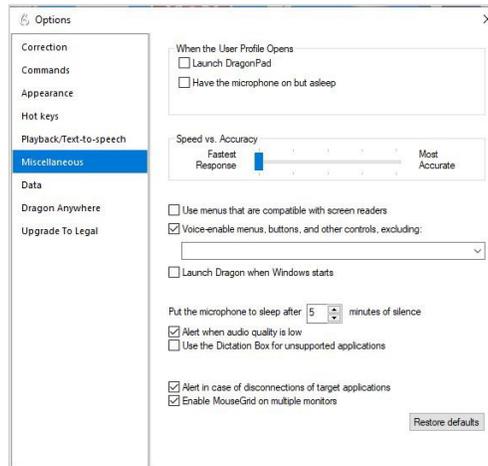
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Figure 1. Dragon Options Commands Tab



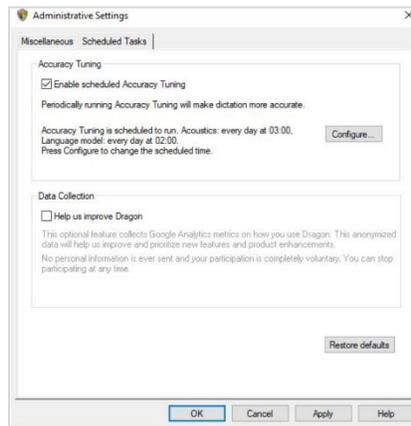
- From the **Miscellaneous** tab, uncheck **Use Dictation Box for unsupported application**.

Figure 2. Dragon Options Miscellaneous Tab



- In the **Scheduled Tasks** tab of the **Administrative Settings** window, do one of the following:
 - In Dragon 16, uncheck **Help us Improve Dragon**.
 - In Dragon 15, uncheck **Enable scheduled Data Collection**

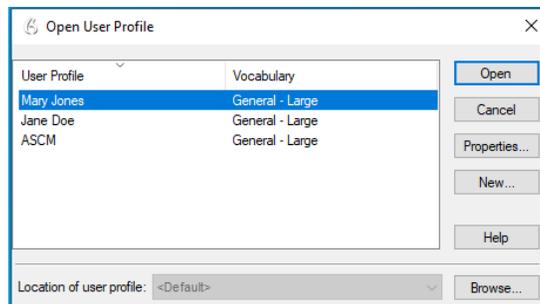
Figure 3. Administrative Settings Scheduled Tasks Tab (Dragon 16)



Setting Up User Profiles for Students in Dragon

Dragon Naturally Speaking requires each student to use a specific User Profile. You will need to create User Profiles and ensure that Dragon Naturally Speaking is set to the proper profile for each student prior to testing. When creating a profile, you can select the student's age range, language, and accent, as well as set the audio input devices. Students will then read aloud prompts that Dragon Naturally Speaking uses to learn their voice. After creating profiles, you can select **Profiles** in the Dragon toolbar, then click **Open User Profile...** to switch between User Profiles (see [Figure 4](#)). For more information about creating User Profiles, see the [Dragon Naturally Speaking—Windows](#) website.

Figure 4. Dragon Naturally Speaking—Open User Profile



Windows Speech Recognition

Prior to testing day, the Windows built-in Speech Recognition application must be set up on each testing device that will be used by students who require STT. The application can be set up through the Windows Control Panel. Users should set the device to not send data to Microsoft for improvement so that secure test data is not sent to the cloud. During setup, Speech Recognition Voice Training must be completed by the student for optimal performance.

- To prevent Windows from sending data to the cloud, go to **Start > Settings > Privacy > Diagnostics & Feedback** and mark the **Basic** radio button in the *Diagnostic Data* section. Then select the **Speech** tab and set the **Online Speech Recognition** toggle to **Off**.

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- While Windows Speech Recognition is processing speech, the testing site may slow down. If transcription is not needed for testing, make sure Windows Speech Recognition is not listening to prevent this slowness from interfering with the test performance.

WordQ SpeakQ (WordQ5)

To minimize security risks, WordQ+SpeakQ (WordQ5) includes an Exam Mode feature, which can be enabled through the application's settings. Exam Mode requires a time limit of 1–12 hours to be set. Please note, this does not eliminate all security risks, and once Exam Mode has been set, it cannot be disabled until the configured time has run out.

To turn on Exam Mode, click the **Options** icon, and select **Exam Mode**. In the dialog pop-up window that appears, you can allow or restrict the **Word usage examples** and **Single words added by the user including topic words** features. You can also set the exam time limit at the bottom of the window.

Read&Write

Read&Write has an Exam Mode that can be used to turn off features for a single student on their testing device. When Exam Mode is enabled, the student will have access to only the selected features on the toolbar and certain speech settings, including Voice Selection, Speed, Pitch, and Speak As I Type (the full settings menu will not be accessible).

To use Exam mode, run Read&Write, click the settings button in the top-right corner, and click **Show more settings**. In the *Find a Setting* field, type *adminsettings*. Enter and confirm a password to grant access on this computer. When logged in to administrator settings, click the **Select your features** tab and select which features you'd like to enable on the student's toolbar. Enable the **Use Exam Mode now** toggle to start Exam Mode, then close the Read&Write menu to start the exam.

Testing with Word Prediction Technology

Word prediction assistive technology suggests words to students as they type responses for test items. It is recommended that students use the embedded word prediction tool in TDS, which is supported on all devices for all subjects.

Students should use an external keyboard in order for word prediction to function correctly on iPadOS. For more information about the embedded word prediction tool, see the *Test Administrator User Guide*. If a third-party word prediction tool still needs to be used, please reference the table below.

[Table 2](#) provides the technology requirements for students testing with word prediction assistive technology.

Table 2. Third-Party Word Prediction Applications

Product	System Requirements	Additional Details
WordQ+SpeakQ (WordQ5) <ul style="list-style-type: none"> Supported Version: 5.3.5 	<ul style="list-style-type: none"> Windows 10, 11; Server 2016 R2 macOS 13.3, 14 	<ul style="list-style-type: none"> Requires additional setup before use in TDS (see configuration information) Exam Mode must be enabled before students begin testing.
Read&Write for Windows & macOS <ul style="list-style-type: none"> Supported macOS Versions: 7.1.3, 7.1.5, 7.1.6 Supported Windows Version: 12.0.7 	<ul style="list-style-type: none"> R&W 7.1.6 is compatible with macOS 13.3, 14 R&W 12.0.75 is compatible with Windows 11 R&W 12.0.73 is compatible with Windows 10; Server 2016 R2 	<ul style="list-style-type: none"> Requires additional setup before use in TDS (see configuration information) The Windows version also includes speech-to-text functionality that students may use if they have the proper accommodations. To use text prediction feature in Windows, students can press the available function keys from F1 to F8. Includes a Screen Recording feature that should be disabled for Read and Write via System Settings > Privacy & Security > Screen Recording. Note: <i>TDS cannot confirm appropriate configurations are in use during an exam, so students may be able to access prohibited features.</i>

WordQ5

To minimize security risks, WordQ includes an Exam Mode feature, which can be enabled through the application's settings. Exam Mode requires a time limit of 1–12 hours to be set. Please note, this does not eliminate all security risks, and once Exam Mode has been set, it cannot be disabled until the configured time has run out.

To turn on exam mode, click the **Options** icon, and select **Exam Mode**. In the dialog popup window that appears, you can allow and restrict the **Word usage examples** and **Single words added by the user including topic words** features. You can also set the exam time limit at the bottom of the window.

Configuring Read&Write for Windows

Read&Write has an Exam Mode that can be used to turn off features for a single student on their particular testing device. This feature is not currently available for macOS. When Exam Mode is enabled, the student will have access to only the selected features on the toolbar. For students requiring word prediction, Word Prediction should be enabled. Read&Write for Windows also includes text-to-speech and speech-to-text (talk & type) features, which should be enabled for students with the proper accommodation settings only.

To use Exam mode, run Read & Write and click the settings button in the top-right corner, then click **Show more settings**. In the *Find a Setting* field, type *adminsettings*. Enter and confirm a password to grant access on this computer. This username and password are associated with the administrative account for your Read&Write subscription. When logged in to administrator settings, click the **Select your features** tab and select which features you'd like to be enabled on the student's toolbar. Enable the **Use Exam Mode now** toggle to start Exam Mode, then close the Read&Write menu to start the exam.

