

soundNode Manual



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1. Opening the program

1.1 Terms and conditions

Read through the terms and conditions thoroughly. If you accept the choose “accept” and you will be taken to the main program window. If you do not accept and choose “decline” the program will close.

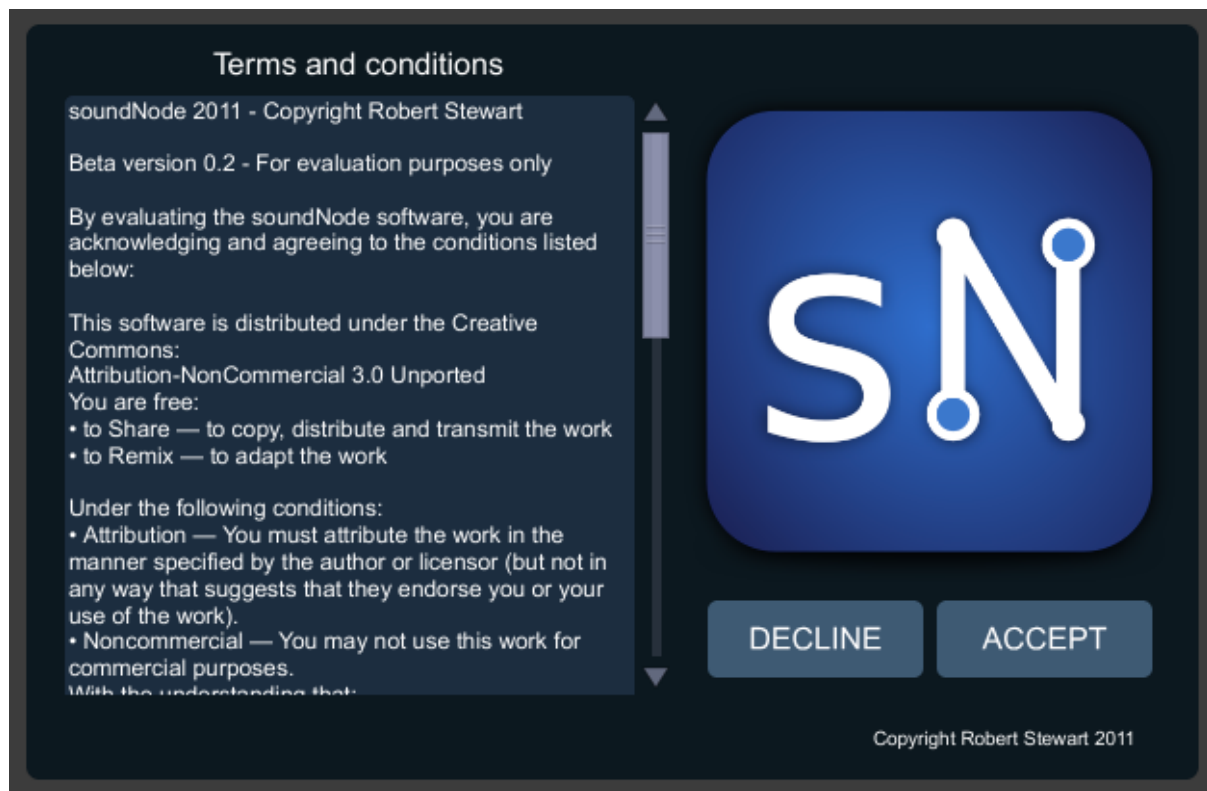


Figure 1 - Terms and conditions

2. Loading, saving or creating a show



Figure 2 - The show buttons located right hand side of the main screen

After first loading soundNode you will notice a flashing prompt in the form of a yellow box around the menu options “NEW SHOW” and “LOAD SHOW.” This prompt will remain flashing until either a new show is created or a previously saved show is loaded. This is because it is important to do so to ensure that auto-saving is working as you begin your design and now unsaved data is lost.

2.1 Creating a new show

Once you click “NEW SHOW,” located at the right hand side of the soundNode window, you will be prompted with a save dialog. Choose a name and location for the show to be saved.

STEPS: *Click “NEW SHOW” => Choose file name and location => Click “Save”*

2.2 Loading an existing show

Clicking “LOAD SHOW” will prompt you with an open dialog where you can browse your computer for show files. These files are “.JSON” files. Click open once you have located and selected the show file. It is a good idea to save your show in the same location as your show sound files so you can locate and transfer the show easily between sessions and computers.

