

Assistive Technology Manual

2020–2021

Published September 23, 2020

Prepared by Cambium Assessment, Inc.



Table of Contents

Overview of Testing with Assistive Technology	1
Using Permissive Mode with Assistive Technology	2
How to Use Assistive Technology with Permissive Mode	2
Speech-to-Text Technology	4
Configuring Speech-to-Text Applications	5
Dragon Naturally Speaking 15 Home or Professional Individual for Windows.....	5
Setting Up User Profiles for Students	7
Windows Speech Recognition	7
WordQ+SpeakQ.....	7
Read & Write (Windows)	8
Mac Enhanced Dictation.....	8
iOS Dictation	8
Predictive Text Technology	10
WordQ5.....	10
Read & Write (Windows & OSX)	11
Alternative Computer Input Technology	12
Configuring PCEye Mini with Windows Control on Student Devices.....	12
Configuring Dwell Clicker 2	13
Configuring HeadMouse Nano	13
Configuring HeadMouse Nano for OSX.....	13
Configuring Swifty: SW2.....	13
Assistive Keyboard and Mouse Input Technology	14
Screen Magnifier Technology	15
Text-to-Speech	16
Voice Pack Selection on Mobile Versions of Secure Browsers.....	16
Text-to-Speech and Mobile Devices.....	16
Screen Reader Assistive Technology	18
Specifications for Test Administrators Using Screen Readers.....	18
Configuring JAWS Screen Readers on Student Computers Before Testing Begins	18
Configuring JAWS to Recognize the Secure Browser.....	19
Configuring JAWS to Speak “Dollars”	20

JAWS Unified Keyboard Settings	20
Optional JAWS Voice Adjustment Settings.....	21
Administering Screen Reader Tests.....	22
Setting Up Screen Reader Test Sessions.....	22
Navigating the Student Testing Site with JAWS.....	22
User Support	26

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 special 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 tool. These tools can be accessed without third-party software or hardware and do not require Permissive Mode to be turned on in TDS.
- Non-embedded assistive technology tools are the third-party hardware and accessibility 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.

Students who use assistive technologies to interact with a standard web browser should be able to use those same technologies with TDS, unless they are web-based applications or browser extensions. Students should be familiar with assistive technology and accessibility features prior to testing and should have the opportunity to select, practice and use those features in instruction before test day. The best way to test compatibility with assistive technologies is to take a practice test in the Secure Browser with those technologies turned on. If they do not work, refer to the additional configuration instructions in this manual as required. If you still have questions about the assistive technology tools covered in this guide, please contact the Ohio Help Desk.

For additional information on the Test Delivery System, see the [Test Administrator User Guide](#).

The guide includes the following sections:

- [Speech-to-Text Technology](#)
- [Predictive Text Technology](#)
- [Alternative Computer Input Technology](#)
- [Assistive Keyboard and Mouse Input Technology](#)
- [Screen Magnifier Technology](#)
- [Text-to-Speech](#)
- [Screen Reader Assistive Technology](#)

Using Permissive Mode with Assistive Technology

Permissive Mode is a TDS accommodation 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. Permissive Mode must be assigned to students in TIDE before they begin testing.

Permissive mode is available and turned on for all Alternate Assessment (AASCD) tests. For all other Ohio Assessments, after confirming the assistive technology works in the practice test site when administered through the Secure Browser, the district test coordinator must contact the Ohio Help Desk to request permissive mode be turned on. The request must be submitted **72 hours prior to the student testing**.

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

When Permissive Mode is turned on, standard keyboard commands in the Secure Browser will be disabled in order to accommodate any potential keyboard commands associated with the assistive technology the student may be using. For information about standard keyboard commands in the Secure Browser, see the [Test Administrator User Guide](#).

How to Use Assistive Technology with Permissive Mode

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.

1. Open the required accessibility software.
2. Open the Secure Browser. Begin the normal sign-in process up to the proctor approval step.
3. When a student is approved for testing, the Secure Browser allows the operating system's menu and task bar to appear.
 - **Windows:** On Windows, the Secure Browser resizes, and the taskbar remains visible inside the test in its usual position. Students can press **Alt+Tab** to switch between the Secure Browser and accessibility applications that they are permitted to use in their test session.
 - **Mac:** On MacOS, the Secure Browser resizes, and students can view the dock in its usual position inside the test. If the dock is set to autohide, no resizing occurs, and the dock is only visible when the mouse moves toward the bottom of screen. Students can press **Cmd+Tab** to switch between the Secure Browser and permitted accessibility applications.
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.

