



SIRENAUDIO



Feedback 2

User Manual (April 2016)

Version 2.0.4

Contents

System Requirements.....	3
New in version 2.....	4
Left Column: Audio Input / Rec. Enable / Input Effects.....	5
Left Column: Presets + Input Effects: I/O.....	6
Input Effects: Delay Ramp + Input Effects: Delay.....	7
Input Effects: Distortion / Filter.....	8
Delay Banks / Compressor / Filter.....	9
All Setting Control + File Loading / Display / Controls.....	10
Playback Modes.....	11
Grain Playback Mode.....	12
Sampler Playback Mode.....	13
Right Column: Output Volume / Record / Output Filter.....	14
Right Column: Reverb / Output Effects	15
Right Column: Global Variation / BPM.....	16
Random Settings.....	17
Fades / Settings Application Menu.....	18
MIDI.....	19
DSP Settings.....	20
Preferences File.....	21

System Requirements

Windows System Requirements

Windows XP, Vista, 7, or Windows 8 machine with 4 GB RAM. An ASIO-compatible sound card is recommended for optimum audio performance. Windows users should thoroughly test the demo version on their computer.

Windows users will need the latest version of Java installed, which can be downloaded here:

<https://java.com/en/download/>

If you do not have an ASIO-compatible soundcard please try the free ASIO4All audio driver available here:

<http://www.asio4all.com/>

Macintosh System Requirements

Mac PPC or Intel machine running OS X 10.4.11 or later, and 4 GB RAM.

Mac users will need to have Java SE 6 installed which can be downloaded here:

<http://support.apple.com/kb/dl1572>

Support

If there are any issues with performance, please send an email to: support@sirenaudio.co.uk outlining the nature of the problem and what (if anything) you were doing at the time the problem occurred.

Installation

SirenAudio software does not use an installer. Once the software is downloaded and has been authorised it is ready to use. By using the application you agree to the license agreement. The license agreement is included in the downloaded folder.

About Feedback

The Feedback application allows you to create dense drones, textures, and loops quickly. The main process of the application is that a delay's feedback is regulated by a compressor, resulting in a delay that loops and stays at a constant volume.

Demo Version

The demo version of Feedback has no internal record capabilities. You can save presets with the demo version, however you cannot restore them.

The demo application will close after 20 minutes.

New in Version 2

- Expanded Random Settings window, with random delay times based on millisecond or measure ranges and delay time interpolation.
- Improved Granular synthesis playback.
- Polyphonic Sampler file playback mode with up to 10 voices.
- Ability to use the computer keyboard to play the sampler.
- Output Effects Section.
- 'Play Free' playback modes for interesting pitched playback of an audio file.
- Refined User Interface.
- Reverb (by Tim Place of C74 Objects).
- Improved filters (by Tim Place of C74 Objects).
- Instability and Strength controls for the delay time variation parameter.
- Various user interface and internal changes to save CPU usage.
- More parameters controllable via MIDI.
- Ability to change the order of Output Effects / Reverb.
- Visual Feedback of BPM for live performance.
- More options for recording input source.
- Ability to scale the application, for laptops with small screens.
- Ability to Update / Delete Preset slots.
- Preferences text file which recalls MIDI learn configuration and other settings (page 21).

Left Column: Audio Input / Rec. Enable / Input Effects

1. Audio on / off.

This control's background turns green when the audio is on.

3. Sample and Second Input Selection.

Allows the left or right channels of the loaded file to be selected. You can also select from the External inputs, allowing both of the inputs from your audio interface to be used at once.

2. External Input Selection.

This allows you to select from your audio interface's first two inputs, which can then be sent to either the delay banks (page 9) or Input Effects (page 6).

5. Input Preview Toggle.

This toggle allows you to hear the input you have chosen before it reaches the delay banks.

By turning this off you will only hear the sound from either the Input Effects stage (page 6), or the delay banks (page 9).

8. Input Audio Destinations.

Allows you to choose where the input audio will be routed to. It can be sent to either the delay banks, input effects, or directly to the output.

10. Learn MIDI toggle.

When enabled this allows you to hover over one of the controls that can be changed via MIDI control messages, then by sending control messages, the parameter will be mapped to that controller.

13. Input Effects Settings.

When clicked this button shows the Input Effects section.

14. Input Effects Output Gain.

This control sets the gain after the Input effects stage.

4. Input Gain Fader.

Sets the volume of the chosen input, the level of which is shown in the display to the right.

6. Input Filter Type.

Sets the type of filter (*bandpass*, *highpass*, *lowpass*, *notch*) applied to the input audio.

7. Filter Frequency and Resonance

Set the cutoff filter frequency and resonance (0 - 0.99) of the filter which will affect the input audio.