STEPS: *Click “LOAD SHOW” => Choose file name and location => Click “Open”*

2.3 Saving

The show can be saved at any time by pressing the “SAVE SHOW” button at the right hand side of the screen. It will prompt you with a dialog asking “Are you sure?” Clicking yes will save the currently loaded show. Shows should be saved any time cue information is updated. Moving on to the next cue before saving will lose any unsaved data.

STEPS: *Click “SAVE SHOW” => “Are you sure?” => Click “Yes”*

3. Opening a sound file to play

3.1 Opening a sound file

To open a sound file for a particular trigger pad

Simply drag a file from a folder on your hard drive or your desktop over the trigger and let go of your mouse button. The sound files name will display on the trigger pad if the file was correctly loaded. Make sure you then save the show by clicking “SAVE SHOW.” Currently only .wav and .aif files are supported. Alternatively you can hold down the ‘e’ key and click on the trigger pad to enter the edit window, then click “OPEN SOUND FILE” to browse for a .wav or .aif file. Remember to save every time you want to commit a change to that scene.

STEPS: *Drag and drop sound file onto a trigger => File will be loaded and name displayed on trigger => Click “SAVE SHOW”*

3.2 Playing a sound file

Before a scene can play back its sound files the “GO” button must be pressed. This will load all the information for that scene. This will also trigger any pads that are set to be “CUED” at the start of a scene. The current scene loaded will show as a green “GO” button. If you have selected another scene and not initialized it with the “GO” button yet it will be orange. You can now manually trigger all pads by clicking on them. Click a pad with a sound file loaded on it and the sound will play back.

STEPS: *Click “GO” => Click a trigger pad with a sound file loaded on it*

4. Changing the way a sound file plays back

4.1 Opening a trigger pads 'edit' window

By holding down the letter 'e' on your keyboard and clicking a trigger pad you will bring up an edit window. Inside the edit window you have control over sound file playback, midi triggers and sound inputs.



Figure 3 - The trigger pad edit window

STEPS: *Hold down 'e' on your keyboard => Click a trigger pad and the edit window will open*

Down the left hand side from top to bottom you will see:

- The number of the pad you are editing
- The sequenced trigger tempo
- The current sound file that is loaded
- Loop, range and direction controls
- Controls for mixing input from your sound card and a threshold trigger for cueing events based on sound input
- Midi note or cc trigger parameters

On the right hand side you will see:

- Trigger mode controls to have a trigger manually triggered and cued at the beginning of a scene
- Output and input routing for sound file playback and inputs
- A graph for plotting fades over time
- Midi device and channel settings

At the bottom you will see:

- The VST effects parameters

4.2 The left hand side of the edit window

4.2.1 The number of the pad you are editing

This is so you don't end up editing the wrong trigger or get lost in the editing process. You will notice that when you hold down 'e' and click on a trigger pad an overlay on the main window will tell you the corresponding number of each of the pads. Take note of these as they are not numbered from left to right but in groups of four.

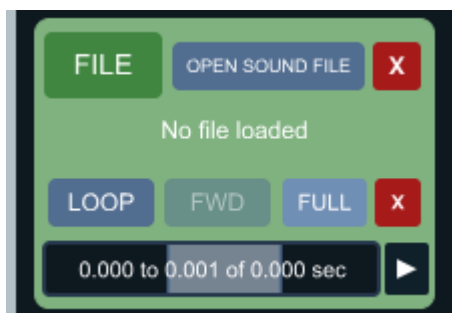


Figure 4 - Sound file controls

4.2.2 The current sound file that is loaded

There is a button here for opening or changing the opened sound files, in addition to the drag and drop functionality of the main screen. Pressing the red 'X' button next to the 'OPEN SOUND FILE' button will clear the current sound file for that scene.

4.2.3 Loop, range and direction controls

Here you have control over whether the sound file will be looping, if it will be playing forwards or in reverse and the part of the sound file you will be playing back.

Selecting a sound file range is a matter of clicking and dragging your mouse over the range bar to designate the section. The 'FULL' button will select the full sound file to play back. The red 'X' button next to the 'FULL' button will clear any selected range.