Assistive Technology Manual

- **Mac:** Click the accessibility software application in the dock.
5. The student configures the accessibility software settings as needed.
 6. After configuring the accessibility software settings, the student returns to the Secure Browser and continues the sign-in process. At this point, the student can no longer switch back to the accessibility software. If changes need to be made, the student must sign out and then sign in again.

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

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 accommodations may use STT assistive technology while taking tests. Several non-embedded third party STT tools are supported by TDS. Table 1 provides a list of third-party STT applications that can be used in TDS. Students using speech-to-text technology will need to use a headset, with microphone, while testing. Any wired headset with a 3.5 mm or USB connection should be compatible. An external microphone can be used in place of a headset.

Table 1. Third-Party STT Applications

Product	System Requirements	Additional Details
Dragon Naturally Speaking—Windows <ul style="list-style-type: none"> • Supported Versions: 15 Professional 	<ul style="list-style-type: none"> • Windows 8.1, 10; Server 2008 R2, 2012 R2 	<ul style="list-style-type: none"> • Requires additional setup before use in TDS (see configuration instructions) • TDS cannot confirm appropriate configurations are in use during testing, so students may be able to access prohibited features.
Windows built-in Speech Recognition <ul style="list-style-type: none"> • Supported Versions: 8.0 	<ul style="list-style-type: none"> • Windows 8, 8.1, 10; Server 2012 R2, 2016 R2 	<ul style="list-style-type: none"> • Requires additional setup before use in TDS (see configuration instructions) • TDS cannot confirm appropriate configurations are in use during testing, so students may be able to access prohibited features. • Requires state approval to be removed from the forbidden applications list in the Secure Browser.
WordQ+SpeakQ <ul style="list-style-type: none"> • Supported Versions: 5.1.20 	<ul style="list-style-type: none"> • Windows 8, 10; Server 2012 R2, 2016 R2 	<ul style="list-style-type: none"> • Requires additional setup before use in TDS (see configuration instructions) <p>Exam Mode must be enabled before students begin testing.</p> <ul style="list-style-type: none"> • This tool also includes a text prediction feature that cannot be disabled. • This tool cannot read some math characters and table content.

Product	System Requirements	Additional Details
Read&Write—Windows <ul style="list-style-type: none"> • Supported Versions: 12.0.45 	<ul style="list-style-type: none"> • Windows 8, 8.1, 10; Server 2012 R2, 2016 R2 	<ul style="list-style-type: none"> • Exam Mode must be enabled before students begin testing (this mode is not available on Read&Write for Mac). • Also includes text prediction features that students may use if they have the proper accommodations.
Mac built-in Enhanced Dictation	<ul style="list-style-type: none"> • Mac 10.11–10.15 	<ul style="list-style-type: none"> • Requires additional setup before use in TDS (see configuration instructions)
iOS built-in Dictation <ul style="list-style-type: none"> • Supported Versions: iOS 12.2, 12.3, 12.4, 13.2 	<ul style="list-style-type: none"> • iOS 12.2, 12.3, 12.4, 13.2 	<ul style="list-style-type: none"> • Cannot be used with the Secure Browser. <p>Students must dictate into a secondary iPad set in Airplane Mode and the proctor enters the student's response into testing device.</p>

Configuring Speech-to-Text Applications

Some applications listed in Table 1 require additional configuration to prepare for 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.

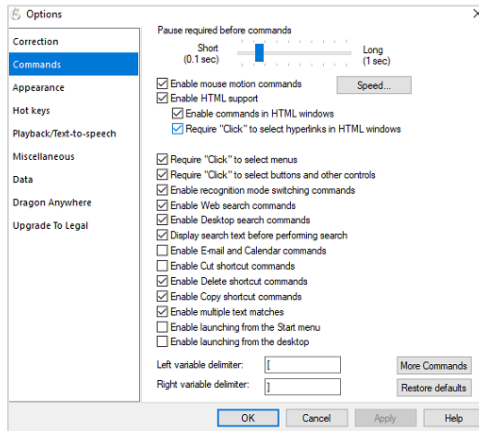
After you configure an application, CAI strongly recommends testing that application on a practice test administered through the Secure Browser prior to using it for operational testing.

Dragon Naturally Speaking 15 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 list on the DragonBar.