9. Record Enable toggle.

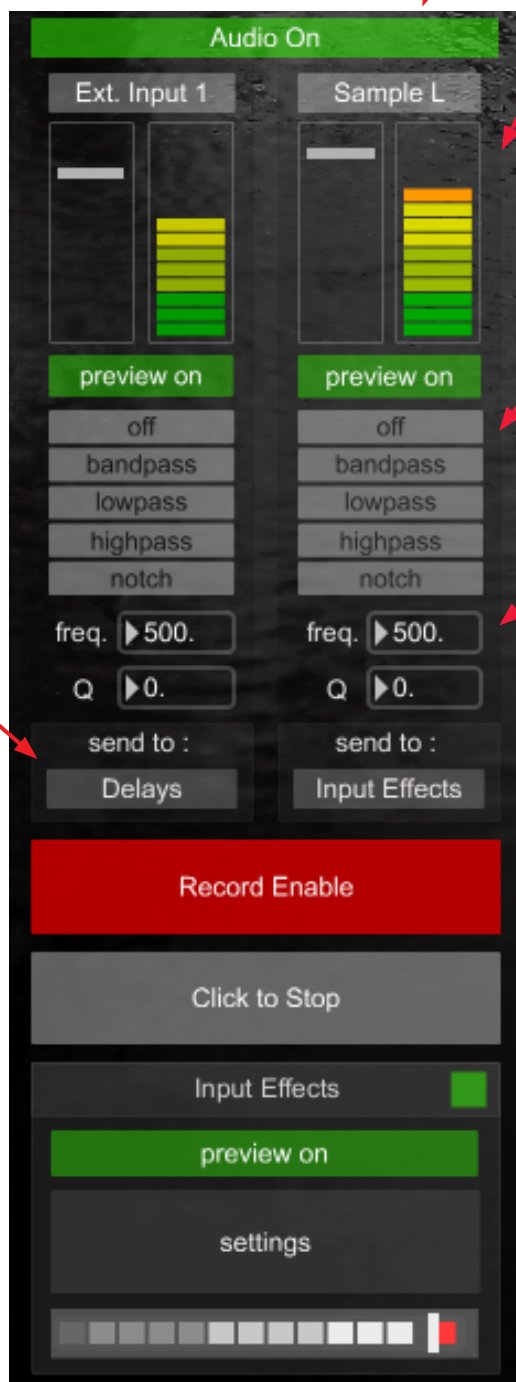
When turned on this control will turn red, meaning that audio will be sent to the delays if it has been routed there via control 8. Audio will only be recorded to the delay banks if the bank record control is enabled (30).

11. Input Effects toggle.

This turns the input effects processing stage on or off.

12. Input Effects Preview Toggle.

Allows you to preview the audio from after the Input Effects stage. Note that you may be hearing audio from both the Input and Input Effects stages if both preview toggles are on.



Left Column: Presets

A preset file can contain multiple slots, which are in effect different presets. The only parameters not saved with a preset are the delay bank record states (30), and measure controls (33).

13. Preset Name Text Field.

By clicking on this text field you can enter your own name for the preset slot you are about to save in to. Once you press enter the preset will be saved.



14. Preset Selector Menu.

When loading a preset, or when saving a preset slot, all available slot names can be selected here. Click in the space to reveal and select preset slots.

15. Update Slot.

When clicked this button updates the currently loaded preset slot. Note that this does not write the preset to your hard drive - which must be done with the Write Preset button (18).

16. Delete Slot.

This button deletes the currently selected preset slot, and loads the previous preset slot. It is not a good idea to use this when playing live or recording!

17. Read Preset.

Opens a file dialog allowing you to load a preset file from disc. Preset files are saved in the .json format - so your saved preset will appear as 'presets.json' where 'presets' is the name of your saved preset.

19. Clear All.

This button clears all saved slots in the preset.

18. Write Preset.

By clicking this button, a file dialog is opened that allows you to save a preset containing all saved slots.

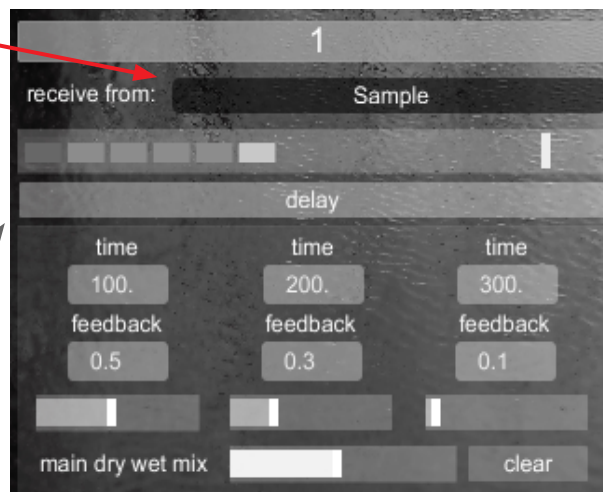
13-18. Read Preset by drag and drop.

As of version 2.0.4 you can now read a preset file (.json) by dragging and dropping it anywhere within the Presets section.

Input Effects: Input /Output

20. Input Effect Receive.

This control allows you to select either the External Input, the audio sample, or a combination of the two. Note that audio must be routed to the Input Effects section using control 8.



21. Gain Control.

These controls are located before and after each effect in the effect stage, and allow you to change the volume of the audio.

22. Input Effect Selector.

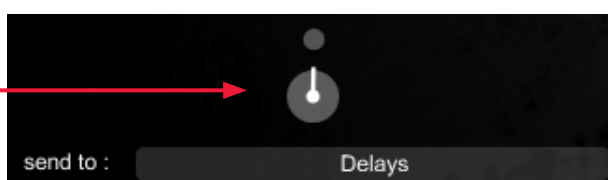
This menu allows you to select effects. (*Delay Ramp, Delay, Distortion, and Filter*).

23. Pan Center.

When clicked this centers the pan dial below.

24. Input Effects Pan.

By clicking and dragging you can pan the signal left and right. Note that any signal recorded in to the delay banks from this location will be summed to mono.



