

SAE Audient ASP4816 Simulator

User Guide

Version 1.0.3

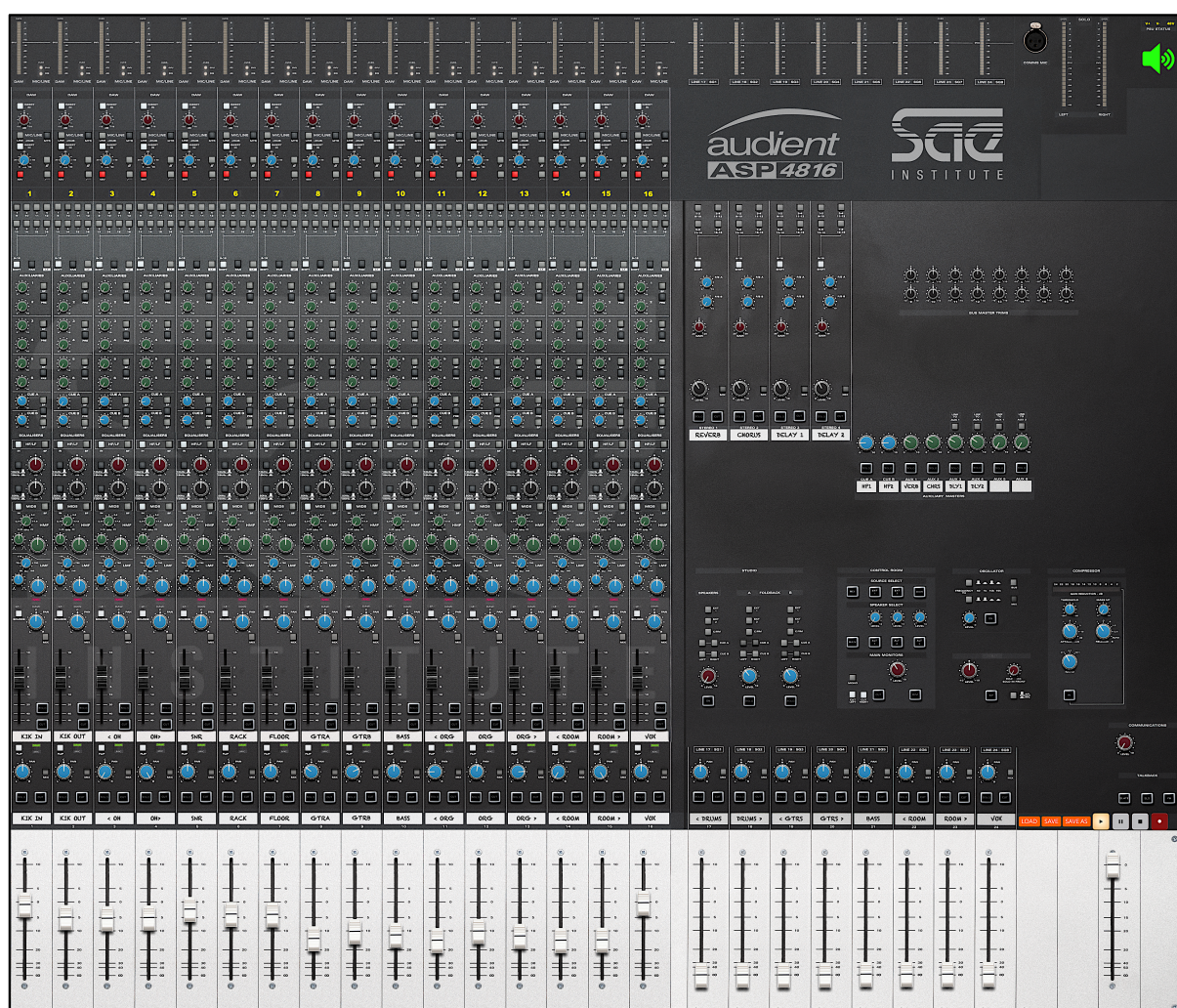


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Introduction

The SAE Audient ASP4816 Simulator was created by Dr Mark Bassett to provide SAE students with remote access to a photo-realistic simulation of the Audient ASP4816 console. It was developed as a learning / teaching tool to help students remotely develop a foundational understanding of the signal flow and operational idiosyncrasies of the console.

The simulator is not an audio production tool, and as such, it is not intended as a substitute for the physical console. Instead, the simulator aims to replicate the functionality and audio signal processing of the console for educational purposes.

This User Guide is accessible via the Documentation menu in the simulator.

Overview

The simulator features two main windows (Fig. 1): the INSTRUCTION window and the CONSOLE window.