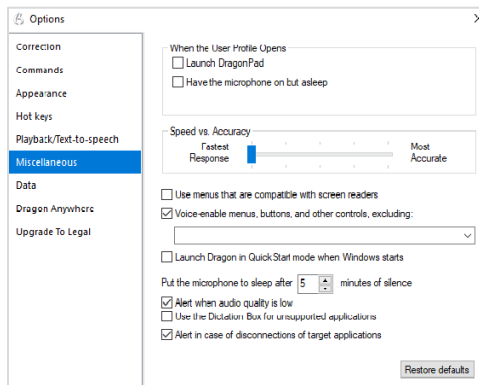
- From the **Commands** tab, uncheck the following settings:
 - **Enable launching from the Start Menu**
 - **Enable launching from the desktop**
 - **Enable E-Mail and Calendar commands**
 - **Enable Cut shortcut commands**

Figure 1. Dragon Commands Tab



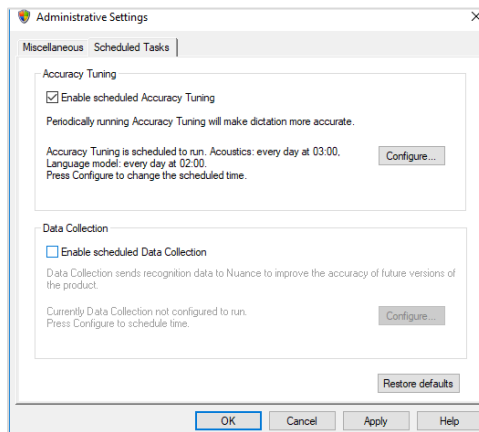
- From the **Miscellaneous** tab, uncheck **Use Dictation Box for unsupported application**.

Figure 2. Dragon Miscellaneous Tab



- From the **Scheduled Tasks** tab in Administrative Settings, uncheck **Enable scheduled Data Collection**.

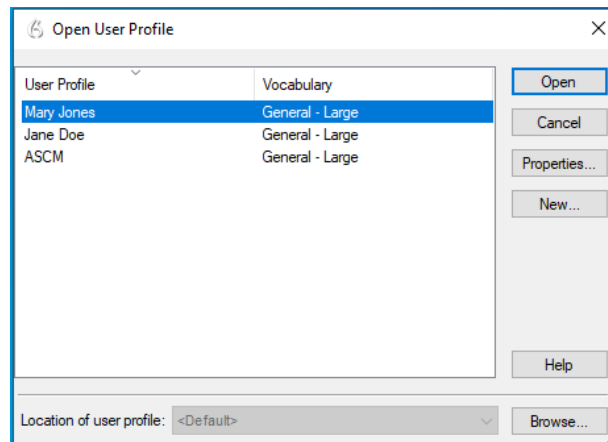
Figure 3. Admin Settings Schedule Tasks Tab



Setting Up User Profiles for Students

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 Profiles



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**.

WordQ+SpeakQ

To minimize security risks, WordQ+SpeakQ 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 and restrict the **Word usage examples** and **Single words added by the user including topic words** features. You can also set the Exam Mode time limit at the bottom of the window.

Read & Write (Windows)

Read and Write has an Exam Mode that can be used to turn off features for a single student on their particular 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 and click on the settings button in the upper-right corner and then click **Show more settings**. In the *Find a Setting* field, type *adminsettings*. You will be asked to enter and confirm a password to grant access on this computer. When logged into 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.

Mac Enhanced Dictation

Mac workstations that will be used for dictation should be opted out of Apple's Diagnostic and Usage program so that no secure test data is stored on the device for analysis. Macs can be opted out of this program by disabling Analytics through the Mac's security and privacy settings.

When you enable Enhanced Dictation on a testing device, you must also enable a language and keyboard shortcut through the device's keyboard settings. Once Enhanced Dictation is enabled, the device must be connected to the internet to download the offline models that allow speech to be transcribed without sending it to the cloud for processing.

iOS Dictation

Due to the way iPads are secured for high stakes assessments, there is currently no third-party application that can provide STT. However, students who need STT can dictate into the built-in dictation application on a secondary iPad and a proctor or test administrator can then enter the student's response verbatim into the testing device following transcribing procedures.

The secondary iPad must be a 5th or 6th Generation iPad or iPad Pro running at least iOS 11.4. It must be placed in Airplane Mode so that no secure test data is transmitted to the cloud for processing. Also, it must be opted out of Apple's Diagnostic and Usage program so that no secure test data is stored on the device for analysis.

Dictation can be enabled through the iPad's keyboard settings. Airplane Mode can be enabled through the iPad's main settings. iPads can be opted out of Apple's Diagnostic and Usage program by disabling Analytics through the iPad's privacy settings.