25. Input Effects Send.

This control allows you to send the signal to either the delay banks for recording, or straight to the audio output

Input Effects: Delay Ramp

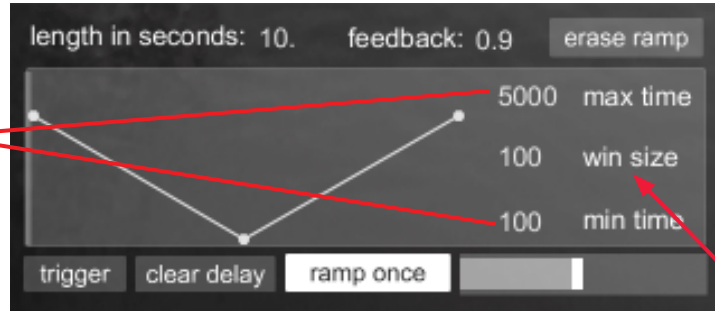
26. Delay Ramp Effect.

This effect allows you to create a delay which changes over time without changing the pitch of the delay.

26a. Ramp Length.
Sets the time of the ramp in seconds

26b. Feedback Amount.
This sets the amount of feedback in the delay.

26c. Max/Min Time. These settings control the delay time in milliseconds when a point is at the top or bottom of the delay ramp display.



26d. Erase.
Deletes the currently drawn ramp. This can be redrawn by clicking in the ramp display area to add a new point.

26e. Trigger.
Starts the delay ramp. Depending on the setting of the adjacent control, the delay ramp will either repeat at the end, or ramp only once.

26f. Clear.
Clears the audio stored within the delay line, this is only relevant with a high feedback setting.

26g. Dry/Wet.
This controls the amount of undelayed and delayed signals.

26h. Window size.
This control effects how abrupt the changes in the delay time will be. Smaller values will produce more abrupt changes.

Input Effects: Delay

27. Delay Effect.

This effect allows you to use three separate delays on the input audio.

27a. Delay Time.
This control allows you to set each delay's time in milliseconds.

27b. Delay Feedback.
This parameter allows you to set the amount of signal that will be fed back in to the delay effect after it has already been delayed.

27c. Individual Dry/Wet.
Controls set the amount of delayed or input signal at the output stage of the delay.



27d. Main Dry/Wet.
Sets the overall dry/wet balance after the delay stage.

27e. Clear.
This allows you to clear audio that is within the delay. This control's use will only be apparent with high feedback settings.

Input Effects: Distortion / Filter

28. Distortion Effect.

Allows you to apply three different distortion effects to the input audio.

28a. Distortion Amount.

These controls set the intensity of the distortion effect.



28b. Individual Dry/Wet Mix.

These controls allow you to fade between the clean and distorted audio.

28c. Main Dry/Wet Mix.

This controls the main mix between all three distortions after their output stages, and the undistorted signal.

29. Graphical Filter Effect.

This effect allows you to apply up to three independent filters to the input audio.



29a. Graphical Filter display.

By clicking on a rectangle which indicates a specific filter, you can drag the selected filter around a frequency range. You can also alter the gain of the filter by moving your mouse up and down while dragging.

To alter the 'Q' or resonance of the filter, click the left or right edge of the filter and drag left or right to change the gradient. When altering a filter via MIDI (page 18), the filter you wish to alter must first be selected with the mouse.

29b. Number of Filters.

This control allows you to set whether there are one, two, or three separate filters altering the input audio.

Delay Banks / Compressor / Filter

30. Delay Bank Record.

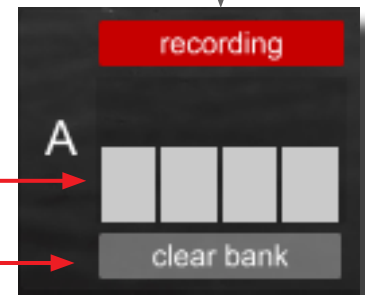
When clicked this control turns red to indicate that audio is being sent to each of the four delays in the bank. Note that audio will not be recorded unless it has been routed to the delays and the Record Enable toggle (9) has been activated.

31. Delay Amplitudes.

This control sets the level of each individual delay, starting with one and ending with four.

32. Clear Bank

When clicked this clears any existing audio from the delay line.



33. Measure Control.

This sets the measure that is derived from the BPM control (74). This control may not correspond to the delay time if the delay time has been set manually - or altered using the random delay time function (page 16).

34. Delay Time.

This control sets the length of the delay in milliseconds.

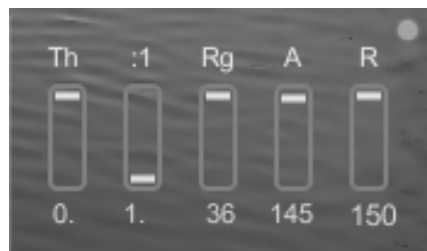
35. Delay Time Variation.

This sets the amount of variation applied to the delay time. Experiment with large values >50 to get a feel for how this control works.



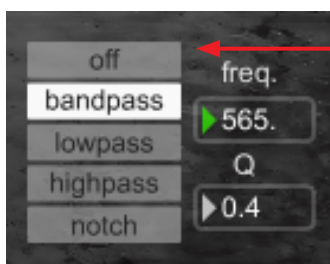
36. Compressor controls. To learn more about these please refer to http://en.wikipedia.org/wiki/Dynamic_range_compression

Th = Threshold
:1 = Ratio
Rg = Range
A = Attack
R = Release



37. Default button.

When clicked this returns the compressor to the default settings which produces a relatively clean version of the input signal.



38. Filter Type.

This control allows you to select the type of filter that will be applied to the whole banks audio output.