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 3](#) 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 sample test first to ensure there are no issues with it.

Table 3. Third-Party ACI Devices

Product	System Requirements	Additional Details
PCEye Mini with Windows Control	<ul style="list-style-type: none"> Windows 10 	<ul style="list-style-type: none"> Requires additional setup before use in TDS (see configuration instructions) Note: <i>Tool has been discontinued by its manufacturer. CAI recommends that you test it out on a sample test in the Secure Browser before using it for an operational test.</i>
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 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 10, 11; Server 2016 R2 macOS 13.3, 14 	<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 10, 11; Server 2016 R2 macOS 13.3, 14 	N/A
Swifty <ul style="list-style-type: none"> Supported Versions: SW2 	<ul style="list-style-type: none"> Windows 10, 11; Server 2016 R2 macOS 13.3, 14 	<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 into a computer that uses Windows Control software and should be installed by following the product's installation instructions manually.

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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 OSX 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. After you modify DIP Switch settings, unplug and re-plug Swifty to activate the settings.

Table 4. DIP Switches

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 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 5](#) 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 sample 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 have to sign back in to resume testing.

Table 5. Third-Party Assistive Keyboard and Mouse Input Technology

Product	System Requirements	Additional Details
Keys-U-See Keyboard	<ul style="list-style-type: none"> Windows 10, 11; Server 2016 R2 	N/A
BigKeys Keyboard <ul style="list-style-type: none"> Supported Versions: Plus, LX 	<ul style="list-style-type: none"> Windows 10, 11; Server 2016 R2 macOS 13.3, 14 	N/A
BigTrack2 Trackball	<ul style="list-style-type: none"> Windows 10, 11; Server 2016 R2 macOS 13.3, 14 	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 OSAS 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 users to turn on the Secure Browser's streamlined mode setting, which arranges test content vertically):
 - 1X
 - 1.5X
 - 1.75X
 - 2.5X
 - 3X
 - 5X
 - 10X
 - 15X
 - 20X
- **Note:** Some math tests use images for mathematical expressions and formulas. These images will not zoom in beyond the 3x magnification level using the embedded zoom tool, unless using the Secure Browser on Windows and Mac or the Firefox web browser. In these browsers, zoom is available beyond 3x on math equations when using streamlined mode. However, figures, charts, and graphs will not zoom beyond 3x on any operating system or browser. Students may need to use permissive mode and a non-embedded magnifier tool to zoom in beyond this level. However, pixelation and blurriness may still occur at higher zoom levels.

[Table 6](#) provides a list of third-party screen magnifier tools that can be used in TDS. Both the native zoom feature for iOS and magnifier feature for ChromeOS (docked magnifier) can be used on their respective platforms with the Secure Browser. Users should practice testing with these features before taking an assessment to ensure there are no issues.

The non-embedded and native screen magnifier tools 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. These non-embedded tools also cannot be tracked by OSAS when gathering data about students' tool use.

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Table 6. Third-Party Screen Magnifier Applications

Product	System Requirements	Additional Details
<p>ZoomText Magnifier</p> <ul style="list-style-type: none"> Supported Versions: 2021, 2022, 2023 	<ul style="list-style-type: none"> Windows 10, 11; 2016 R2 	<ul style="list-style-type: none"> ZoomText includes a SpeakIt text-to-speech (TTS) tool. Please note that SpeakIt does not function consistently within the Secure Browser. Teams should use caution if selecting this tool as the student’s TTS support. Please see the next section in this manual “Testing with Text-to-Speech” for additional TTS options.
<p>Fusion (combines JAWS screen reader with ZoomText)</p> <ul style="list-style-type: none"> Supported Versions: 2021, 2022, 2023 	<ul style="list-style-type: none"> Operating Systems: Windows 10, 11; 2016 R2 Minimum Requirements: 2.0 GHz i7 dual core processor, 16 GB RAM 	<ul style="list-style-type: none"> Requires additional setup before use with TDS (see configuration instructions for JAWS).
<p>Magic Magnifier (with optional text-to-speech)</p> <ul style="list-style-type: none"> Supported Versions: 14.0.1512, 15.0.2014 (both versions are now discontinued) 	<ul style="list-style-type: none"> Windows 10; 2016 R2 	<ul style="list-style-type: none"> Magic 15 was discontinued on December 31, 2020. However, you can continue to use it if it is already installed on student devices. Use this application at your discretion. Note: <i>TDS cannot confirm appropriate configurations are in use during an exam, so students may be able to access prohibited features.</i> <p><i>Tool has been discontinued by its manufacturer. CAI recommends that you test it out on a sample test in the Secure Browser before using it for an operational test.</i></p>

Testing with Text-to-Speech

Text-to-Speech (TTS) tools read aloud text that appears on the screen for students who may have reading impairments. TDS includes embedded TTS tools that can be turned on for students with the appropriate accessibility support settings (either in TIDE or from the TA Site). 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.

For more information about enabling English and Spanish voice packs, see the [Windows](#), [macOS](#), and [Chrome](#) support pages on this topic.

TTS is available on all operating systems supported by TDS (for a full list of supported operating systems, see the **Technology Resources** page of the OSAS Portal).

Text-to-speech in Windows, macOS, 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.

[Table 7](#) lists the voice packs supported for students testing with TTS. Students can verify that TTS works on their computers by logging in to a sample test session and selecting a test for which TTS is available. Students using TTS for the sample tests must log in using a supported Secure Browser or a supported Chrome, Firefox, or Edge browser.

Table 7. Technology Requirements for Students Testing with TTS

Supported Voice Packs
<ul style="list-style-type: none"> • Windows • For English tests: All built-in voice packs • For Spanish tests: Spanish (Mexico) • macOS built-in voice packs • iPadOS 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 sample test login screen, click **Run Diagnostics**, and then click **Text-to-Speech Check**.

Note: On Chromebooks, Russian and Mandarin TTS are not supported at this time. The eSpeak voicepacks have been deemed to be too low quality for educational testing purposes.

Note: The Mobile Secure Browser uses either the device's native voice pack or a voice pack embedded in the Secure Browser. Additional voice packs downloaded to a mobile device are not recognized by the Mobile Secure Browser. Testing with Assistive Technology for Braille Tests

Assistive Technology Manual for Windows & macOS

Braille tests administered in TDS require the use of multiple assistive technology devices and applications, including the refreshable braille displays (RBDs) and screen readers used by students to read and navigate test content and the embossers used by proctors to print test content.

RBDs are used to read text-only content on ELA, Mathematics, and Sciences tests, while Braille embossers are needed to read any content with images as well as advanced content in Mathematics and Science tests. RBDs must be properly setup before they can be used by students. For information about installing and setting up RBDs, refer to the product’s provided instructions and manuals.

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.

Note: Alt text for the images in items and stimuli is consistently available only when the test presentation is set to *Braille*.

[Table 8](#) provides a list of supported screen reader software that students can use in TDS. **Please note that only JAWS may be used on ELA and Reading tests, as this is the only supported screen reader that can effectively mute reading passages.** Screen readers other than JAWS must not be used on ELA and Reading tests, as they would allow students to listen to passages instead of reading them, compromising the ability to assess their reading comprehension skills.

Table 8. Screen Readers Supported for Student Computers

Screen Reader	System Requirements	Additional Details
JAWS–Student <ul style="list-style-type: none"> Supported Versions: 2021, 2022, 2023 	<ul style="list-style-type: none"> Operating Systems: Windows 10, 11 Minimum Requirements: 2.0 GHz i5 dual core Processor, 8 GB RAM 	<ul style="list-style-type: none"> Requires additional setup before use with TDS (see configuration instructions). Test Presentation setting must be set to braille, whether or not student is a braille user.
VoiceOver	<ul style="list-style-type: none"> macOS 13, 14 	<ul style="list-style-type: none"> Requires additional setup before use with TDS (see configuration instructions). Test Presentation setting must be set to braille, whether or not student is a braille user. Must use Secure Browser 16. Note: <i>Students can only use VoiceOver on ELA CAT tests if they have an IEP because the read-aloud of passages cannot be suppressed in this product.</i>
Fusion <ul style="list-style-type: none"> Supported Versions: 2021, 2022, 2023 	<ul style="list-style-type: none"> Operating Systems: Windows 10, 11 Minimum Requirements: 2.0 GHz i7 dual core processor, 16 GB RAM 	<ul style="list-style-type: none"> Requires additional setup before use with TDS (see configuration instructions for JAWS). Test Presentation setting must be set to braille, whether or not student is a braille user.