Prior to testing day, the secondary iPad must be connected to the Internet once to download the offline models that allow speech to be transcribed offline. This is done automatically once dictation is enabled and the device is connected to the Internet. No manual download is necessary. After the device is connected to the Internet once, CAI recommends users test offline dictation by enabling Airplane Mode and dictating into the Notes app or another similar app on the iPad. If it works, you are ready for testing day. If it does not work, disable Airplane Mode and reconnect the iPad to the Internet to finish downloading the offline STT models.

Assistive Technology Manual

On testing day, enable Airplane Mode on the secondary iPad and allow the student to dictate their responses into it. A proctor or test administrator must then enter the responses verbatim into the student's testing device following guidelines in [Ohio's Accessibility Manual](#).

After testing is completed, be sure to delete any secure test data on the secondary iPad; failure to do so is a security violation.

Predictive Text Technology

Predictive text assistive technology suggests words to students as they type responses for test items. TDS does not include any embedded predictive text tools, but it supports several third-party tools that use predictive text technology.

Table 2 provides the technology requirements for students testing with predictive text assistive technology.

Table 2. Third-Party Predictive Text Applications

Product	System Requirements	Additional Details
Co:Writer Universal (Windows & OSX) <ul style="list-style-type: none"> Supported Versions: 1.0.0 	<ul style="list-style-type: none"> Windows 8, 8.1, 10; Server 2012 R2, 2016 R2 Mac 10.11–10.15 	<ul style="list-style-type: none"> TDS cannot confirm appropriate configurations are in use during exam, so students may be able to access prohibited features. Includes text prediction features Requires users to enter numbers from an on-screen keypad. The OSX version cannot be opened or minimized with keyboard commands.
WordQ5 <ul style="list-style-type: none"> Supported Versions: 5.0.40 	<ul style="list-style-type: none"> Windows 8, 8.1, 10; Server 2012 R2, 2016 R2 	<ul style="list-style-type: none"> Requires additional setup before use in TDS (see configuration information) <p>Exam Mode must be enabled before students begin testing.</p>
Read&Write for Windows & Mac <ul style="list-style-type: none"> Supported Versions: 7.1 	<ul style="list-style-type: none"> Windows 8, 8.1, 10; Server 2012 R2, 2016 R2 Mac 10.11–10.15 	<ul style="list-style-type: none"> TDS cannot confirm appropriate configurations are in use during exam, so students may be able to access prohibited features. The Windows version also includes speech-to-text functionality that students may use if they have the proper accommodations.

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 pop-up 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.

Read & Write (Windows & OSX)

Read & Write has an Exam Mode that can be used to turn off features for a single student on their particular testing device. When Exam Mode is enabled, the student will have access to only the selected features on the toolbar. For students requiring predictive text, Predictive Text should be enabled. Read & Write for Windows also includes text-to-speech and speech-to-text (talk & type) features, which should be enabled only for students with the proper accommodation settings.

To use Exam Mode, run Read & Write and click on the settings button in the upper-right corner, then click **Show more settings**. In the *Find a Setting* field, type *adminsettings*. You will be asked to enter and confirm a password to grant access on this computer. This username and password is associated to 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.

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 out in a practice test administered through the Secure Browser first to ensure it performs as expected.

Table 3. Third-Party ACI Devices

Product	System Requirements	Additional Details
PCEye Mini with Windows Control	<ul style="list-style-type: none"> Windows 8.1, 10 	<ul style="list-style-type: none"> Requires additional setup before use in TDS (see configuration instructions)
Dwell Clicker 2 <ul style="list-style-type: none"> Supported Versions: 2.0.40 	<ul style="list-style-type: none"> Windows 8, 10; Server 2012 R2, 2016 R2 	<ul style="list-style-type: none"> Requires additional setup before use in TDS (see configuration instructions)
HeadMouse Nano	<ul style="list-style-type: none"> Windows 8, 8.1, 10; Server 2012 R2, 2016 R2 Mac 10.11–10.15 	<ul style="list-style-type: none"> Requires additional setup before use in TDS (see configuration instructions)
Access Switch	<ul style="list-style-type: none"> Windows 8, 8.1, 10; Server 2012 R2, 2016 R2 Mac 10.11–10.15 	<ul style="list-style-type: none"> N/A
Swifty <ul style="list-style-type: none"> Supported Versions: SW2 	<ul style="list-style-type: none"> Windows 8, 8.1, 10; Server 2012 R2, 2016 R2 Mac 10.11–10.15 	<ul style="list-style-type: none"> Requires additional setup before use in TDS (see configuration instructions)

Configuring PCEye Mini with Windows Control on Student Devices

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

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

Configuring Dwell Clicker 2

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

Configuring HeadMouse Nano

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

Configuring HeadMouse Nano for OSX

The HeadMouse Nano on 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 not marked:

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

Configuring Swifty: SW2

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

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

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 4 provides a list of third-party assistive keyboard and mouse input tools 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 assistive keyboards and mouse input tools that have not been tested yet. If your students need to use input technology not listed here, please test it out in a practice test administered through the Secure Browser first to ensure there are no issues with it.