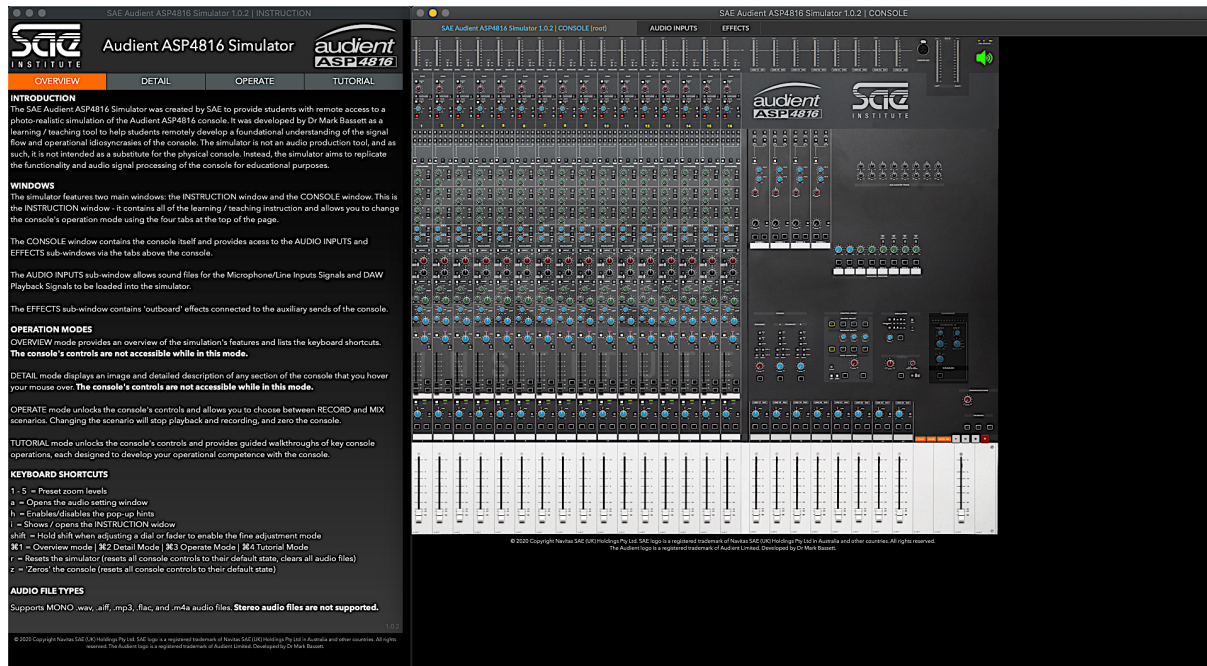


Figure 1 - The two main windows of the simulator: the INSTRUCTION window on the left, and the CONSOLE window on the right.

Instruction Window

The INSTRUCTION window provides access to all of the learning/teaching materials and is where you choose the console's mode of operation using the tabs at the top of the window.

The INSTRUCTION window can be closed at any time; however, it is recommended that you leave this window open in the background, as the console's controls are only accessible while in certain modes that are accessed via the INSTRUCTION window.

Press i on the keyboard to open/bring the INSTRUCTION window to the front.

Console Window

The CONSOLE window (Fig. 2) contains the console and is where you access the AUDIO INPUTS and EFFECTS windows via the tabs at the top. Closing this window will close the simulator.

To engage with the console's controls, either OPERATE, or TUTORIAL mode must be selected. You will be reminded of this if you attempt to operate the console while in OVERVIEW or DETAIL modes.