Screen Reader	System Requirements	Additional Details
NVDA <ul style="list-style-type: none"> Supported Versions: 2021–2023 	<ul style="list-style-type: none"> Windows 10, 11 and all server operating systems starting from Windows Server 2016 R2 	<ul style="list-style-type: none"> Students can only use NVDA on ELA CAT tests if they have an IEP because the read-aloud of passages cannot be suppressed in this product. Test Presentation setting must be set to braille, whether or not student is a braille user. Note: CAI recommends that you test it out on a sample test in the Secure Browser before using it for an operational test.

[Table 9](#) provides a list of supported refreshable braille displays (RBDs) that students can use to read braille content. Please note that if students wish to use RBDs not mentioned in this table, they should test them on a sample test to ensure there are no issues before using them on an operational test. Additionally, RBDs not listed here may include unwanted features that students should not use while testing, so students may need to be monitored if they use such RBDs.

Table 9. Refreshable Braille Displays Supported for Student Computers

RBD	System Requirements	Additional Details
Braille 40 Cell	<ul style="list-style-type: none"> Windows 10, 11 	<ul style="list-style-type: none"> CAI recommends RBDs with at least 40 cells, but students may use displays with fewer cells if preferred. Students should not use the HumanWare Braille BI 14 RBD. It can automatically synchronize notes typed internally with a mail application, potentially violating test security.
Focus 40 Blue 5th Generation	<ul style="list-style-type: none"> Windows 10, 11 	<ul style="list-style-type: none"> Device is equipped with an SD card that should be taken out before student takes a test. Device has Scratchpad with BRF Bookreader, Calendar, and Clock features that cannot be disabled. Students must be monitored to ensure they are not using them.

[Table 10](#) provides a list of embossers and embossing software supported for TA computers. Embossers must be used to print any test content that cannot be read by RBDs, including all content on Mathematics and Science tests, and some of the content on ELA tests. Different embossing software is required for printing PRN and BRF file types. The printed file types depend on the content being embossed.

Table 10. 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, 12.2, 12.3, 12.4, 12.5, 12.6, or 12.7 	<ul style="list-style-type: none"> Operating Systems: Windows 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 Rogue Embosser</p> <p>ViewPlus Columbia Embosser, ViewPlus Columbia 2 Embosser, or PixBlaster</p>	<ul style="list-style-type: none"> Windows 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 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.
<p>Tiger Software Suite (Tiger Designer)</p> <ul style="list-style-type: none"> Supported Versions: 6, 7, 8 	<ul style="list-style-type: none"> Windows 10, 11 	<ul style="list-style-type: none"> You should download Tiger Designer prior to testing, as PRN files for the ViewPlus Columbia and PixBlaster embossers 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.

Specifications for TAs Using Screen Readers

If a TA requires the use of a screen reader to set up or administer test sessions in the TA Site, CAI recommends they do so using the most recent Firefox or Chrome browser. If issues occur while updating browsers, please contact your network administrator/IT office.

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. To ensure JAWS is properly configured, students should take sample tests using JAWS before taking operational tests.

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

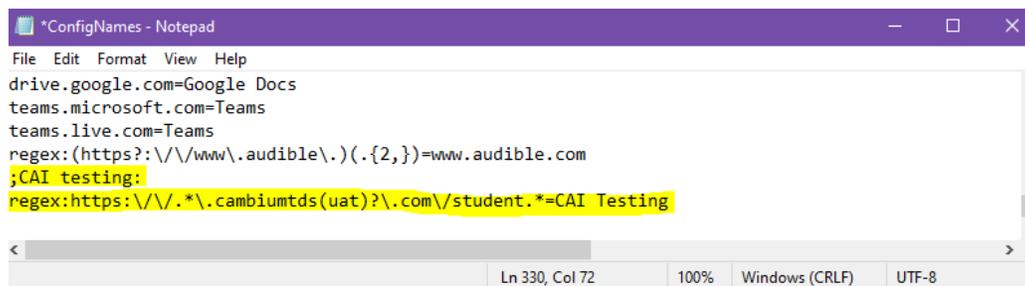
Configuring JAWS to Recognize the Secure Browser

You must edit the JAWS configuration file so that the software recognizes the Secure Browser.

1. 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. 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.
 - **Required Folder:** Start > All Programs > JAWS 2021 > Explore JAWS > Explore Shared Settings
 - **Optional Folder:** Start > All Programs > JAWS 2021 > Explore JAWS > Explore My Settings
2. In the **ConfigNames** file, locate the line of text containing *firefox:3=firefox*. At the end of this line, press **Enter** and type *OSASSecureBrowser16.0=firefox*
3. At the bottom of the **ConfigNames** file, do one of the following:
 - **For JAWS 2023:** No additional action is needed
 - **For JAWS 2022:** Update the URL in the *regex:* line below the *;CAI testing:* line so that it reads as *regex:https://.*\cambiumtds(uat)?\.com/student.*=CAI Testing*
 - **For JAWS 2021:** After the last line of the file, press **Enter** and type *;CAI testing:* and then press **Enter** again and type *regex:https://.*\cambiumtds(uat)?\.com/student.*=CAI Testing*

The end of the **ConfigNames** file should match the highlighted section in [Figure 5](#).

Figure 5. JAWS ConfigNames File—regex line



4. Save the file.
 - a. 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.
5. Optional: To confirm that JAWS has been properly configured, you can open the Secure Browser while JAWS is running. Then press hold down **Insert** (or the JAWS key) while pressing **Q** twice. A message opens in a pop-up window, indicating that Secure Browser settings are being used in the `OSASSecureBrowser.exe` application, and that the configuration name is CAI Testing.

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

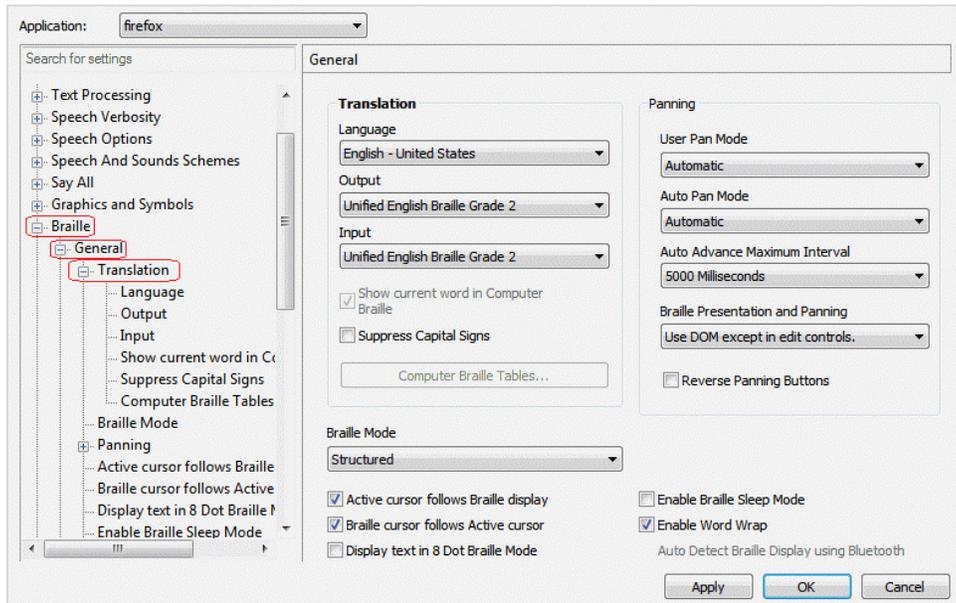
Applying Settings for Contracted or Uncontracted Braille

In order for students to use contracted or uncontracted literary braille with their 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.