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

Table 4. Third-Party Assistive Keyboard and Mouse Input Technology

Product	System Requirements	Additional Details
Keys-U-See Keyboard	<ul style="list-style-type: none"> Windows 8, 10; Server 2012 R2, 2016 R2 	N/A
BigKeys Keyboard <ul style="list-style-type: none"> Supported Versions: Plus, XL 	<ul style="list-style-type: none"> Windows 8, 8.1, 10; Server 2012 R2, 2016 R2 Mac 10.11–10.15 	N/A
BigTrack2 Trackball	<ul style="list-style-type: none"> Windows 8, 8.1, 10; Server 2012 R2, 2016 R2 Mac 10.11–10.15 	N/A

Screen Magnifier Technology

Screen magnifier assistive technology enlarges the content displayed on the computer screen 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.

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

- 1X
- 1.5X
- 1.75X
- 2.5X
- 3X

Table 5 provides a list of third-party screen magnifier tools that can be used in TDS. The non-embedded screen magnifier tools listed below come with an increased risk of interoperability issues, require students to manually pan the magnification tool across the screen, and can include unwanted features that should not be used while testing.

Table 5. Third-Party Screen Magnifier Applications

Product	System Requirements	Additional Details
ZoomText Magnifier <ul style="list-style-type: none"> • Supported Versions: 2019.1904.80, 2020 	<ul style="list-style-type: none"> • Windows 8.1, 10; 2012 R2, 2016 R2 	<ul style="list-style-type: none"> • ZoomText includes a SpeakIt text-to-speech tool that could be used to read aloud passages. Students testing with ZoomText should use the magnification features only. It is recommended that students requiring text-to-speech support use the Secure Browser's embedded TTS tools, and that students requiring screen readers use JAWS or Fusion.
Fusion Professional (combines JAWS screen reader with zoom text) <ul style="list-style-type: none"> • Supported Versions: 2019, 2020 	<ul style="list-style-type: none"> • Windows 8.1, 10; 2012 R2, 2016 R2 	<ul style="list-style-type: none"> • Requires additional setup before use with TDS (see configuration instructions for JAWS).
Magic Magnifier (with optional text-to-speech) <ul style="list-style-type: none"> • Supported Versions: 14.0.1512 	<ul style="list-style-type: none"> • Windows 8.1, 10; 2012 R2, 2016 R2 	<ul style="list-style-type: none"> • TDS cannot confirm appropriate configurations are in use during testing, so students may be able to access prohibited features.

Text-to-Speech

Text-to-Speech (TTS) tools read aloud text that appears on the screen for students who are unable to access printed text. TTS is also required for the alternate assessment. TDS includes embedded TTS tools that can be turned on for students, if not turned on by default for a certain test, with the appropriate accommodation settings (either in TIDE or from the TA Interface). In order for students to test with TTS tools, a supported voice pack will need to be installed on their device before testing begins. Students testing with TTS should also have a supported headset or headphones if not testing in a one-on-one setting.

TTS is available on all operating systems supported by TDS (for a full list of supported operating systems, see the [Quick Guide for Setting up Your Online Testing Technology](#)). However, text-to-speech tracking does not function correctly on Linux OS. If students require the use of this accommodation (TTS with tracking), they must use a different operating system than Linux OS.

Table 6 lists the voice packs supported for students testing with TTS. If students need to use a voice pack not listed in this table, you should test it out in a practice test to ensure there are no issues. Students using text-to-speech for the practice tests must log in using a supported Secure Browser or a supported Chrome, Firefox, or Edge browser. Students can also verify that text-to-speech works on their computers by logging in to a practice test session and selecting a test for which text-to-speech is available.

Table 6. Technology Requirements for Students Testing with TTS

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

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

Voice Pack Selection on Mobile Versions of Secure Browsers

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.

Text-to-Speech and Mobile Devices

Text-to-speech (TTS) in Windows, Mac, and iPads includes a feature that allows students to pause and then resume TTS in the middle of a passage. On Chromebooks, however, students should highlight the

Assistive Technology Manual

desired text to be read as the pause feature does not allow students to pause and resume the reading again.