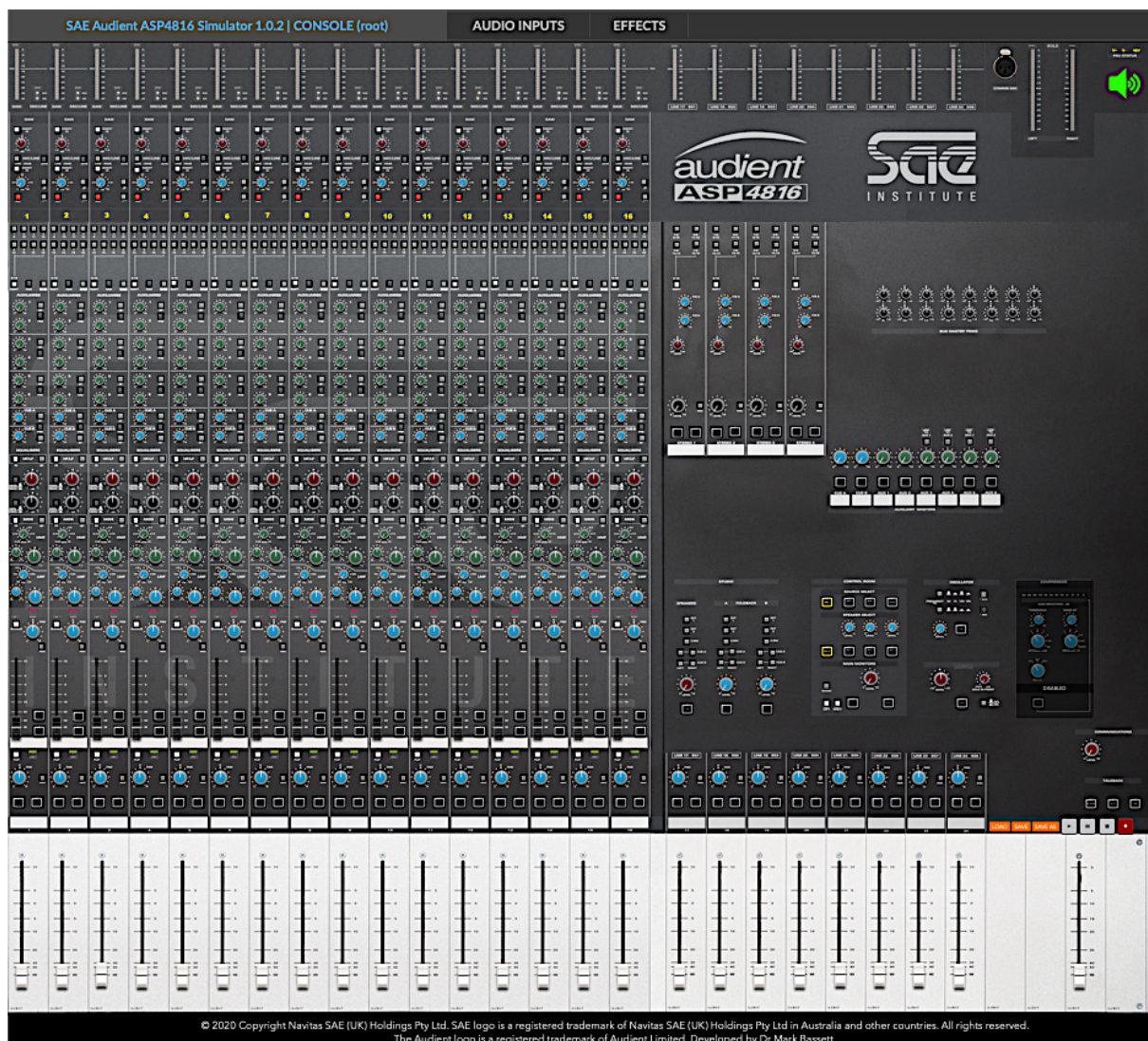


Figure 2 - The CONSOLE window. Note the AUDIO INPUTS and EFFECTS tabs at the top of the window.

Audio Inputs Window

The AUDIO INPUTS WINDOW (Fig. 4) is accessible by clicking on the AUDIO INPUTS tab at the top of the CONSOLE WINDOW.