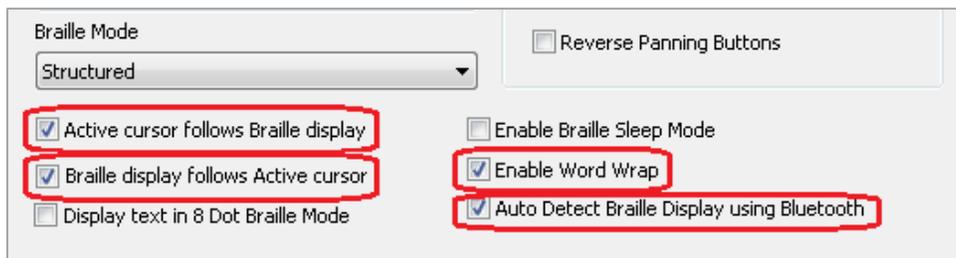
2. From the **Application** drop-down list at the top of the window, select **firefox**.
3. Expand the *Braille* settings, *General* sub-settings, and *Translation* sub-settings in the *Search for settings* panel on the left. The **Settings Center** window displays the options for Braille Translation (see [Figure 6](#)).
 - a. In the *Translation* section, verify the **Language** drop-down list is set to **English – United States**. For a student who prefers contracted braille, select **Unified English Braille Grade 2** from the **Output** and **Input** drop-down lists. For a student who prefers uncontracted braille, select **Unified English Braille Grade 1** from the **Output** drop-down list.

Figure 6. JAWS Settings Center Window



4. In the *Braille Mode* section (see [Figure 7](#)), 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 7. Braille Mode Section



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

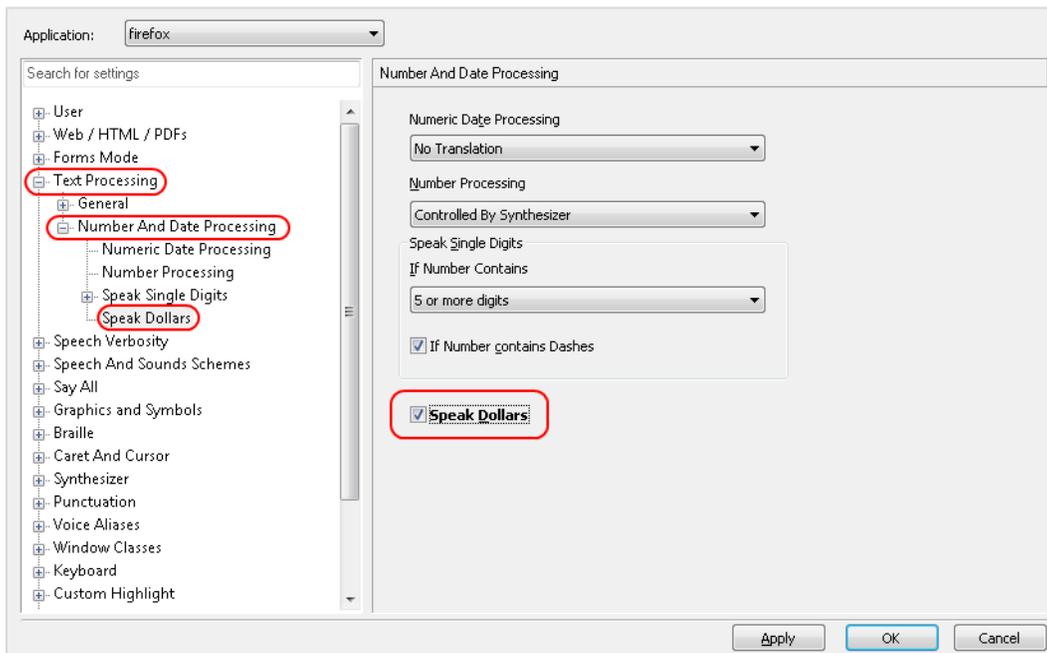
Note: When students testing with contracted braille type a written response with their RBD, the words will be parsed while typing, so each word may not display on screen until after pressing **Space** or **Enter**. This is the intended behavior when using this setting.

Configuring JAWS to Speak “Dollars”

You should configure JAWS to correctly speak the dollar symbol (\$), in case it appears in the test content.

- Open JAWS and go to **Utilities > Settings Center**. The **Settings Center** window opens.
- 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 8](#)).

Figure 8. Number and Date Processing



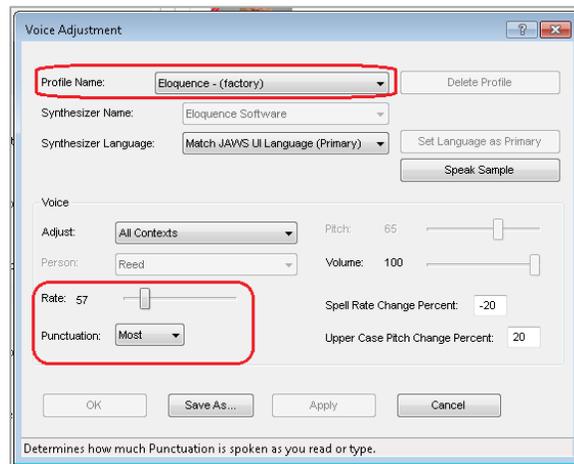
- Mark the **Speak Dollars** checkbox.
- Click **Apply**, and then click **OK**.

Optional JAWS Voice Adjustment Settings

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

1. To adjust JAWS voice settings, open JAWS and go to **Options > Voices > Voice Adjustment**. The **Voice Adjustment** window opens (see [Figure 9](#)).

Figure 9. 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**.

Configuring VoiceOver Screen Readers on Student Computers Before Testing Begins

This section includes instructions for the additional VoiceOver configuration steps that Technology Coordinators must follow before students use VoiceOver for online testing. To ensure VoiceOver is properly configured, students should take sample tests using VoiceOver before taking operational tests.

Students must have an IEP accommodation to use VoiceOver on ELA CAT, as the read-aloud of passages cannot be suppressed in this product.

Launching VoiceOver Through Accessibility Settings

Prior to testing with VoiceOver, you can configure its settings by launching the software through the Accessibility Settings center on macOS devices.

1. In the dock, click **System Settings** .
2. Select **Accessibility > Shortcut** (in the *General* section).
3. Mark the **VoiceOver** checkbox.
4. You can now quickly enable VoiceOver from the Accessibility Shortcuts window by pressing **Command + Option + F5** and then selecting **VoiceOver**.

Using the VO Key for VoiceOver Commands

Throughout this section, many VoiceOver instructions mention a “**VO**” key. Depending on how VoiceOver is set up on the student’s computer, the **VO** key may either be the **Control + Option** keys pressed simultaneously or the **Caps Lock** key. For example, if a section in this guide instructs you to press **VO + F8**, you would press either **Control + Option + F8** or **Caps Lock + F8**.

You can specify which command should act as the **VO** key from the **VoiceOver Utility** window:

1. To turn on VoiceOver, press **Command (⌘) + F5**. Then press **VO + F8** to open the **VoiceOver Utility** window.
2. In the left panel, select **General**.
3. From the VoiceOver modifier drop-down list, select the keys you want to use as the **VO** key:
 - **Control + Option** (^⌥)
 - **Caps Lock**
 - Either **Control + Option** or **Caps Lock**

Note: If you set **Caps Lock** as the **VO** key, students who wish to activate Caps Lock and type uppercase characters should quickly press **Caps Lock** twice.

Configuring VoiceOver Screen Reader Navigation Settings

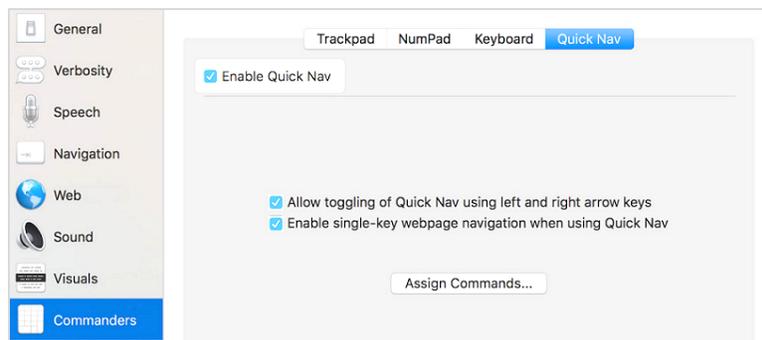
VoiceOver allows students to use keyboard commands to navigate the Student Testing Site. For a better experience when using keyboard commands, you should enable the **Quick Nav** feature and other settings in the **VoiceOver Utility** window.