Screen Reader Assistive Technology

Table 7 provides a list of supported screen reader software that students can use in TDS.

Table 7. Screen Readers Supported for Student Computers

Screen Reader	System Requirements	Additional Details
JAWS–Professional <ul style="list-style-type: none"> Supported Versions: 18, 2018, 2019, 2020 	<ul style="list-style-type: none"> Operating Systems: Windows 8, 8.1, 10 Minimum Requirements: 1.5 GHz Processor, 2 GB RAM (for 32-bit), 4 GB RAM (for 64-bit) 	<ul style="list-style-type: none"> Requires additional setup before use with TDS (see configuration instructions) Screen Reader Mode student setting must be set to On.
Fusion Professional <ul style="list-style-type: none"> Supported Versions: 2019, 2020 	<ul style="list-style-type: none"> Operating Systems: Windows 8, 8.1, 10 Minimum Requirements: 2.0 GHz i3 dual core processor, 4 GB RAM 	<ul style="list-style-type: none"> Requires additional setup before use with TDS (see configuration instructions for JAWS) Screen Reader Mode student setting must be set to On.
Windows Narrator <ul style="list-style-type: none"> Supported Versions: Windows 10 Version 1809, 1903 	<ul style="list-style-type: none"> Windows 10 	N/A
NVDA <ul style="list-style-type: none"> Supported Versions: 2019–2020.2 	<ul style="list-style-type: none"> Windows 8.1, 10; 2012 R2, 2016 R2 	N/A

Specifications for Test Administrators Using Screen Readers

If a test administrator requires the use of a screen reader (JAWS, NVDA) to set up or administer test sessions in the TA Interface, 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. Optional voice adjustments in JAWS can also be made from the **Options>Voices>Voice Adjustment** window in JAWS. To ensure JAWS is properly configured, students should take practice tests administered with the Secure Browser and using JAWS before taking operational tests.

The configuration instructions in this section apply to JAWS 2018, JAWS 2019, and JAWS 2020 as well as Fusion Professional.

Configuring JAWS to Recognize the Secure Browser

You must edit the JAWS configuration file so that the software recognizes the Secure Browser. The examples below are for JAWS 2018 installed to the default location. If your version is installed to a different location, navigate to the appropriate directory.

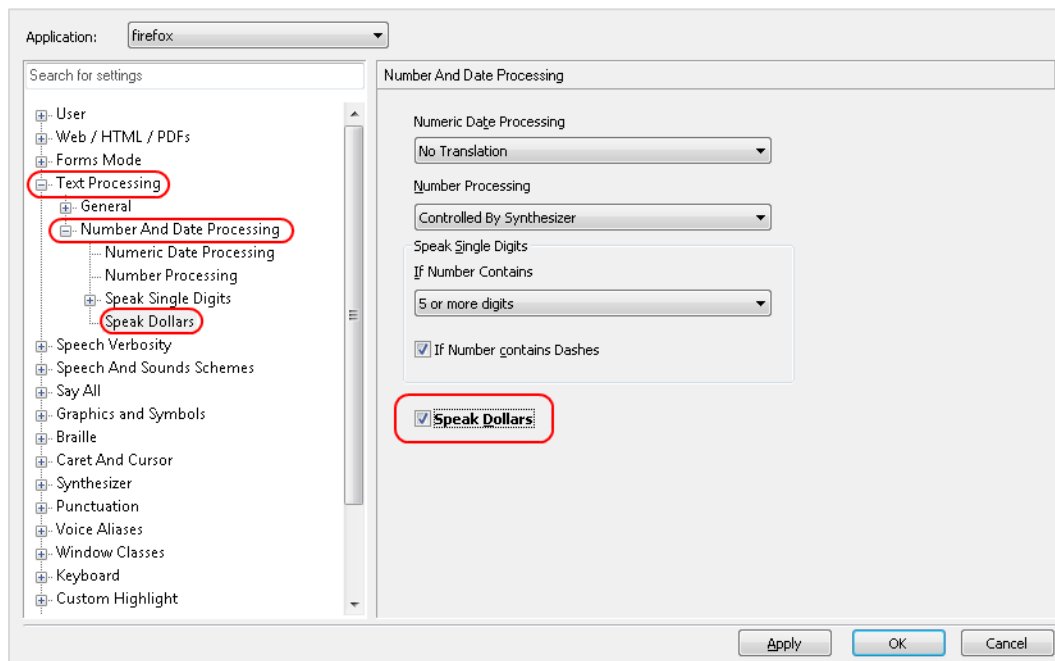
1. To modify the configuration file, open the JAWS ConfigNames.ini file. This file may appear in two folders. Depending on how JAWS is installed on your computer, you may need to modify both files:
 - Required: Start > All Programs > JAWS 2018 > Explore JAWS > Explore Shared Settings
 - Optional: Start > All Programs > JAWS 2018 > Explore JAWS > Explore My Settings
2. In the ConfigNames.ini file, locate the line of text containing **firefox:3=firefox**. At the end of this line, press **Enter** and type **OHSecureBrowser=firefox**
3. 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](#).