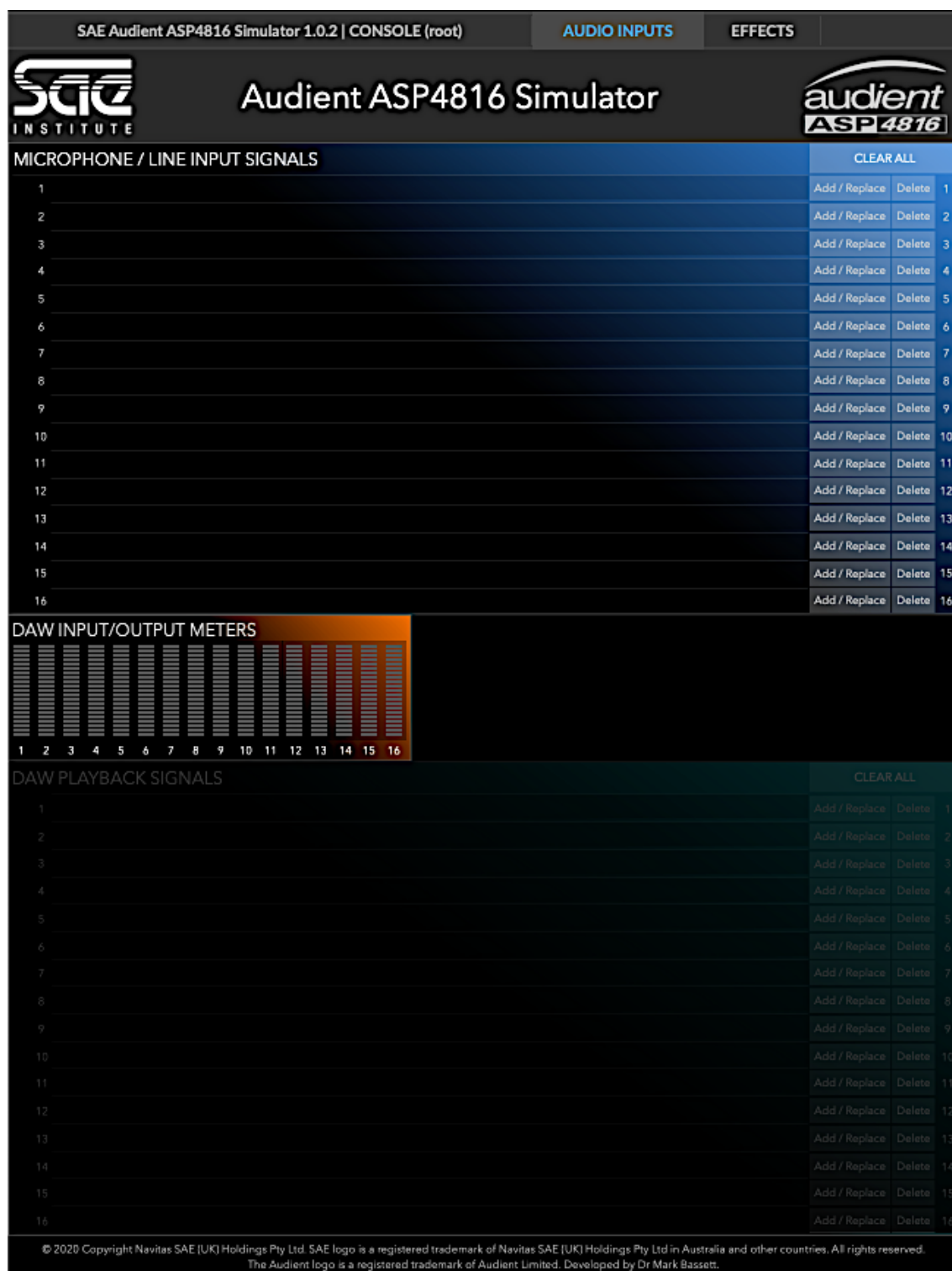


Figure 3 - The AUDIO INPUTS WINDOW

Effects Window

The EFFECTS WINDOW (Fig. 4) is accessible by clicking on the EFFECTS tab at the top of the CONSOLE WINDOW.



Figure 4 - The EFFECTS WINDOW.

Modes of Operation

The simulator features four modes of operation: OVERVIEW, DETAIL, OPERATE, and TUTORIAL. Modes are selectable via the tabs at the top of the INSTRUCTION window, via the MODE menu, or via keyboard shortcuts (p. 19).

Overview Mode

OVERVIEW mode (Fig. 5) provides an overview of the simulator's features and lists the single-key shortcuts. The console's controls are not accessible while in this mode.