Once a range is selected it can be manipulated. Holding down *shift* and clicking either the beginning or end of the range will edit that handle only. Holding down *ctrl* and clicking the range will allow you to move the selected range left and right. Holding down *alt* and clicking, then moving the mouse up or down will shrink or grow the range.

4.2.4 Controls for mixing input from your sound card and a threshold trigger for cueing events based on sound input

Here an input from your sound card can be selected to be mixed into your performance. Click on the drop down menu to select an input.

A threshold percentage can also be selected to trigger a cue or a pad during a performance. The threshold level is set and when a sound from that input reaches or surpasses that threshold level in volume then either another trigger pad or the next scene can be cued.

If you are triggering a pad then the pad is selected from the number box next to the trigger action selector. You will have to experiment with threshold levels in your performance to achieve satisfactory results here. If the threshold level is set too low the trigger may prematurely go off and if the threshold is set too high the trigger may not go off at all.

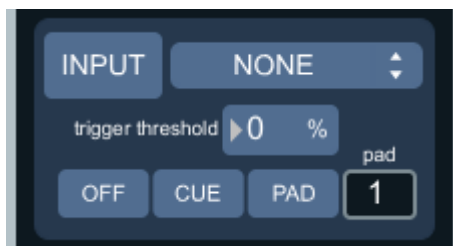


Figure 5 - Input controls

4.2.5 Midi note or cc trigger parameters

Here a midi note or controller value can be selected to be sent when the pad is triggered. Clicking on 'NOTE' will switch between note and cc which is a controller value.

Velocity (vel) is controlled by the trigger pads fader much the same as you would set a volume level for a sound file. You can use the automated fade script to change controller values over time in this manner.

Duration (dur) is the period of time the midi note will be on for. After this period an off value will be sent to the note to switch it off.

The program (prog) is selected with the number box at the bottom.



Figure 6 - Midi controls

4.2.6 Sequenced trigger tempo

Each trigger pad can be set up to retrigger at a constant rate that is set by holding the 't' key and tapping more than once on a trigger pad on the main screen. The interval at which the pad is retriggered is set by averaging the time between the 'taps' you make on the trigger. The tempo can also be set manually in beats per minute (bpm) in the channel setups shown below.

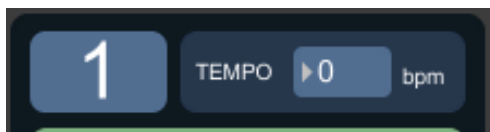


Figure 7 - Sequenced trigger tempo

4.3 The right hand side of the edit window

4.3.1 Trigger mode controls



Figure 8 - Trigger mode selection

There are two modes to control how each trigger pad is triggered.

MANUAL – Once a scene is initiated the trigger pad can be triggered by the user manually pressing the button. Any trigger pad no matter what mode it is in can also be manually triggered or stopped by clicking on it.

CUED – When the 'SCENE GO' button is pressed and the scene is initiated any trigger pads in this mode will be triggered.

4.3.2 Output and input routing for sound file playback and inputs



Figure 9 - Output routing options

The SOUND OUTPUT ROUTING section is used to control where both the left and right channels of your sound file are routed to for the scene and where any selected input is routed to.

If the sound file you are using is mono then the same audio will play back through both the left and right channels. You can switch the right channel off completely in this instance.

4.3.3 A graph for plotting fades over time

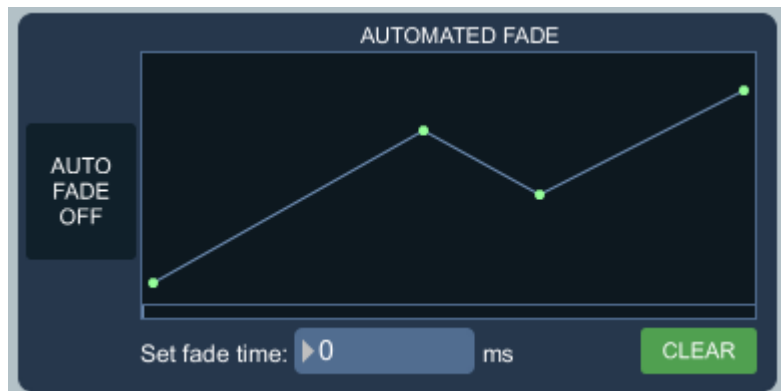


Figure 10 - Automated fade plotting

Automated control over your faders can be set up using this plotting graph. Points over time are set by clicking in the graph. Points can then be moved around by clicking on them and dragging. The first point is always locked off though as this is the current position of the fader in your scene.