Configuring JAWS to Speak “Dollars”

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

1. Open JAWS and go to **Utilities > Settings Center**. The **Settings Center** window opens.
2. In the *Search for settings* panel on the left, expand the *Text Processing* settings and *Number And Date Processing* sub-settings. Click **Speak Dollars**. The **Settings Center** window displays the *Number And Date Processing* options (see [Figure 7](#)).

Figure 5. Number and Date Processing



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

JAWS Unified Keyboard Settings

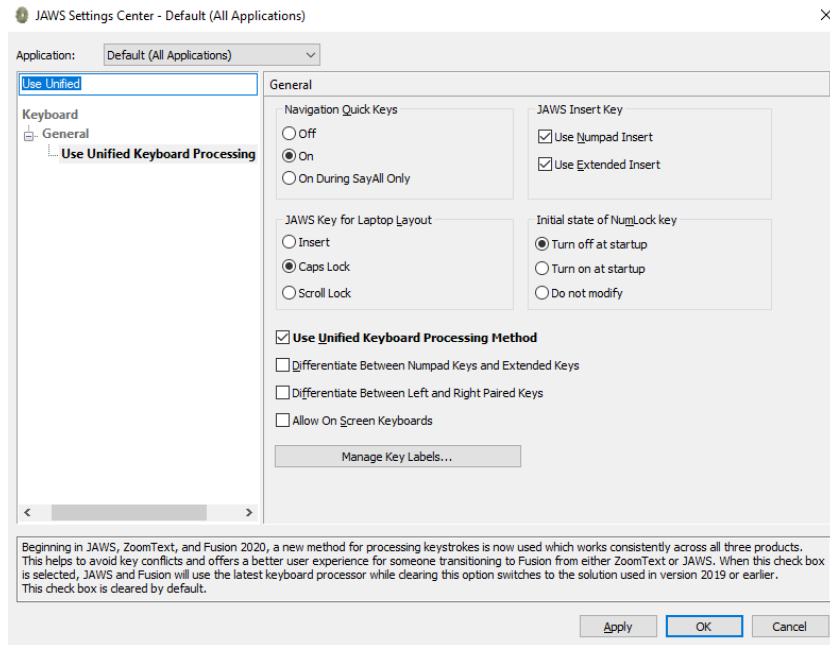
JAWS 2020 includes a unified keyboard setting that allows students to use **Alt+Tab** to return to the Secure Browser when Permissive Mode is turned on. If students are using JAWS 2019 or earlier, test administrators may need to help students return focus to the Secure Browser by manually clicking it.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

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

1. Open JAWS 2020 and navigate to **Utilities > Setting Center**.

2. Search in the Settings Center for “Unified Keyboard” and mark the **Use Unified Keyboard Processing Method** checkbox (see [Figure 8](#)).

Figure 6. Use Unified Keyboard Processing Setting

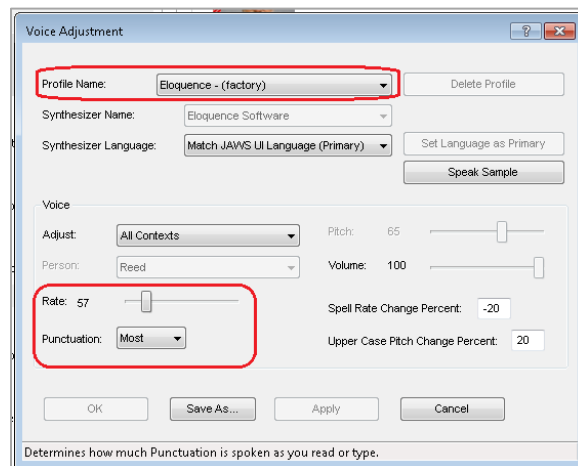


Optional JAWS Voice Adjustment Settings

Prior to launching the Secure Browser, you can adjust JAWS voice settings for students based on their individual needs. You must set the Voice Profile, Speaking Rate, and Punctuation settings prior to administering assessments. Students should take practice tests using JAWS and administered with the Secure Browser 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 7. JAWS Voice Adjustment



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

Administering Screen Reader Tests

This section explains how TAs set up the test settings for screen reader tests. It also provides information about how students navigate the Secure Browser with JAWS.