39. Frequency.

Sets the filter's cutoff frequency.

40. Q setting.

Sets the filter's resonance or Q setting, which accentuates the filters effect around the cutoff frequency.

41. Center pan button.

When clicked the pan control is returned to the center (no panning).

42. Pan control.

By clicking and dragging up or down, this control allows you to pan the audio left or right, respectively.



43. Gain control.

Sets the overall volume of the audio coming from the delay bank.

All Setting Control

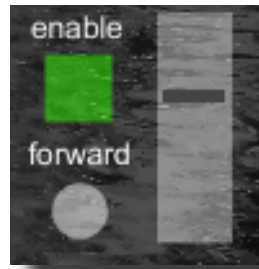
The 'All' control at the top of the delay banks allows you to quickly set all delay banks with the same parameters.

44. Enable toggle.

When checked this control allows changes to be sent to all delay banks at once.

45. Forward button.

When clicked this button forwards (or sends) all settings in the all setting control to the delay banks.



46. Gain Control.

Sets the gain of all banks when the Enable toggle is checked.

File Loading / Display / Controls

47. Audio Filename Display.

When a folder is loaded, this drop down menu allows you to select the sample to be used for playback.

48. Load File.

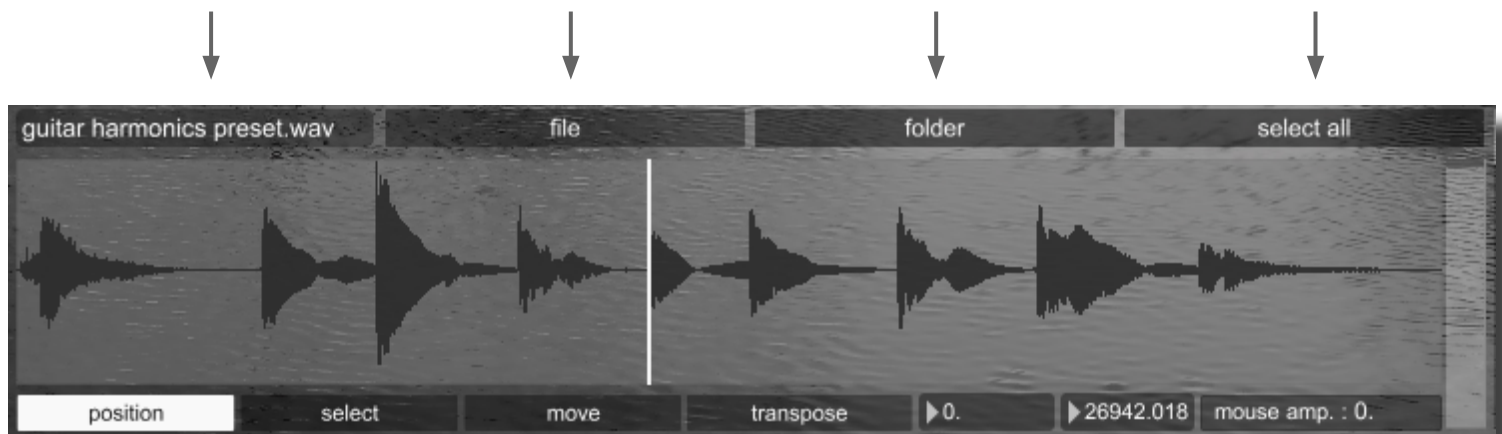
Opens a dialog allowing you to choose an audio file from your system to be used for playback.

49. Load Folder.

Allows you to load a folder of files which can be selected from the filename display.

50. Select All.

Sets the selection points to be at the start and end of the file.



51. Position Control.

When highlighted the position control allows you to set the playback position in the click based play modes.

53. Move Control.

Allows you to move the length of the current selection around the waveform area.

54. Transpose.

Opens the transpose window allowing you to set the pitch of the play and grain playback modes.

56. Zoom Control.

When a selection of audio is made the Zoom control is used to zoom in and out of the selection. The lower the value the higher the zoom factor.

52. Select Control.

This control allows you to click and drag over the waveform to make a selection that will be used for file playback.

52b. Selection Start / End Times.

These number boxes allow you to make precise adjustments to the selection start and end times.

55. Mouse Amplitude.

This display shows the height at which you have clicked on the waveform. This height is used in conjunction with the grain playback mode's Envelope Type parameter (60j).

48x. Load File.

As of version 2.0.4 you can now load an audio by dragging and dropping it on to the waveform display.

Playback Modes

There are three different playback modes, which allow you to use the loaded audio file to generate sound that can then be sent to the delay banks, or to the output.

Play mode offers simple playback which may loop - and can play forwards or backwards.

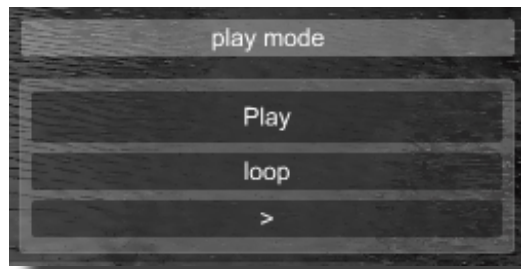
Play Free mode has a variety of modes that are designed to use the start and end times of a selection to determine the pitch of the playback.

The **Grain mode** allows you to use granular synthesis to create textural sounds from the loaded audio.

57. Playback mode selector. This menu allows you to select between the three different playback modes.

58a. Play/Stop control.