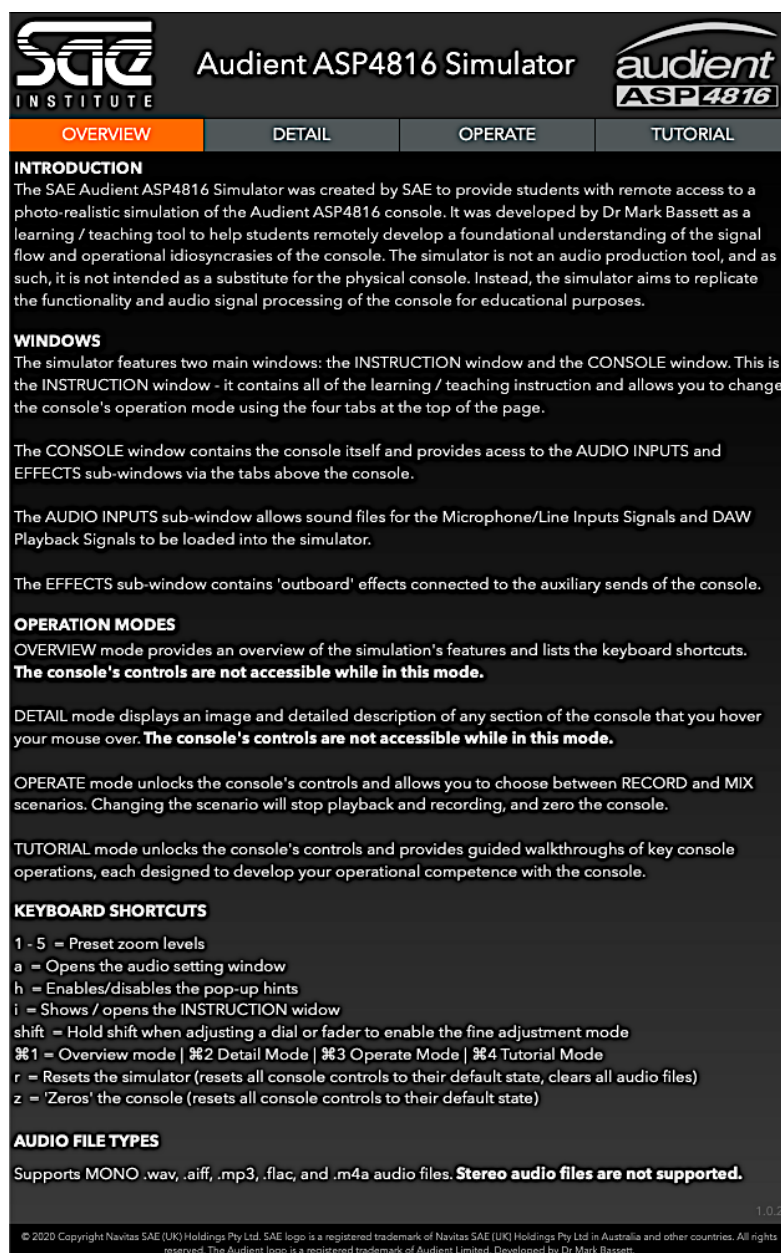


Figure 5 - OVERVIEW mode.

Detail Mode

DETAIL mode (Fig. 6) displays an image and detailed description of any section of the console that you hover the mouse over. The console's controls are not accessible while in this mode.



Figure 6 - DETAIL mode.

Operate Mode

OPERATE mode (Fig. 7) unlocks the console's controls and allows you to choose between RECORD and MIX scenarios. Changing the scenario will stop playback and recording, and zero the console.

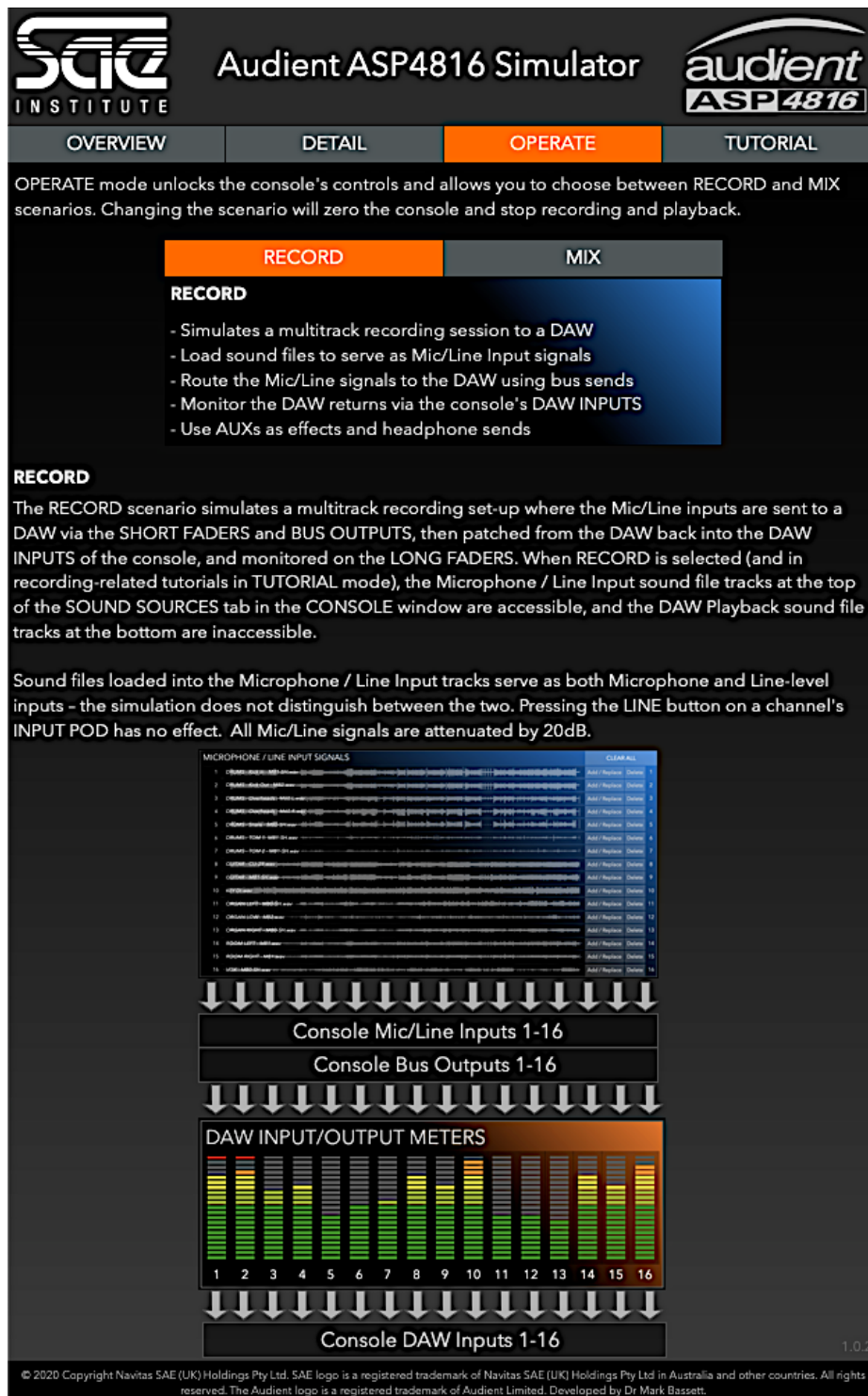


Figure 7 - OPERATE mode with the RECORD scenario selected.