The duration of the fade can be set in milliseconds below the graph. All points can also be cleared by pressing 'CLEAR.'

The fade will not run unless it is set to trigger with the "FADE ON/FADE OFF" button on the left hand side. Once a fade is triggered a progress bar will display the fade running through in time at the bottom of the graph function.

4.3.4 Midi device and channel settings

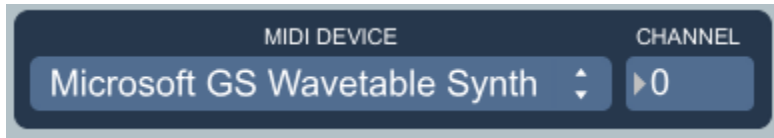


Figure 11 - Midi device and channel selection

Here the midi device being used for this trigger can be selected from a drop down menu of all available midi devices.

The channel and device can also be set on a per scene basis.

4.4 The bottom of the edit window

4.4.1 VST effects

Here VST plugins can be loaded and run in line to filter sound file playback and inputs.

To load a plugin click “OPEN A VST PLUGIN” and browse for a compatible .dll VST effect file. To open the plugin’s own editor and change plugin parameters live click the “OPEN VST PLUGIN EDITOR” button.

To bypass VST effects for this trigger pad click the “PLUGIN BYPASS” button.

The programs/presets available to be loaded from the plugin are listed in a dropdown menu. Choose one and then click save to have it loaded for this scene.

The plugin currently loaded is displayed at the right hand side. Click the red “X” button to clear the loaded plugin.

Please note that only existing programs/presets will be saved and reloaded with the cue. Changes you make with the editor will not save. If the plugin allows you to save your own programs/presets then they will be available to be loaded with the scene though you may need to reload the plugin to refresh the dropdown menu.



Figure 12 - The VST effects parameters

5. The Main Menu



Figure 13 - The main menu

5.1 Main menu overview

The 'MAIN MENU' is an overview of your show. It has four main parts:

- The scene overview menu
- Output delay settings
- The fader overview
- The sound monitoring section

5.1.1 The scene overview menu

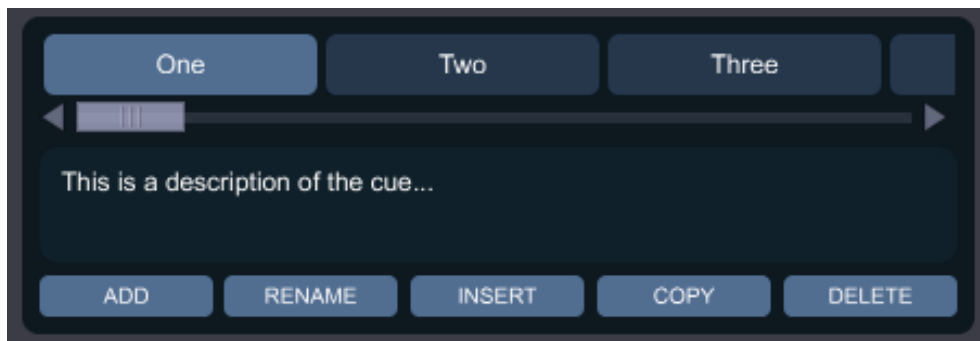


Figure 14 - Scene overview

Here you can edit all scene information. The tabs at the top represent all cues that are loaded as part of the current show.

The space below that is a text area for a description, reminder or any other pertinent information you may wish to include about this cue.

The buttons below that are the cue menu links. Here you can add cues; rename them; insert new cues between existing cues; copy cues to another position and delete cues.

5.1.3 Output delay settings



Figure 15 - Output delays

Output delays can be set for each output channel on your sound card in milliseconds. This can either be useful for compensating delays for large auditoriums or for producing simple delay effects.