When part of the audio file is selected, this button can be clicked to start and stop playback. It is also possible to click directly on the waveform to start playback at that position.



58b. Play once / Loop menu.

Allows you to set the playback to play once, or loop (continuously play).

58c. Play Direction.

The direction menu allows you to set whether the file plays backwards or forwards

59a. Play Free Mode setting. This menu allows you to chose from three different modes.

Start/End mode uses the current selection as the start and end points of the playback - which will be played back over the length set in the time setting(59c)

Click Free mode allows you to click anywhere within the waveform to set the destination of the playhead and to trigger playback. If you click further away from the current playback position the pitch of the playback will be higher

Click mode uses the length of the selection, but allows you to click anywhere on the waveform to start playback.

59b. Start/End times.

Here you can manually set the start and end times which are taken from the currently selected audio.



59c. Time.

This control sets the length of time over which the playback will occur with the start/end and click modes.

59d. Direction.

This menu allows you to set whether the file plays backwards or forwards.

59e. Start / Stop

This control is only used with the start/end Play Free playback mode. To trigger the playback using the other Play Free playback modes you must select the position control (51), then click directly on to the waveform.

Grain Playback Mode

60. Grain Playback Mode.

When the playback mode selector is set to 'Grain', you can click the settings button to reveal the dialog below - which changes the settings of the granular playback of the loaded audio file.

60a. On/Off control.

Turns the granular playback on or off.

60c. Frequency Deviation.

This control sets the variation or randomness applied to the value set with the frequency control.

60e. The length parameter

sets the length in milliseconds of the grain.

60g. The start time deviation

takes the playback position specified by the position control and applies a random number to it, changing the playback start time. Values represents the range in milliseconds of the random variation.

60i. Voices.

This control sets the number of voices or grains used in the granular playback.

60k. Transposition.

Opens the transposition dialog allowing you to set the pitch of the playback via a keyboard, or a ratio relative to the original pitch.

On

frequency ▶ 20.

freq. deviation ▶ 10.

pitch deviation ▶ 5.

length ▶ 350.

length deviation ▶ 100.

start time deviation ▶ 100.

direction >

voices ▶ 16

envelope type None

MIDI sets pitch

Transposition

Default

60b. Frequency.

This refers to the length of time between triggering individual grains

60d. Pitch Deviation.

This control randomises the pitch of individual grains. Higher values produce wider changes in pitch.

60f. Length Deviation.

Randomises the length of the grain specified in the length parameter.

60h. Direction.

This control specifies whether playback should move forward from the start position, or backwards. Or a random combination of the two.

60j. Envelope Type.

This control allows you to use the mouse's vertical position on the waveform to specify the amplitude of the granular playback, allowing you to use both the horizontal and vertical mouse positions to alter the playback position and volume of the playback.

60l. MIDI sets pitch toggle

When enabled this toggle allows MIDI notes to change the pitch of the granular playback. You can set the MIDI device used by clicking the transposition button.

60m. Default.

Returns grain parameters to their default settings.

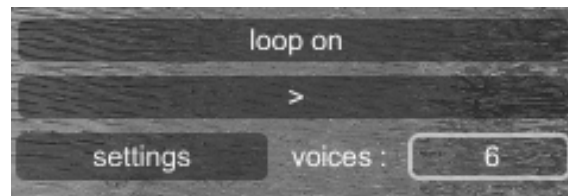
Sampler Playback Mode

61. Sampler Playback Mode.

When the playback mode selector is set to 'Sampler', you can use MIDI notes from an external controller to play the audio file back at different pitches or speeds. This mode takes the start and end positions defined on the waveform display as each notes' playback area.

61a. Loop on/off.

This toggle will loop playback if a note is held past the end point of the selection



61b. Forward / Reverse.

This control allows you to set which direction the sample will be played back.

61d. Sampler Settings.

By clicking this button, the transposition window opens showing an expanded settings dialog.

61c. Number of voices.

Here you can set the amount of voices that the sampler playback uses. The number shown is the number of individual notes that can play at the same time.

61d. Amplitude Envelope (ADSR)

This area allows you to set the sampler's amplitude envelope. You can use the dials to alter the envelope, or you can click directly on to the graphical display and move points around.



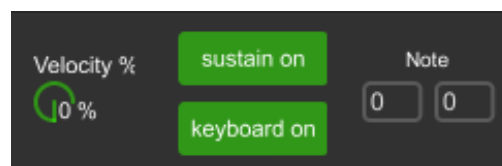
61f. Sustain toggle.

This toggle allows you to set whether the note will keep playing if you hold a note down.



61e. Velocity percent.

The higher the percentage the more sensitive the sampler will be to an incoming notes velocity.



61f. Note Display.

These number boxes display incoming pitch and velocity note information from the selected MIDI controller.

61g. Computer Keyboard Toggle.

When set to on, the computer keyboard can be used to play notes in the style of Ableton Live's computer keyboard toggle. Keys A-L play the white notes, keys W-O play the black notes, Z lowers the octave, while X raises it.

61h. Sampler Controller Selection.

This menu allows you to select a MIDI controller which will send note messages to trigger the sampler. By clicking the refresh button newly connected controllers will show up in the menu.



Right Column: Output Volume / Record / Output Filter

62. Output Gain.

This control sets the amount of gain applied to the combined delay banks after their own gain controls.

64. Record Start / Stop Toggle.

When clicked this button will start recording the files specified in the record settings dialog to the folder specified.