Note: CAI does not recommend the use of numpad commands for navigating tests due to compatibility issues. For the best experience, students should use the keyboard navigation mode.

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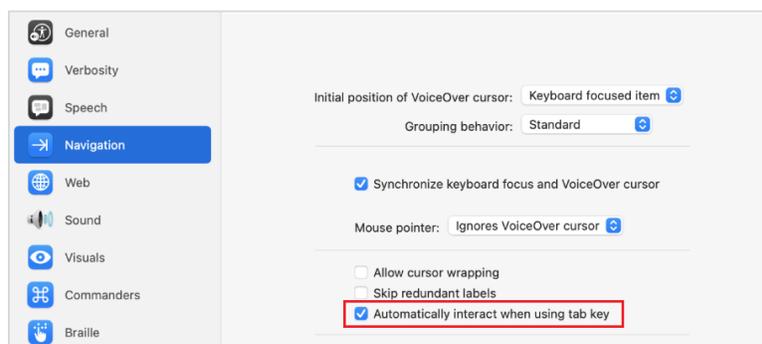
1. To turn on VoiceOver, press **Command + F5**. Then press **VO + F8** to open the **VoiceOver Utility** window.
2. In the left panel, select **Commanders**.
3. On the **Quick Nav** tab, make sure the following checkboxes are marked:
 - **Enable Quick Nav**
 - **Allowing toggling of Quick Nav using left and right arrow keys**
 - **Enable single-key webpage navigation when using Quick Nav**

Figure 10. Commanders – Quick Nav Tab



4. To ensure that the tab key functions properly when using VoiceOver in a test, select **Navigation** in the left panel. Then make sure the following checkbox is marked:
 - **Automatically interact when using tab key**

Figure 11. Navigation Panel

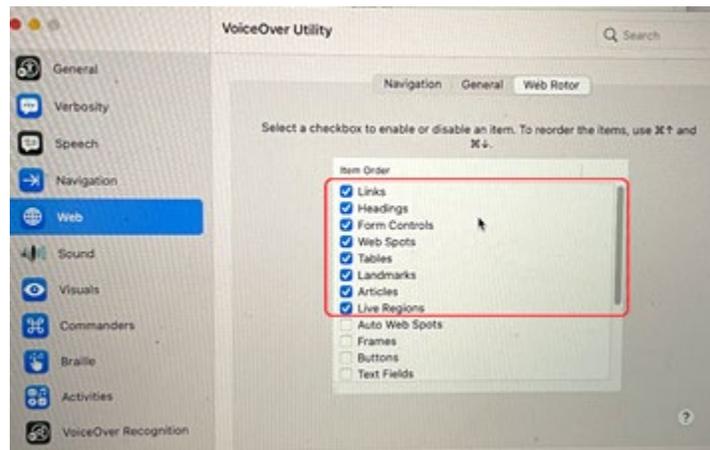


5. To ensure that VoiceOver interacts properly with websites, select **Web** in the left panel and then click the **Web Rotor** tab. Make sure the following checkboxes are marked:
 - **Links**
 - **Headings**

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- **Form Controls**
- **Tables**
- **Landmarks**
- **Frames**
- **Web Spots**
- **Live Regions**

Figure 12. Web – Web Rotor Tab

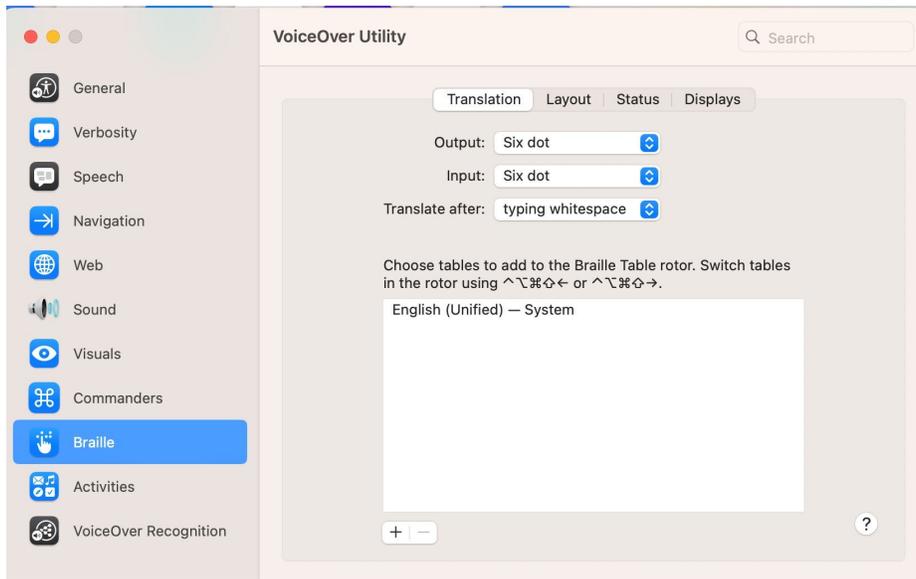


Applying VoiceOver Settings for Contracted or Uncontracted Braille

In order for students to use contracted or uncontracted literary braille with their RBD, you must apply the correct VoiceOver settings prior to launching the Secure Browser.

1. To turn on VoiceOver, press **Command + F5**. Then press **VO + F8** to open the **VoiceOver Utility** window.
2. In the left panel, select **Braille**.
3. In the *Translation* tab, do one of the following:
 - For a student who prefers contracted braille, select **Contracted six dot** from the **Output** and **Input** drop-down lists.
 - For a student who prefers uncontracted braille, select **Six dot** from the **Output** and **Input** drop-down lists.

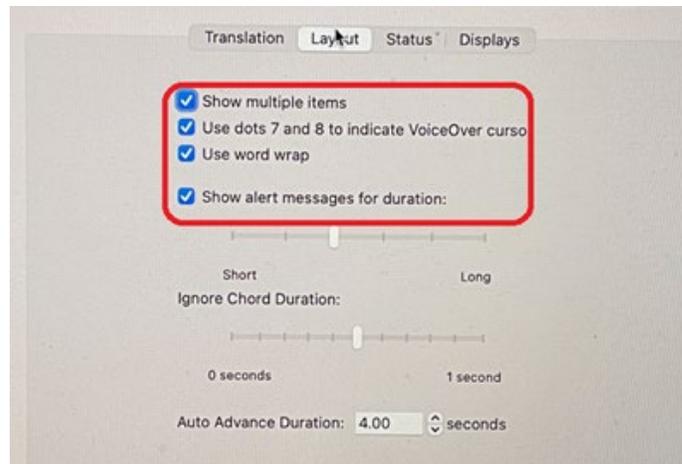
Figure 13. Braille – Translation Tab



4. On the **Layout** tab, ensure that the following settings are checked:

- **Show multiple items**
- **Use dots 7 and 8 to indicate VoiceOver Cursor**
- **Use word wrap**
- **Show alert messages for duration**

Figure 14. Braille – Layout Tab



Optional VoiceOver Voice Adjustment Settings

Prior to launching the Secure Browser, you can adjust VoiceOver voice settings based on each student's individual needs. You must set the Voice Profile and Speaking Rate settings prior to administering assessments. Students should take sample tests using VoiceOver so they can determine whether these settings need to be adjusted.

1. To turn on VoiceOver, press **Command + F5**. Then press **VO + F8** to open the **VoiceOver Utility** window.
2. In the left panel, select **Speech**.
3. On the **Voices** tab, select a voice profile from the **Voice** drop-down list.
4. To adjust the voice rate, set the *Rate* field to the desired rate speed (the lower the rate, the slower the words are read aloud).

Configuring Embossing Software on TA Computers Before Testing Begins

TDS allows students to emboss test material with Test Administrator (TA) approval. The software that sends print requests to the braille embosser must be installed on computers that TAs use for test sessions.