5.1.4 The fader overview

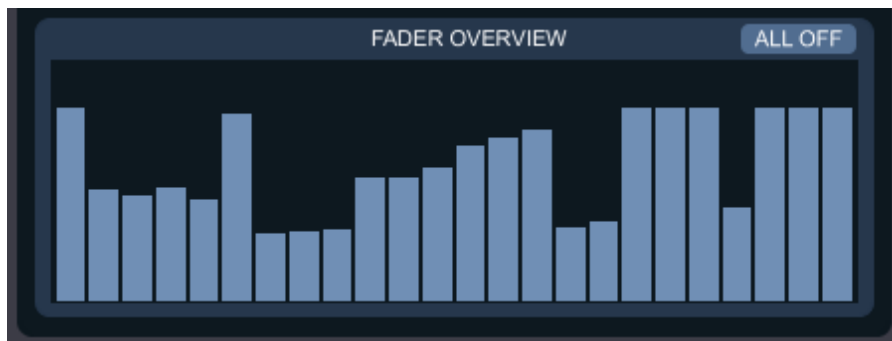


Figure 16 - The fader overview

This is an overview of the activity of your faders. It can also be used as a controller for the faders. Click any of the faders and move the mouse up and down to control the fader value.

5.1.5 The sound monitoring section



Figure 17 - The audio monitoring section

The monitoring section is used to monitor output and input from your sound card. The meters on the left and right hand sides display levels from inputs and outputs respectively.

In the middle is a sonogram where you can select channels from either the inputs or outputs to monitor over the frequency spectrum. To switch between inputs and outputs click the toggle button located in the bottom centre. Then choose any combination of the eight inputs or outputs to analyse.

5.1.6 The midi learn menu link

This button will open the midi learn window. This is where you can assign a midi device to control certain performance triggers and faders. (See

7. The Midi Learn Window)

6. The Performance Screen



Figure 18 - The Performance screen

The Performance screen (or main screen) of the program consists of:

- The show control transport
- The follow-on cue controls
- The performance control area
- Program menu links area

6.1 The show control transport



Figure 19 - The show control transport

Here you can control global aspects of the show. Clicking 'SCENE GO' will set that scene and trigger any pads which are in 'CUE' mode. 'PAUSE/RESUME' will pause and resume all active sound files in this scene. The 'PREV' and 'NEXT' buttons will move backward or forward scenes respectively. Displayed to the far right is the name of the current scene.

Underneath these buttons is a toggle to reduce the performance window size to show just the show control transport. This may be handy either when browsing your computer for files or whilst operating a show.

6.2 The follow-on cue controls

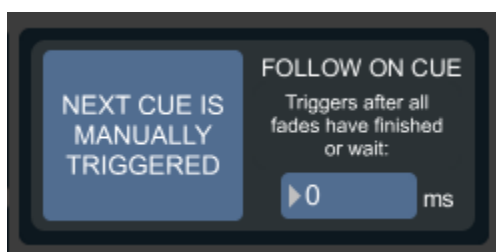


Figure 20 – Follow-on controls

By selecting the Follow-on button for the current scene you are enabling the next scene to be set automatically after all fades have completed or by pausing for a designated period of time and triggering.

6.3 The performance control area

This section has five main tabbed areas: TRIGGER, FADER, FILTER, SPEED, SPACE

6.3.1 *Trigger*



Figure 21 - The trigger section

Trigger pads are used to manually trigger elements of sound in the scene. Clicking on them once will manually trigger the pad.

Pads can also have different modes of operation. (See

4.3.1 Trigger mode controls)

Holding down ‘e’ on your keyboard and clicking on a trigger window. (See

4.1 Opening a trigger pads ‘edit’ window)

6.3.2 Fader



Figure 22 - The fader section

Here faders can be mixed up or down by clicking on them and dragging the mouse up or down. These faders correspond to volume, velocity values or both. Volume is between -75db and +18db. Velocity values are between 0 and 127.

6.3.4 Filter



Figure 23 - The filter section

The filter (equalizer) section is a bank or single band eq's that can be used to effect sound file playback or inputs. Clicking on the band will allow you to drag the filter left or right across the frequency range or up and down to affect the gain of the frequency band. You can also grab the handles of the band to increase or decrease the range of the band.

6.3.5 Speed



Figure 24 - The Speed section

The speed dials will alter the playback speed of sound files loaded on the corresponding trigger pad. A value of 1.0 is normal playback speed, whilst 2.0 is double speed. Heading towards 0.0 will slow the sound file down until at 0.0 the playback of that file will stop.

Altering the playback speed of files will also alter pitch.