Files are named automatically with the audio locations (Delay banks / Output Audio / Input Effects / etc), and the date and time that recording was started. There is also a display below the start button showing how long it has been since starting to record.

63. Record Settings.

When clicked this opens the dialog below which allows you to specify which parts of the audio will be recorded, and to which locations.

A directory must be set before recording is started.

65. Output Filter.

This section allows you to set the type of output filter, and also the filters frequency and resonance (Q) settings.



66a. Set Record Folder.

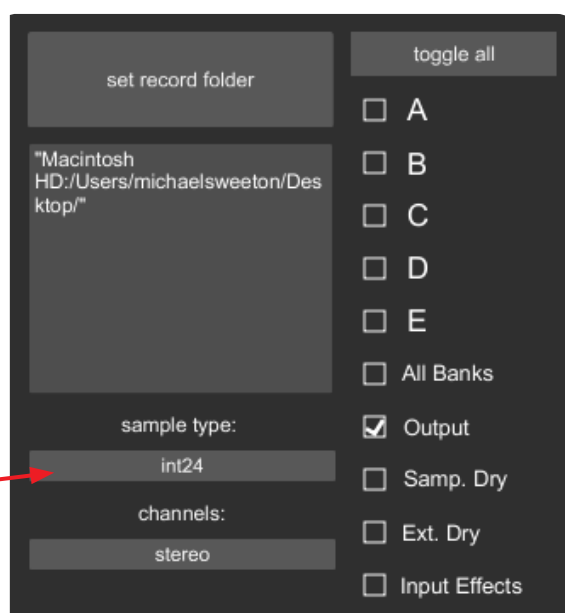
By clicking this button a dialog is opened allowing you to specify a destination folder for all audio files that will be recorded.

66b. Folder location display.

Here the full path to the specified location will be displayed

66c. Sample Type.

This control sets the type of sample, and the bit depth of the sample.



66d. Toggle All.

This control is a quick way of turning all of the record toggles on or off.

66e. Record Channels.

These toggles allow you to record audio from various locations around the application.

66f. Mono/Stereo menu.

Allows you to specify whether the recorded files will be mono or stereo.

Right Column: Reverb / Output Effects

The Reverb in Feedback is from Timothy Place's Tap Tool set of Max/MSP external objects. If you're using Max, I'd highly recommend looking in to Tim's objects, which can be found at the link here : <http://74objects.com/taptools>

Whilst this reverb implementation is usable, be aware that when sounds with excessive low frequency content are sent to it, it may produce high frequency fluttering sounds. Listen out for this, and if you're using Feedback as a sound generation tool and not in a live setting - I would recommend recording without the reverb then later adding a different reverb effect in your DAW of choice.

67a. Default.

When clicked returns the reverb parameters to their default values.

67c. Reverb Time.

Relates to room size / how quickly echo density builds up in the reverberator.

67e. Damping

Filter cutoff in Hz. Emulates the effect air and walls have on sound as it travels and reflects.

67g. Modulation depth

Controls the amount of effect the modulation frequency has.



67b. On/Off toggle.

Turns the reverb effect on or off.

67d. Decay time in seconds.

How long (in seconds) for the reverberant sound to decay 60 dB.

67f. Modulation frequency in hertz

Applied to the reverb's delay times internally.

67h. Lowpass Cutoff Frequency.

Filter stage to control the brightness of the reverb.

67i. Toggles on/off early-reflections.

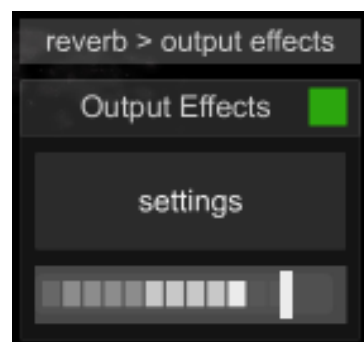
67j. Controls the main dry / wet mix of the reverb effect.

68. Effect Order.

This control allows you to specify in which order the reverb and output effects are used.

70. Output Effects settings.

When clicked this button opens the output effect window allowing you to apply effects to the output stage.



69. Output Effects on/off toggle.

This control allows you to turn processing for the output effects on or off.

71. Output Effects output gain.

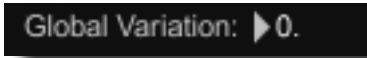
This gain fader allows you to set the gain applied to the output effects after they have been applied.

Output Effects.

The output effects dialog is a simplified version of the Input Effects section. There are no routing controls as the effects are applied at the output stage. The one difference between the input and output effects is that the output effects menu allows you to select a compressor from the menu. This compressor's controls are the same as those listed in the delay bank section (36).

Right Column: Global Variation / BPM

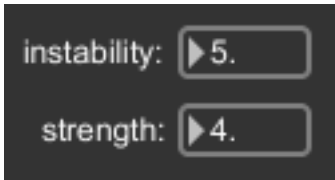
72. The global variation control is a quick way to send variation values to each individual delay within the delay banks. This varies the delay time which can produce subtle, progressive high frequency loss of the delayed audio, or wild pitch bending effects, depending on how much variation is being applied.

A dark rectangular button with the text "Global Variation: ▶ 0." in a light gray font.

73. 'Global Variation: ' By clicking the text beside the global variation number box, the global variation settings dialog will appear. There are two controls which determine the characteristics of the variation. This dialog can also be accessed via the top application menu 'Settings > Variation'.

Instability refers to how much variation there is between values. When this setting is low, the variation will be smoother. When it is high there will be more erratic jumps in the variation

Strength refers to how the range of the variation. Think of this control as amplifying the amount of the variation effect.