Setting Up Screen Reader Test Sessions

TAs must make sure that students have the correct test settings applied before approving them to take screen reader tests.

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

1. To administer screen reader tests, the test administrator logs in to the TA Interface and starts a test session.
2. The test administrator opens JAWS on the student testing devices.
3. The test administrator opens the secure browser on the student testing devices.
4. Students sign in to the test session and select their tests.
5. The test administrator reviews the student's test settings and verifies the following:
 - *Screen Reader Mode* is set to **On**. This arranges test content vertically and with extra whitespace.
 - *Permissive Mode* is turned on. This setting must be enabled in order for students to use the keyboard commands associated with JAWS.
6. When all the correct settings are applied, the TA approves students for testing.

Navigating the Student Testing Site with JAWS

JAWS allows students to use keyboard commands to navigate the Student Testing Site.

The actions associated with each JAWS keyboard command depend on the context in which the students presses the key. In other words, the same key may have different effects depending on whether the student is on the Sign-In pages, the test pages, or within the items and stimuli of the test pages.

Table 10 provides an overview of how to use JAWS keyboard commands in each context. In order for students to use these keyboard commands, Permissive Mode must be enabled for them in TDS. If JAWS enters Forms Mode, these keyboard commands may not work. In order to exit Forms Mode, press **NUM PAD PLUS**.

Table 8. Overview of JAWS Keyboard Commands in the Student Testing Site

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

Key	Action
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 + HH	Jumps to the previous heading on the page.
Tab	<p>Moves to the next component on the page. In general, the following test elements are components:</p> <ul style="list-style-type: none"> • Navigation and tool buttons • Question number (and associated prompt text) • Context menu • Response options
Shift + Tab	Moves to the previous component on the page
Enter	Selects a button or response option or open a context menu.
Down Arrow	Moves to the next line on the page
Up Arrow	Moves to the previous line on the page
Insert + Down Arrow	Reads everything on the page (from the current point of focus)
Ctrl	Stops JAWS from reading
Opening and Using Context Menus with JAWS Keyboard Commands	
Enter	Pressing Enter when JAWS reads “Menu button” will open the context menu. This is the only way to open the context menu when streamlined mode is turned on.
Down Arrow	Moves the focus to the next option in the menu. JAWS will read this option aloud.

Key	Action
Up Arrow	Moves the focus to the previous option in the menu. JAWS will read this option aloud.
Space	Selects the menu option currently in focus
Esc	Closes the context menu without selecting any options
Responding to Items with JAWS Keyboard Commands	
Tab	<ul style="list-style-type: none"> Students can use the Tab key to navigate to the item prompt, which JAWS will read aloud. After JAWS reads the prompt aloud, students can press Tab again to navigate to the response area. They may need to press Tab multiple times depending on the item type and whether any question labels appear for the item. In the response area for an item, students can press Tab to navigate between each answer option, text box, selectable text field, keypad button, or check box, depending on the item type.
Shift + Tab	Navigates to the previous answer option, text box, selectable text field, keypad button, or check box, depending on the item type.
Up and Down Arrow Keys	<ul style="list-style-type: none"> For multiple choice and multi-select items, pressing the arrow keys will move between each answer option. For edit task choice items, pressing the arrow keys will move between each line of text in the item. After users open an edit menu by pressing Space, the arrow keys can be used to move between the answer options in the drop-down list.
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.

User Support

For additional information and assistance in using assistive technology with the Secure Browser, contact the Ohio Help Desk. The Help Desk is open Monday–Friday 7:00 a.m. to 5:00 p.m. (except holidays or as otherwise indicated on the Ohio Assessment portal).

Ohio Help Desk
Toll-Free Phone Support: 877-231-7809
Email Support: OHHelpdesk@cambiumassessment.com

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

- Test Administrator name
- If the issue pertains to a student, provide the student’s SSID and associated district or school. Do not provide the student’s name.
- If the issue pertains to a TIDE user, provide the user’s full name and email address.
- The brand and version number of the assistive technology being used.
- Any error messages and codes that appeared, if applicable.
- Operating system and browser information, including version numbers (for example, Windows 10 and Firefox 72 or Mac OS 10.14 and Safari 11).

Change Log

Location	Change	Date