6.3.6 Space

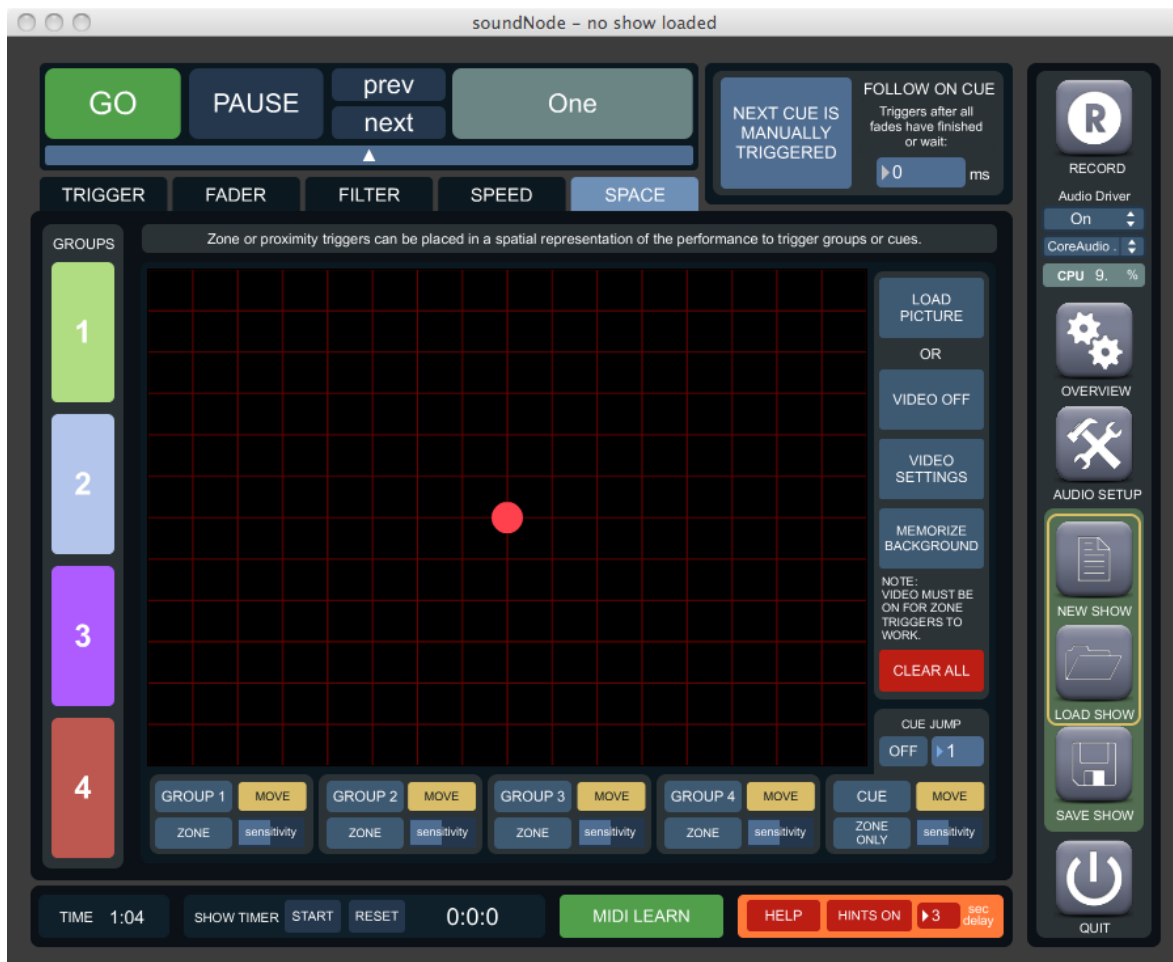


Figure 25 - The Space section

Clicking the 'SPACE' tab or pressing '5' on your keyboard will take you to the spatial performance tool. There are two types of spatial sensors: proximity triggers and zone triggers. By using these group triggers and also the SCENE GO button can be activated spatially.

Proximity sensors are circular and have a designated area with an epicentre. The closer the tracker gets to the centre the louder the sound or the higher the velocity. The strength of the relationship measured as a value between 0. and 1. whilst the trigger is activated. Moving within the range triggers the corresponding pad and mixes the fader up the closer the pointer gets to the epicentre of the event.