The embossed output for student print requests depends on the file type associated with a test question. TAs must ensure that students have the Braille Type test setting prior to approving the student for testing, as this determines which file type is used for printing. There are two types of files:

- **Braille Ready Format (BRF)**: BRF file types are used for print requests containing only text (including formatted tables). The Duxbury Braille Translator software handles BRF files.
- **Printer Output File (PRN)**: PRN file types are used for print requests containing tactile or spatial components (such as images). The ViewPlus software (Tiger Viewer or Tiger Designer) handles PRN files.

Upon approving a print request, the TA sends the file to the embosser using either Duxbury or ViewPlus software. Instructions for embossing files are located in the section [Embossing Braille Print Requests for BRF and PRN Files](#).

Configuring Duxbury Braille Translator for BRF Files

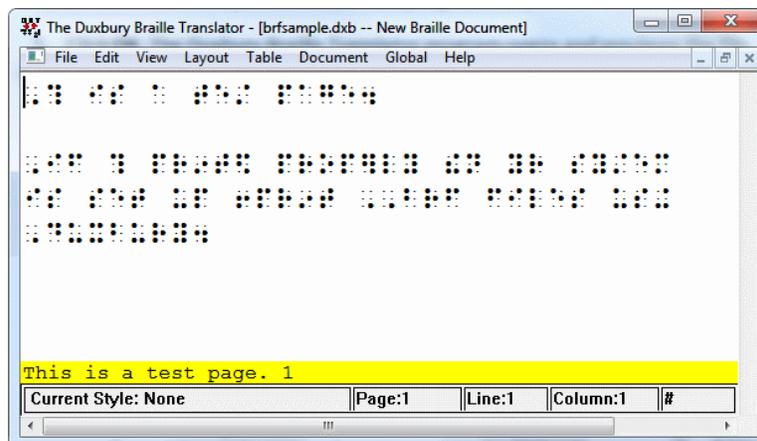
This section contains instructions for opening BRF files with Duxbury Braille Translator (DBT) and setting default embossing preferences. The DBT software must be installed before performing these steps.

1. In the TA Site, click **Help Guide** at the top of the page. The online *TA User Guide* opens.
 - a. Sample braille files can be accessed from the **Help Guide > Appendices > Sample Braille Files**.
2. Click **Sample BRF File**. The browser downloads the file.
3. Click the downloaded file and do one of the following:

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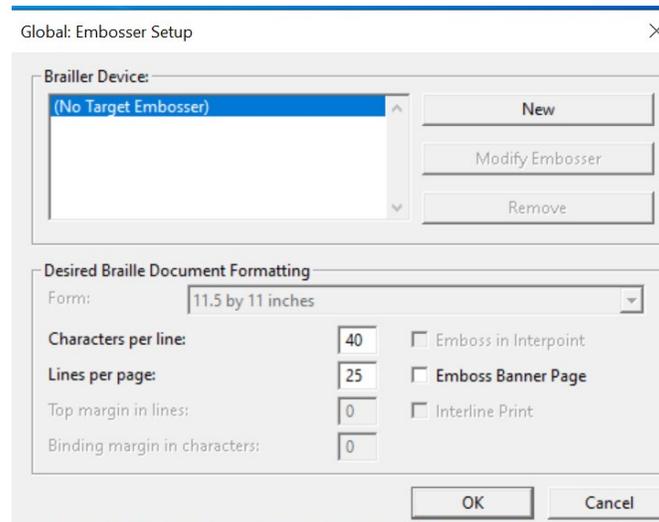
- From the **More apps** list, select **Duxbury Braille Translator**. Click **OK**. The Duxbury Braille Translator program opens and previews the file (see [Figure 15](#)).
- If the Duxbury Braille Translator is not available as a selectable program, do the following (otherwise skip to step 4):
 - i. Click **Look for another app on this PC**. The **Choose Helper Application** window opens.
 - ii. Navigate to the Duxbury folder (in the Program Files (x86) folder) and open it.
 - iii. Open the DBT folder and select **dbtw.exe**.
 - iv. Click **OK**. The Duxbury Braille Translator program opens and previews the file (see [Figure 15](#)).
 - v. If the **Import File** window appears, set the Template to English (UEB) – basic, and set the Import Filter to Formatted Braille.

Figure 15. Duxbury Braille Translator Window



4. In the **Duxbury Braille Translator** window, go to **Global > Embosser Setup**. The **Global: Embosser Setup** window appears. To add a new embosser, do the following:
 - a. Click **New**. The **Embosser Setup – Untitled Configuration** window appears.
 - b. From the **Embosser Model** drop-down list, select the required embosser type.
 - c. From the **Send to Printer** drop-down list, select the required embosser's name and click **OK**.
 - d. In the **Global: Embosser Setup** window, click **OK**.
5. In the **Duxbury Braille Translator** window, go to **Global > Embosser Setup**. The **Global: Embosser Setup** window opens (see [Figure 16](#)).

Figure 16. Global: Embosser Setup Window



6. In the **Global: Embosser Setup** window, ensure the following are selected:
 - **Braille Device: ViewPlus Max** (or whichever supported ViewPlus embosser you are using)
 - The following *Braille Document Formatting* options must be set:
 - **Emboss in Interpoint** checkbox is blank
 - *Top margin in lines:* 2
 - *Binding margin in characters:* 5
 - When you are done, click **OK**.
7. In the **Duxbury Braille Translator** window, go to **Global > Formatted Braille Importer**.
 - a. In the **Global: Formatted Braille Importer** window that appears, mark the **Read formatted Braille without interpretation** checkbox and click **OK**.
8. In the **Duxbury Braille Translator** window, go to **File > Emboss**. The **File: Emboss...** window opens.
9. In the **File: Emboss...** window, ensure that only one copy is being printed and that the page range is set to **All**.
10. Click **OK**.

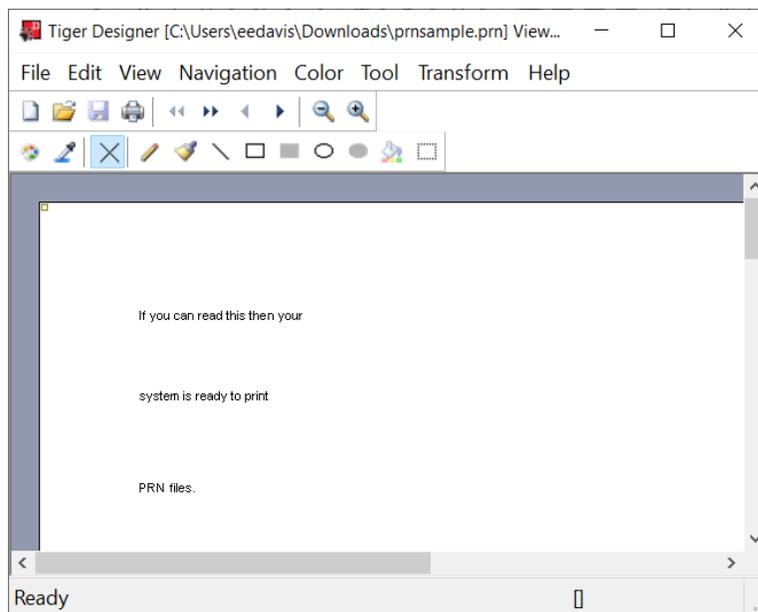
Configuring ViewPlus Tiger Designer or Tiger Viewer for PRN Files

This section contains instructions for opening PRN files with ViewPlus software and setting default application preferences.

Although you may use Tiger Viewer as the default application for opening PRN files, if you use it alongside an embosser other than the Viewplus Max, Rogue, or Premier, you may need to convert the files for your embosser type before printing. Because of this, CAI strongly recommends using Tiger Designer as the default application for embossing PRN files.

1. In the TA Site, click **Help Guide** at the top of the page. The online *TA User Guide* opens.
 - a. Sample braille files can be accessed from the **Help Guide** → **Appendices** → **Sample Braille Files**.
2. Click **Sample PRN File**. The browser downloads the file.
3. Click the downloaded file and do one of the following:
 - To set Tiger Designer as the default application (recommended):
 - From the **More apps** list, select **Tiger Designer** and click **OK**. The Tiger Designer program opens and previews the file (see [Figure 17](#)).
 - If Tiger Designer is not available as a selectable program, click **Look for another app on this PC** and select Tiger Designer from the folder where it is installed on your computer.
 - To set Tiger Viewer as the default application:
 - From the **More apps** list, select **Tiger Viewer** and click **OK**. The Tiger Viewer program opens and previews the file.
 - If Tiger Viewer is not available as a selectable program, click **Look for another app on this PC** and select Tiger Viewer from the folder where it is installed on your computer.