Record Scenario

The RECORD scenario (Fig. 7) simulates a multitrack recording set-up where the Microphone / Line Input inputs are sent from the console to a DAW via the SHORT FADERS and BUS SENDS, then sent from the DAW back into the DAW INPUTS of the console, and monitored on the LONG FADERS.

When the RECORD scenario is selected (and in recording-related tutorials in TUTORIAL mode), the Microphone / Line Input tracks at the top of the AUDIO INPUTS tab in the CONSOLE window (Fig. 8) are accessible, and the DAW Playback tracks at the bottom (Fig. 10) are inaccessible. Sound files loaded into the Microphone / Line Input tracks serve as both Microphone and Line-level inputs – the simulator does not distinguish between the two. Pressing the LINE button on the INPUT POD has no effect. All Microphone / Line Input signals are attenuated by 20dB prior to reaching the console.

MICROPHONE / LINE INPUT SIGNALS			CLEAR ALL	
1		Add / Replace Delete	1	
2		Add / Replace Delete	2	
3		Add / Replace Delete	3	
4		Add / Replace Delete	4	
5		Add / Replace Delete	5	
6		Add / Replace Delete	6	
7		Add / Replace Delete	7	
8		Add / Replace Delete	8	
9		Add / Replace Delete	9	
10		Add / Replace Delete	10	
11		Add / Replace Delete	11	
12		Add / Replace Delete	12	
13		Add / Replace Delete	13	
14		Add / Replace Delete	14	
15		Add / Replace Delete	15	
16		Add / Replace Delete	16	

Figure 8 - Microphone / Line Input tracks - only accessible in RECORD MODE.

Mix Scenario

The MIX scenario (Fig. 9) simulates a console mixdown from a DAW where the DAW outputs are patched into the DAW INPUTS of the console and monitored on the LONG FADERS. The Mic/Line inputs are unused in this scenario. When the MIX scenario is selected (and in mixing-related tutorials in TUTORIAL mode), the DAW Playback tracks at the bottom of the AUDIO INPUTS tab (Fig. 10) are accessible, and the Microphone / Line Input tracks at the top (Fig. 8) are inaccessible.



Figure 9 - OPERATE mode with the MIX scenario selected.

DAW PLAYBACK SIGNALS			CLEAR ALL	
1		Add / Replace	Delete	1
2		Add / Replace	Delete	2
3		Add / Replace	Delete	3
4		Add / Replace	Delete	4
5		Add / Replace	Delete	5
6		Add / Replace	Delete	6
7		Add / Replace	Delete	7
8		Add / Replace	Delete	8
9		Add / Replace	Delete	9
10		Add / Replace	Delete	10
11		Add / Replace	Delete	11
12		Add / Replace	Delete	12
13		Add / Replace	Delete	13
14		Add / Replace	Delete	14
15		Add / Replace	Delete	15
16		Add / Replace	Delete	16

Figure 10 - The DAW Playback tracks - only accessible in MIX MODE.

Tutorial Mode

TUTORIAL mode (Fig. 11) provides guided walkthroughs of key console operations, each designed to develop your operational competence with the console. There are two types of tutorials available: recording-related and mixing-related, selectable by the menu tabs in the TUTORIAL window. Note that the tutorial type is linked to the operation scenario – changing the tutorial type will also change the operation scenario (and stop playback and recording, and zero the console), and vice-versa.

Under each tutorial type, you will find a drop-down menu to access the individual tutorials. Table 1 lists the recording-related and mixing-related tutorials available.