The zone sensors are based upon measuring the amount of activity from a live video stream within a designated area. Once a user adjusted activity threshold is passed the trigger is activated. There is also a zone sensor specifically set aside for triggering the current cue and moving to another cue set by the user. This provides a means to dynamically remap your performance based on the movements or actions of the performers.



Figure 26 - Three trigger ranges set in the space

The GROUP triggers can be turned on or off with the button corresponding to their name. Likewise with the CUE trigger. The main difference between the two is that the cue trigger can only be a zone. The GROUP triggers can be toggled between a zone

and proximity sensor. For a proximity sensor the area can then be set with the fader and then, by clicking move and then clicking again inside the performance area, assigned to the space. A zone sensor is has a sensitivity threshold to set and then by clicking move and dragging inside the performance area the zone can be assigned.

Zone sensors need a video feed to be running to activate them. The video will turn on automatically and appear in the background of the spatial screen once a zone sensor has been switched on. The video settings can be configured using the VIDEO SETTINGS button on the right hand side. The background can then be subtracted from the feed to increase the accuracy of the activity detector.

A background picture can also be added to describe a literal or abstract relationship to the space you are performing in. Click the “LOAD PICTURE” button to browse for a .jpg or .png file. The “CLEAR” button will clear the background picture and all current triggers and their proximity/zone settings.

The spatial performance screen provides a way of dynamically controlling events in space and time. It could be used as a simple cross-fader, a multi-channel surround mixer or an interactive performance space. The x and y coordinates for mixing can either be controlled by left clicking and moving the mouse in the space or via MIDI.

STEPS: *Choose zone or proximity => Adjust threshold or area => Turn on sensor => Click move and assign to space by either clicking for a proximity sensor or clicking and dragging for a zone sensor*

6.3.7 Group triggers

Group triggers are assigned to trigger pads by holding down the ‘g’ key and clicking through the groups on a pad with the mouse button. Group triggers are a way of associating a series of events to trigger in synchronicity manually. Pressing the corresponding number/colour group will trigger all pads in that group together.



Figure 27 – The Group 1 trigger and some row triggers



Figure 28 - Trigger pads assigned to groups

Row triggers will trigger in sequence, in intervals defined by the global tempo, in the direction the row trigger arrow is pointing.

6.4 Program menu links areas

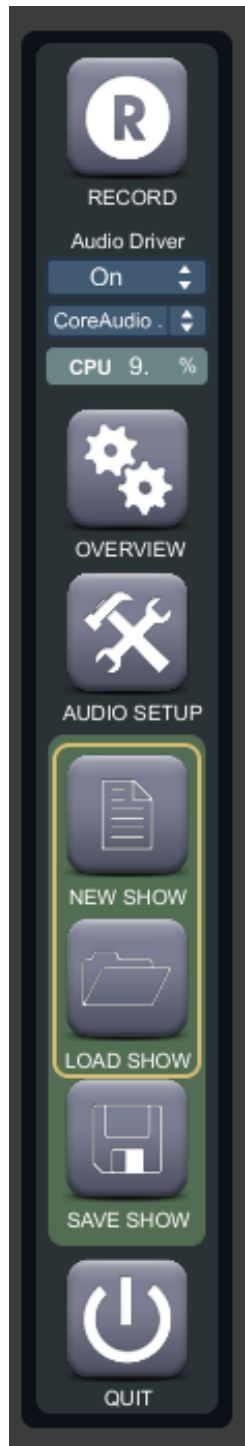


Figure 29 - Menu links

At the bottom of the main performance screen there is also a time and date display, a show timer and a link to the help file. There are also controls for turning mouse over hints on and off and setting the delay for them to appear.

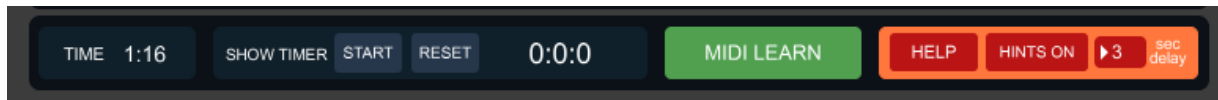


Figure 30 - The time, show timer and help section

6.4.1 Record

The audio output of a performance can be recorded using this button. When clicked the user will be prompted to save the file as either a .wav or .aif file. The record function will then wait for a signal and then start recording.