Figure 17. Tiger Designer Window



4. Go to **File > Print**. The **Print** window opens.
5. Ensure that the printer is set to **ViewPlus Max** (or whichever supported ViewPlus embosser you are using) and that only one copy is being printed.
6. Click **Print**.
 - If you experience any issues embossing, refer to the section [Converting PRN Files in Tiger Designer for Embossing](#) or contact the Help Desk.

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 sample and operational tests.

For more detailed instructions about starting test sessions, see the *Test Administrator User Guide*.

1. To administer braille tests, the TA logs in to the appropriate TA Site and starts a test session.
2. The TA opens the screen readers 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 a screen reader, 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 Request* is set to the appropriate option for the selected test.
 - *Braille Type* is set to the student's preferred braille option. Students may choose from the following options, depending on the test:
 - UEB Uncontracted with Nemeth Math
 - UEB Contracted with Nemeth Math
 - *Emboss Request Type* is set to **Auto-Request** or **On-Request**, depending on the rules for the selected test.
 - *Mute System Volume* is set to the appropriate option for the student and the screen reader that the student is using. This setting prevents JAWS from reading aloud passages on ELA tests.
 - This setting is available only for JAWS screen readers, which is why JAWS is the only screen reading software supported for ELA tests with reading passages without a documented accommodation in the student's IEP.
 - *Audio Transcriptions* is set to the appropriate option for the student. When this tool is enabled, any audio content in the test will have an associated transcript in the global menu that can be read by the student's RBD.
 - *Permissive Mode* is turned on. This setting must be enabled in order for students to use the keyboard commands associated with their screen reader.
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 are sent to the TA Site, either automatically or manually, depending on the test settings. You 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 software, 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.

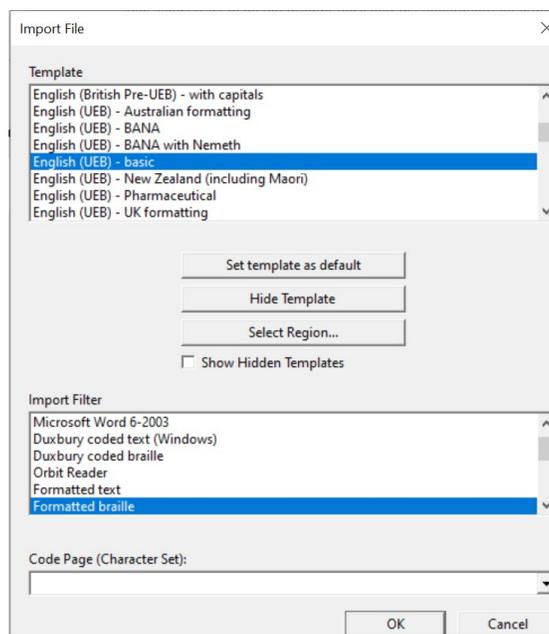
For tips and troubleshooting advice for embossing braille files, see [Appendix A](#).

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](#).

1. 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 18](#)). If not, launch Duxbury Braille Translator and then select **File > Open** to select the downloaded BRF file.

Figure 18. Import File Window



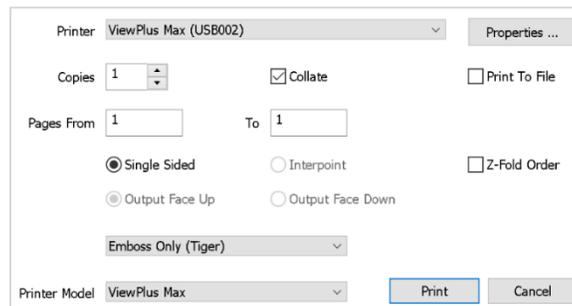
2. Ensure that the following settings are selected:
 - Template: **English (UEB) – basic**
 - Import Filter: **Formatted braille**
3. Click **OK**. The **Duxbury Braille Translator** preview window opens (see [Figure 15](#)).
4. Go to **File > Emboss**. The **File: Emboss** window opens.
5. Ensure that 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](#).

- 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.
 - 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.
- 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 19. Tiger Designer Print Window

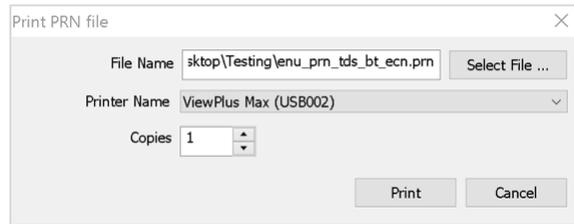


Sending PRN Files to the Embosser with Tiger Viewer

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](#).

- 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.
 - 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.
- 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 20. Print PRN File Window



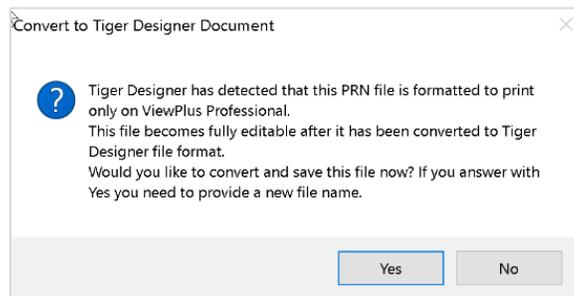
- If the option to **Print** is grayed out, you will need to [convert the file in Tiger Designer](#).

Converting PRN Files in Tiger Designer for Embossing

If you are using an embosser other than VP Max or Rogue, 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 Help Desk.

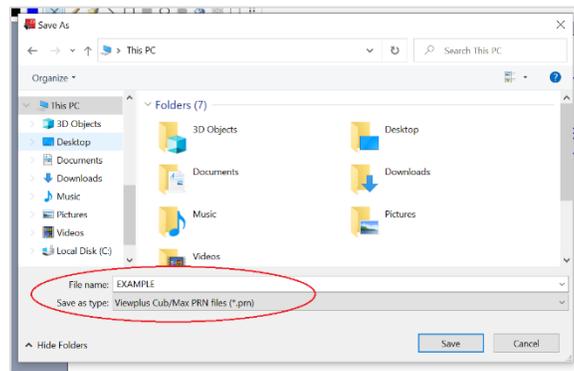
1. Launch Tiger Designer.
2. Go to **File > Open**. Then select the file that is not embossing properly and click **Open**.
 - a. You may need to use the drop-down above the **Open** button to change the file type to **Tiger PRN files (*.prn)** before you open it.
3. Some improperly formatted PRN types will trigger the message shown in [Figure 21](#).

Figure 21. 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 Columbia & Delta PRN/APH PixBlaster PRN files (*.prn) from the **Save as Type** drop-down (see [Figure 22](#)).

Figure 22. 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 top-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 top-right corner. Files saved to your computer are not deleted.

To remove files in Edge:

1. Click 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. The actions associated with each JAWS keyboard command depend on the context in which the student 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.

Use *Forms Mode* to navigate within an element, such as a listbox which allows multi-selection of options in the list. *Forms Mode* should either be activated automatically when focus is brought to that element using **Tab** or by pressing **Enter** on the element. The arrow keys should then be used. To exit *Forms Mode*, press **Esc** or **NUM PAD PLUS** and use the arrow keys. This allows a page to be read in detail, including plain text such as test questions.

[Table 11](#) provides an overview of how to use JAWS keyboard commands in each context. For students to use these keyboard commands, Permissive Mode must be enabled in TDS.

Caution: If JAWS enters Forms Mode, these keyboard commands may not work. In order to exit Forms Mode, press **NUM PAD PLUS** or **Esc**.