A dark rectangular dialog box with two controls. The first control is labeled "instability:" followed by a light gray box containing "▶ 5.". The second control is labeled "strength:" followed by a light gray box containing "▶ 4.".

74. BPM value.

This control sets the BPM from which the measure values are derived (33). When changing this parameter all of the delay times will change instantly.



76. BPM click.

When the toggle is checked you will hear a click on each beat relative to the BPM. The volume of this click can be set using the adjacent gain control.



75. BPM flash.

When the toggle is checked the adjacent button flashes in time with the BPM. This is to help you to play to the tempo using only a visual representation of each beat.

When the toggle is unchecked you can use the button as a tap tempo control, by clicking on the button in time to set the BPM.

Random Settings

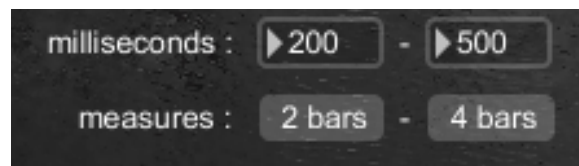
The Random Settings dialog allows you to control different randomisation methods for the delay times within the delay banks (34). Just like the delay banks there is an 'all' section at the top of the window which allows you to set various settings relating to how the delay times will be randomised.

77. Milliseconds.

These parameters allow you to set the range within which the delay time will be randomised within. The left number sets the low limit, whilst the right sets the high limit.

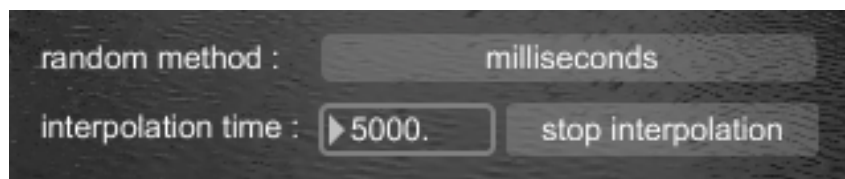
78. Measures.

This setting allows you to specify the range of measures that the delay time will be randomised to. In the picture, the randomisation will be within the range of one bar to four bars.



79. Random method.

This control sets whether the way the delay times will be randomised will be via milliseconds, or measures. When set to milliseconds, values may be anywhere within the range specified, whereas the measures setting will randomise delay times relative to the current BPM (74).



80. Stop Interpolation.

When clicked, this button moves to the new delay time immediately.

81. Interpolation Time.

This control sets the amount of time that it will take to reach the new randomised delay time. For example, if the current delay time is 100ms, and the new randomised delay time is 532ms, and interpolation time is 5000ms, then the delay time will move from 100ms to 532ms, over the course of 5000ms (or 5 seconds).



82. Random Settings Forward / Enable.

Also like the main delay banks, these controls allow you to forward the settings in the 'all' section at the top of the window to the individual delay bank randomisation settings below.

83. All Trigger.

The trigger button will trigger all randomisation at once. In addition to this, delay banks have their own individual trigger buttons so that they can be triggered independently.

Fades / Settings Application Menu

The fades dialog can be accessed from the 'Settings' menu. This dialog allows you to set the fade in and fade out times that will be applied when clicking the Record Enable control (9).

84. Seconds.

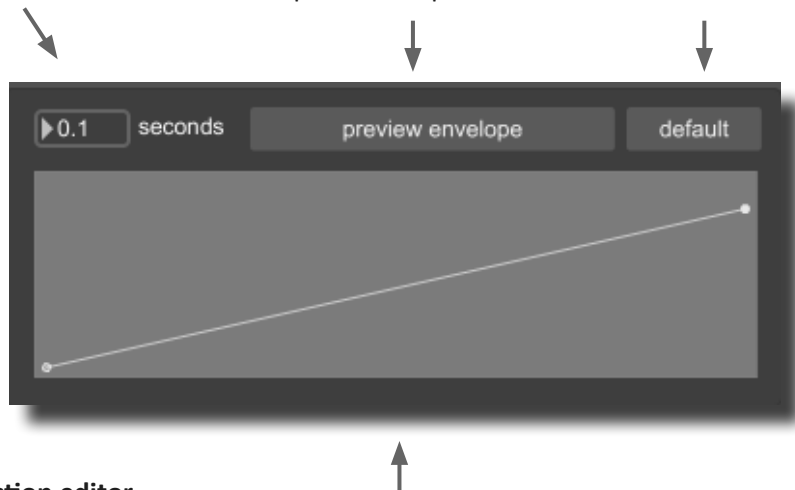
This control allows you to set the length of the fade in/out in seconds.

85. Preview Envelope

When clicked this button plays a sine wave and uses the envelope as an amplitude ramp.

86. Default button.

When clicked this button returns the fade in/out settings to their default values.



87. Breakpoint function editor.

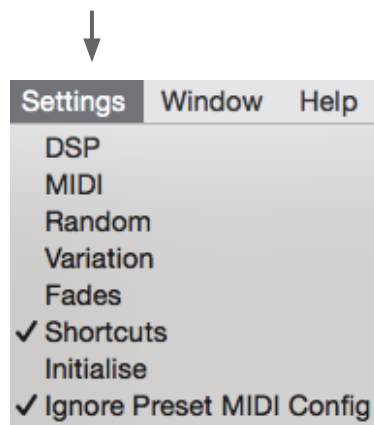
By clicking on the existing line in the editor you can add new points and move them around the editor. You can also change the location of existing points by clicking directly on to them.