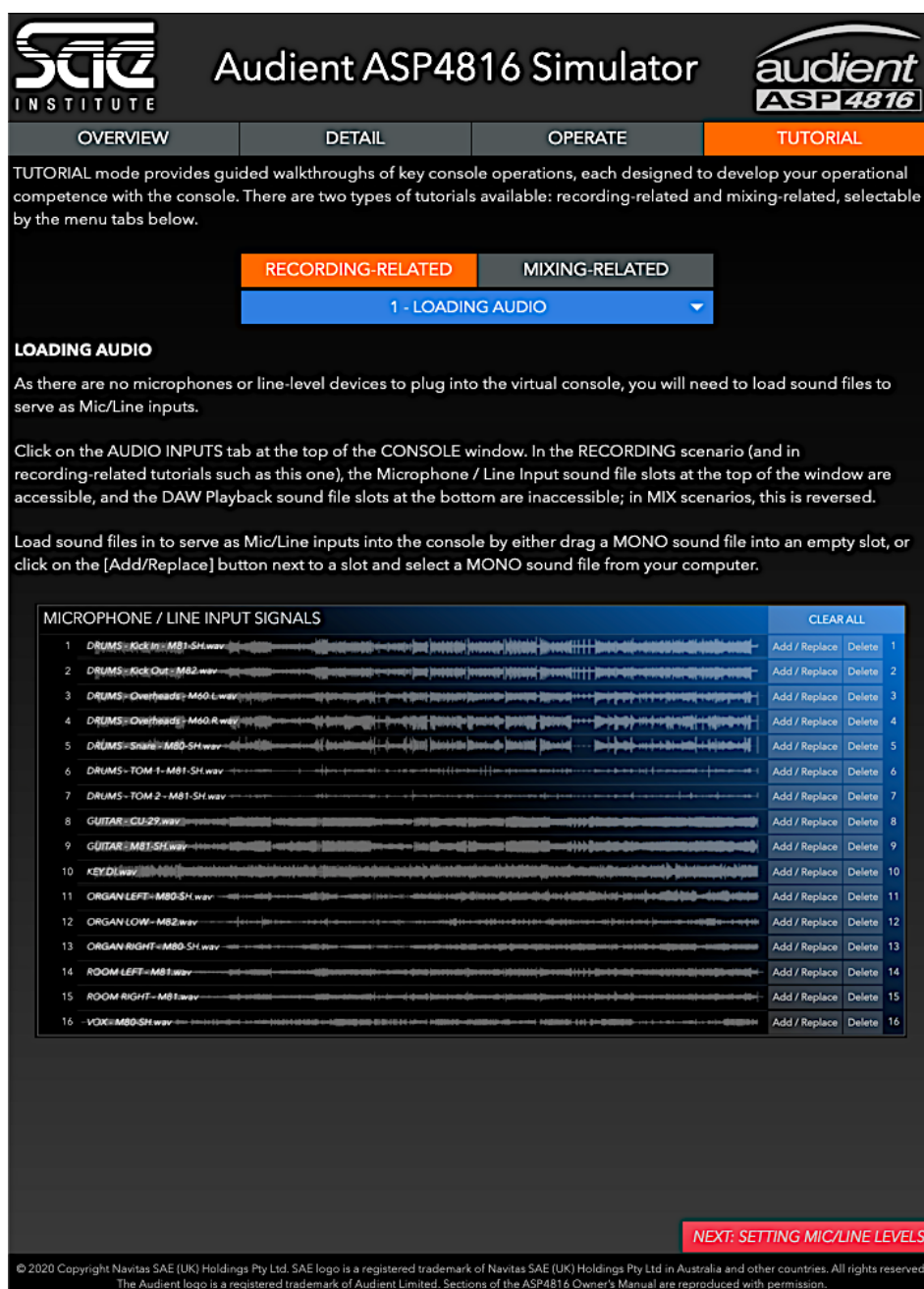


Figure 11 - TUTORIAL mode with the RECORDING-RELATED tutorial type selected.

Table 1 - The recording and mixing-related tutorials.

Recording-related	Mixing-related
1 – Loading Audio	1 – Loading Audio
2 – Setting Mic/Line Levels	2 – Setting DAW Input Levels
3 – Monitoring the Mic signal	3 – Monitoring DAW Signals
4 – Routing to the DAW	4 – Applying Equalisation
5 – Monitoring the DAW returns	5 – Adding Effects
6 – Creating a Headphone Mix	6 – Using Sub-groups

Getting Started

Press z to zero the simulator (disregard if you just opened the simulator – the console is zeroed when the simulator opens). You will be asked if you really want to zero the simulator, then asked again. Click 'OK' at both prompts.

Recording Scenario

Click on the TUTORIAL mode tab in the INSTRUCTION window. If the instruction window is not showing, press i . Click on the RECORDING-RELATED tutorial type if not already selected (Fig. 11). Follow the instructions in RECORDING-RELATED tutorials 1-6 using the drop-down menu.

Mixing Scenario

Click on the TUTORIAL mode tab in the INSTRUCTION window and select the MIXING-RELATED tutorial type. Follow the instructions in MIXING-RELATED tutorials 1-6.

Saving and Loading Console Settings

The simulator allows you to save the console's settings for later recall using the .json (JavaScript Object Notation) file format. Saving the settings saves both the CONSOLE and EFFECTS settings, but does not save the audio files which must be manually loaded each time you use the simulator.

Saving Settings

To save the current settings, click on the SAVE AS button above the MASTER FADER. Note the buttons shown in Figure 12 are only accessible, like all other console controls, when in OPERATE or TUTORIAL modes. You will be prompted to select a name and location to save the settings file. Name your settings file, select a save location, then click 'SAVE'.