Table 11. Overview of JAWS Keyboard Commands in the Student Testing Site

Key	Action
Navigating the Sign-In Pages with JAWS Keyboard Commands	
JAWS modifier key + F10	Returns the focus to the Secure Browser if the student navigates to the JAWS application window while signing in
Space + S (Perkins Braille keyboard)	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

Key	Action
Up Arrow	Reads the previous line on the page
Enter	Selects the button that is currently in focus
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

Key	Action
Shift + Tab	Moves to the previous component on the page.
Enter	Selects a button or response option or opens a context menu.
Down Arrow	Moves to the next line on the page.
Up Arrow	Moves to the previous line on the page.
JAWS modifier key + 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. • 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.

Key	Action
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.
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>.

Navigating the Student Testing Site with VoiceOver

VoiceOver allows students to navigate tests using keyboard commands. Some of these commands refer to the **VO** key. For more information about the **VO** key, see [Using the VO Key for VoiceOver Commands](#).

Key	Action
Navigating the Sign-In Pages with VoiceOver Keyboard Commands	
<ul style="list-style-type: none"> VO + F1 (x2) (Standard keyboard) Space + S (Perkins Braille keyboard) 	<p>Returns the focus to the Secure Browser if the student navigates to the VoiceOver application window while signing in.</p> <p>Keyboard layouts may vary by device. Please refer to the manual provided by the device manufacturer for more information.</p>
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.

Key	Action
VO + Shift + Down Arrow	Moves focus to interact with web content/elements.
VO + Shift + Up Arrow	Stops interacting with web content/elements.
VO + Right Arrow	Reads the next line/item on the page.
VO + Left Arrow	Reads the previous line/item on the page.
Navigating Test Pages with VoiceOver Quick Nav Keyboard Commands	
C	For hot text items, navigates to the next checkbox on the page.
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 VO + Right Arrow. The question prompt is read aloud.</p>
C or Shift + C	For hot text items, navigates to previous checkbox on the page.
H or Shift + H	Jumps to the previous heading on the page.
B	Moves to next button on the page.
B or Shift + B	Moves to previous button on the page.
J	For multiple choice items, navigates to next answer choice.
J or Shift + J	For multiple choice items, navigates to the previous answer choice.
F	<p>For equation items and text response items, navigates to the next text entry field.</p> <p>This command does not apply to text entry fields that have a formatting toolbar.</p>
F or Shift + F	<p>For equation items and text response items, navigates to the previous text entry field.</p> <p>This command does not apply to text entry fields that have a formatting toolbar.</p>
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 numbers (and associated prompt text) • Context menus • Response options

Key	Action
Shift + Tab	Moves to the previous component on the page.
Return	<ul style="list-style-type: none"> • Selects response option. • Opens a context menu or list item.
VO + Right Arrow	Moves to the next line on the page.
VO + Left Arrow	Moves to the previous line on the page.
VO + A	Reads everything on the page (from the current point of focus).
VO + B	Reads everything from the top of page to the current point of focus.
VO + U	Opens Rotor used to interact with objects in web area.
Ctrl	Stops VoiceOver from reading.
Opening and Using Context Menus with VoiceOver Keyboard Commands	
Return	Pressing Return when VoiceOver reads “Menu button” will open the context menu. This is the one of two ways to open the context menu when streamlined mode is turned on. Menus can also be opened using VO + Space .
Down Arrow	Moves the focus to the next option in the menu. VoiceOver will read this option aloud.
Up Arrow	Moves the focus to the previous option in the menu. VoiceOver 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 VoiceOver Keyboard Commands	
Tab	<ul style="list-style-type: none"> • Students can use the Tab key to navigate to the item prompt, which VoiceOver will read aloud. • After VoiceOver 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 checkbox, 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	For edit task choice items, pressing the arrow keys moves the focus between each line of text in the item. After users open an edit task menu by pressing Space , the arrow keys can be used to move between the answer options in the list.

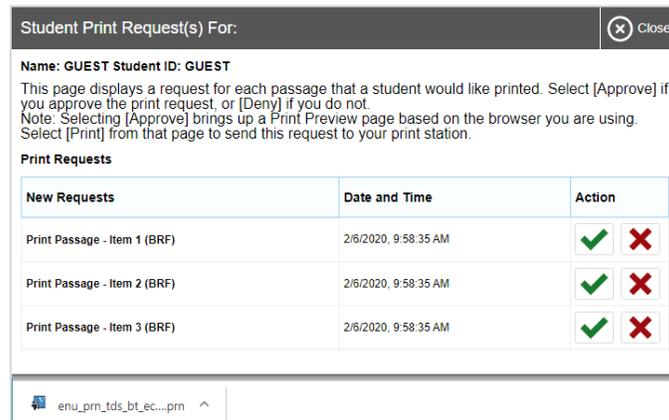
Key	Action
VO + Space or Return	<ul style="list-style-type: none"> • For multiple choice and multi-select items, pressing either command will select the answer option in focus. • For table match items, pressing either command will mark the checkbox in focus. • For hot text items, pressing either command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

Appendix A. Tips for Embossing Braille Files

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

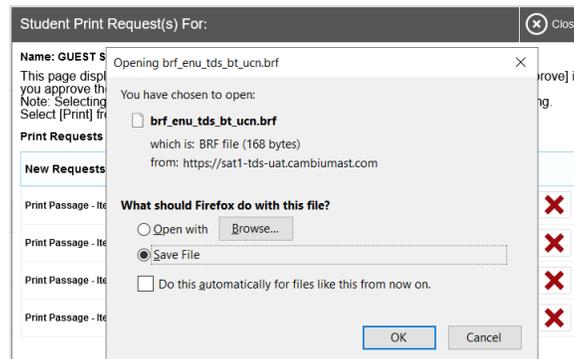
- The auto-emboss setting in TDS automatically queues multiple print requests in advance as students progress through a test. If a student testing with auto-emboss pauses their test before you print all their queued requests, then when the student resumes testing, they must send manual print requests 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 Chrome users:* The browser displays the downloaded file at the bottom of the screen (see [Figure 23](#)).

Figure 23. 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 24](#)).

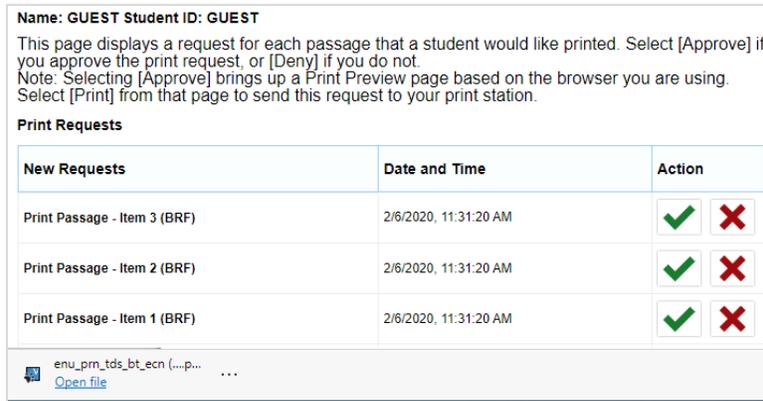
Figure 24. Downloading Braille Files in Firefox



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- 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:* The browser shows the downloaded file in the bottom left corner of the screen (see [Figure 25](#)).

Figure 25. 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 26](#) 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 26. 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"/>

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- 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 OSAS Helpdesk.

OSAS Helpdesk
Toll-Free Phone Support: 1.866.509.6257
Email Support: osashelpdesk@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

Change Log

Change	Date
Added step about confirming configuration settings in the Secure Browser to the Configuring JAWS to Recognize the Secure Browser section.	10/31/23
Removed the JAWS Unified Keyboard Settings section.	10/31/23
Updated Responding to Items with JAWS Keyboard Commands > Tab row	10/31/23
Removed Secure Browser 12.5 and 15.5; replaced with 16	10/31/23
Removed macOS10.15 (deprecated)	10/31/23
Updated available JAWs versions	10/31/23
Removed all references to Windows 8.1 and Server 2012 R2 support	10/31/23
Removed Mac Built-in-Dictation	10/31/23
Indicated updated support for Secure Browser 16.5 and macOS 14	12/18/23
Added note about TTS in Russian and Mandarin TTS not being supported on Chromebooks	3/6/24
Added information on native magnifier support for iPad OS and Chrome OS. Added context for native screen magnifier tools.	3/20/24