6.4.2 The audio driver quick setup

Here we have two menus and a live audio CPU monitoring display. The first menu will turn your sound driver on and off and the second menu chooses which sound driver you wish to use from the options available to your system.

Use this section for a quick overview and troubleshooting of audio problems with the software.

6.4.3 Main Menu

Clicking the 'MAIN MENU' button will open the Main menu window. (See

4.4.1 VST effects

Here VST plugins can be loaded and run in line to filter sound file playback and inputs.

To load a plugin click “OPEN A VST PLUGIN” and browse for a compatible .dll VST effect file. To open the plugin’s own editor and change plugin parameters live click the “OPEN VST PLUGIN EDITOR” button.

To bypass VST effects for this trigger pad click the “PLUGIN BYPASS” button.

The programs/presets available to be loaded from the plugin are listed in a dropdown menu. Choose one and then click save to have it loaded for this scene.

The plugin currently loaded is displayed at the right hand side. Click the red “X” button to clear the loaded plugin.

Please note that only existing programs/presets will be saved and reloaded with the cue. Changes you make with the editor will not save. If the plugin allows you to save your own programs/presets then they will be available to be loaded with the scene though you may need to reload the plugin to refresh the dropdown menu.



Figure 12 - The VST effects parameters

5. The Main Menu)

6.4.4 Setup Audio

Clicking 'SETUP AUDIO' will open a window to configure advanced options for your sound card.

6.4.5 The Show Menu

'NEW SHOW,' 'LOAD SHOW' and 'SAVE SHOW' give you control over and access to the various show files that you are working on. For a more detailed overview of these options (See 2. *Loading, saving or creating a show*)

6.4.6 Quitting the program

Clicking 'QUIT' will prompt you with a dialog to confirm you want to quit. Click 'Yes' to immediately quit the program or 'Cancel' to be taken back to the program.

STEPS: Click "QUIT" => The quit dialog opens => Click "Yes" to quit or "No" to continue

6.4.7 The Show Timer

The show timer has two buttons. 'START/STOP' and 'RESET.' 'START/STOP' will pause and resume the timer function. This could be useful in timed runs of performances where there are intervals or periods that you do not want to include in the overall duration of the show. It could also be used to mark points of interest in performances between one section to another. 'RESET' will set the timer back to 0.

6.4.8 Hints

Mouse-over hints can be turned on and off using the 'HINTS ON/HINTS OFF' toggle. A delay in seconds can also be set for how long it takes for a hint to appear once your mouse pointer has been hovering over a certain feature.

7. The Midi Learn Window



Figure 31 - The midi learn window

The midi learn window is accessible through the main menu. There are five sections to this screen:

- The midi device parameters
- The trigger pad assignment controls
- The space x and y assignment controls
- The fader assignment controls
- The transport assignment controls
- The group trigger assignment controls

7.1 The midi device parameters

Here you can assign a device to be the controller for the midi learn parameters you will set. Choose from a list of available midi devices to be the control device. Then set any necessary channel or program parameters.

7.2 The trigger pad assignment controls

Click learn on the pad you want to assign a midi trigger to. Then tap the key on your midi device to assign it to the trigger pad. Unclick the learn button. You can now test the trigger pad by tapping the corresponding key on your midi device.

7.3 The fader assignment controls

Click learn on the fader you want to assign a midi trigger to. Then move the controller on your midi device to assign it to the fader. Unclick the learn button. You can now test the fader by moving the corresponding controller on your midi device.

7.4 The fader assignment controls

Click learn on either the x or y value that want to assign a midi trigger to. Then move the controller on your midi device to assign it to the fader. Unclick the learn button. You can now test the x/y controls by moving the corresponding controller/s on your midi device. Click “REV X” or “REV Y” to reverse the data coming in. This is useful if the controls for one or both axis need to be flipped.

7.5 The transport assignment controls

Click learn on the transport control you want to assign a midi trigger to. Then tap the key on your midi device to assign it to the transport control. Unclick the learn button. You can now test the key by tapping the corresponding key on your midi device.

7.6 The group trigger assignment controls

Click learn on the group trigger you want to assign a midi trigger to. Then tap the key on your midi device to assign it to the trigger pad. Unclick the learn button. You can now test the group trigger by tapping the corresponding key on your midi device.

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