Note that the simulator saves the console and effects settings for the RECORDING and MIXING scenarios *separately*. For example, when you are in the RECORDING scenario and save your settings, you are saving the console and effects settings to the RECORDING section of the file – any previously saved RECORDING scenario

settings (console and effects) in the file are overwritten, but any previously saved MIXING scenario settings remain intact.

Alternatively, when you are in the MIXING scenario and save your settings to a file, you are saving your console and effects settings to the MIXING section of the file – any previously saved MIXING scenario settings in the file are overwritten, but any previously saved RECORDING scenario settings remain intact.

Once you have saved your settings to a file, to save again simply click SAVE. This will overwrite the previously saved settings file – but only for the selected scenario as detailed above. To save your settings to a new file (and not overwrite any part of the previously saved file), click SAVE AS.

When you close the simulator, you will be prompted to save your settings.

Loading Settings

Before loading a previously saved settings file, you need to decide which SCENARIO you are going to be working in, RECORDING or MIXING.

Select the scenario by clicking on the OPERATE mode tab in the INSTRUCTION window and clicking on either RECORD or MIX. Alternatively, you can select your scenario by clicking on the TUTORIAL mode tab in the INSTRUCTION window and clicking on either RECORDING-RELATED or MIXING-RELATED. Once you've selected your scenario, press the LOAD button on the console (located above the MASTER FADER) and select a previously saved settings file.

Recording

The console's stereo mix bus can be recorded to a stereo audio file using the red RECORD button in the transport controls above the MASTER FADER. The recorded signal is post-master fader but pre-main loudspeaker level control. When you press RECORD, you will be prompted to choose a name, destination, and file type for the stereo audio file. The RECORD button will then start flashing, indicating that the simulator is recording audio. Press PLAY and you will be recording the stereo mix bus. Press RECORD again or STOP to end the recording.

Effects

There are four effects included in this version of the simulator: two mono delays and two stereo reverbs. Table 2 details the auxiliary sends, effects, and returns.

Table 2 – Auxiliary sends, effects, and returns.

Auxiliary Send	Effect	Return
Aux 1	Mono Delay	Stereo Input 1 Left and Right (mono)
Aux 2	Mono Delay with HPF	Stereo Input 2 Left and Right (mono)
Aux 3	Stereo Reverb	Stereo Input 3 Left and Right (stereo)
Aux 4	Stereo Reverb	Stereo Input 4 Left and Right (stereo)
Aux 5	<i>Unused</i>	
Aux 6	<i>Unused</i>	

Audio Settings

Turning Audio Processing On/Off

To turn audio processing on/off, click the loudspeaker icon in the top-right of the console. Note that this control, and all others on the console, cannot be accessed while in OVERVIEW or DETAIL mode.

Audio Settings Window

Press a to open the Audio Settings window (Fig. 12). The power button in the top-left corner turns audio processing on/off and is linked to the loudspeaker icon in the top-right of the console. If you are using headphones, you may need to select headphones as the output device.

Supported Audio File Types

The simulator supports (will playback) *mono* .wav, .aiff, .mp3, .flac, and .m4a audio files. Stereo audio files are not supported.

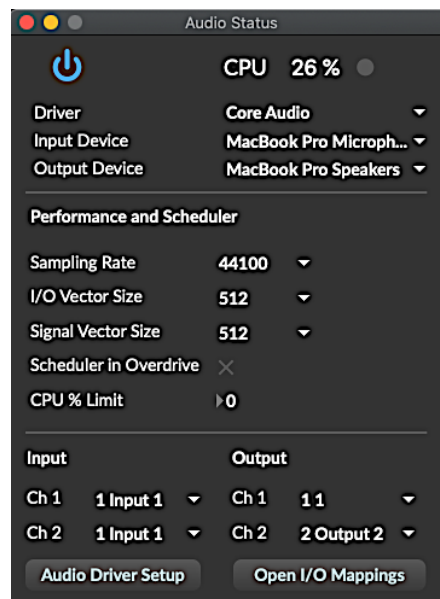


Figure 12 - The Audio Settings Window.

Keyboard Shortcuts

1 – 5	Zoom in to one of the five pre-set zoom levels.
a	Opens the audio setting window.
h	Enables/disables the pop-up hints when you hover the mouse over a control.
i	Shows/opens the INSTRUCTION window.
shift	Hold shift when adjusting a dial or fader to enable the fine adjustment mode.
⌘1	Selects OVERVIEW mode
⌘2	Selects DETAIL mode
⌘3	Selects OPERATE mode
⌘4	Selects TUTORIAL mode
r	Resets the simulator (resets all console controls to their default state, clears all audio files).
z	'Zeros' the console (resets all console controls to their default state).