88. Settings Menu.

The Settings menu can be found at the top of the screen, in Feedbacks application menu. It offers a way of opening the DSP / Random / Fades windows, and allows an alternative way of opening the MIDI window.

88b. Initialise.

This control sets the Feedback application to its initial values.



88c. Ignore Preset MIDI Config.

By default the MIDI learn settings are saved in the preferences file (page 21), and restored on load. When a preset is saved the applications MIDI settings are saved with it. This may mean that loading a preset will load a new MIDI configuration which you do not want. There may be cases where you want to save different MIDI configurations with presets - in which case you can uncheck this preference.

88a. Shortcuts. When this setting is checked you can use the following shortcuts with the computer keyboard.

[Command / Control + R] = Toggle Record All Delay Banks.

[Command / Control + Delete] = Clear All Delay Banks.

[Space] = Toggle Record Enable.

[1, 2, 3, 4, 5] = Toggle recording for individual delay banks.

[Command / Control + 1 2 3 4 5] = Clear individual delay banks.

MIDI

The MIDI section of the application allows you to use MIDI controllers to alter various parameters of the Feedback application. Generally there are two types of MIDI controls, faders and buttons. The faders allow you to move back and forth through the 127 values of that specific MIDI controller. The other type of control is a button or toggle, which typically outputs either 0, or 127 when pressed. In the Feedback application these MIDI controls are referred to as toggles, and will turn off and on when a value of 127 is received.

89. Refresh Controllers.

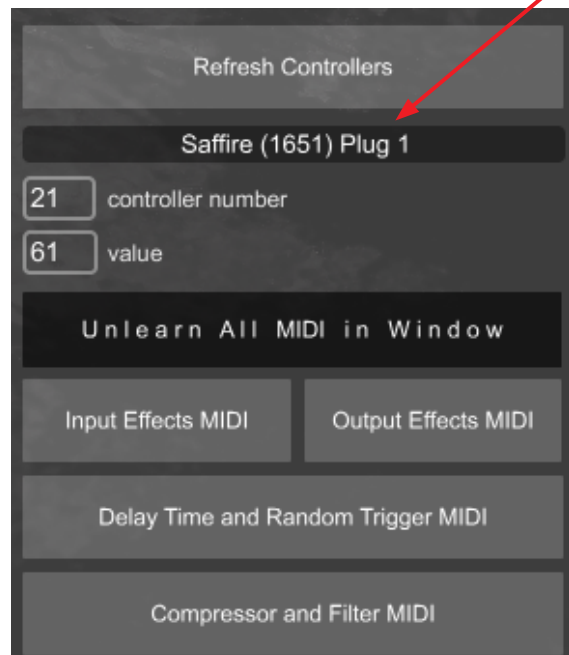
This button is to be used when you connect a MIDI controller after the application has been started.

90. Controller Menu.

This menu allows you to pick from MIDI controllers that are connected to your system.

91. Controller / Value.

These number boxes display incoming MIDI controller and value numbers, allowing you to see if MIDI is being received by the application.



92. Unlearn All MIDI.

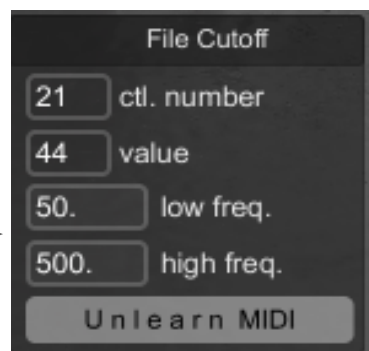
This button will unlearn all previous MIDI mapping in the window, but not sub windows.

93. Further MIDI Dialogs.

Here you can click on the buttons relating to different parts of the application to reveal MIDI settings for them.

94. MIDI Range Settings.

These settings allow you to map the range on to which the MIDI controller is mapped. MIDI has a range of 0 - 127. In the picture below this range is mapped to a filter's frequency cutoff control, the range of which is 450Hz (50-500Hz).



95. Learn/Unlearn MIDI toggle.

When clicked this button allows you to input MIDI data using a MIDI controller which will then be mapped to the parameter. It is also possible to 'Unlearn MIDI' once a MIDI controller number has been specified.

DSP Settings

The DSP Settings window allows you to set which drivers and devices to be used for the audio input and output. It is important to set these parameters when first using the application so that you can choose the correct output device and driver when using the Feedback application.

Audio on/off toggle. This control shows, and allows you to set whether audio the audio is turned on or off. It reflects the value of the on/off toggle in the main application window (1).

Driver Settings. This menu allows you to select which audio driver the Feedback application will use.

Input Device / Input Source / Output Destination / Playthrough Input. These settings allow you to chose the devices used for audio input and output. The Playthrough Input allows you to hear the input audio mixed with audio from the Feedback application.

Vector Sizes. These settings allow you to change the Vector or Buffer sizes that the application will use. By default Feedback uses a vector sizes of 512 samples. Generally speaking, smaller vector sizes will produce more CPU, whereas larger sizes will lessen it.

Sampling Rate. Here you can set the sampling rate that your audio driver will use. Feedback has been primarily tested at 44.1kHz (or 44100 as shown). Higher sample rates may degrade the audio quality and cause the application to become unstable.

Audio CPU. This display show how much CPU is being used for the audio processing in Feedback. To get a clearer picture of the CPU being used by the Feedback application, open Activity Monitor on Mac, or Task Manager on Windows.

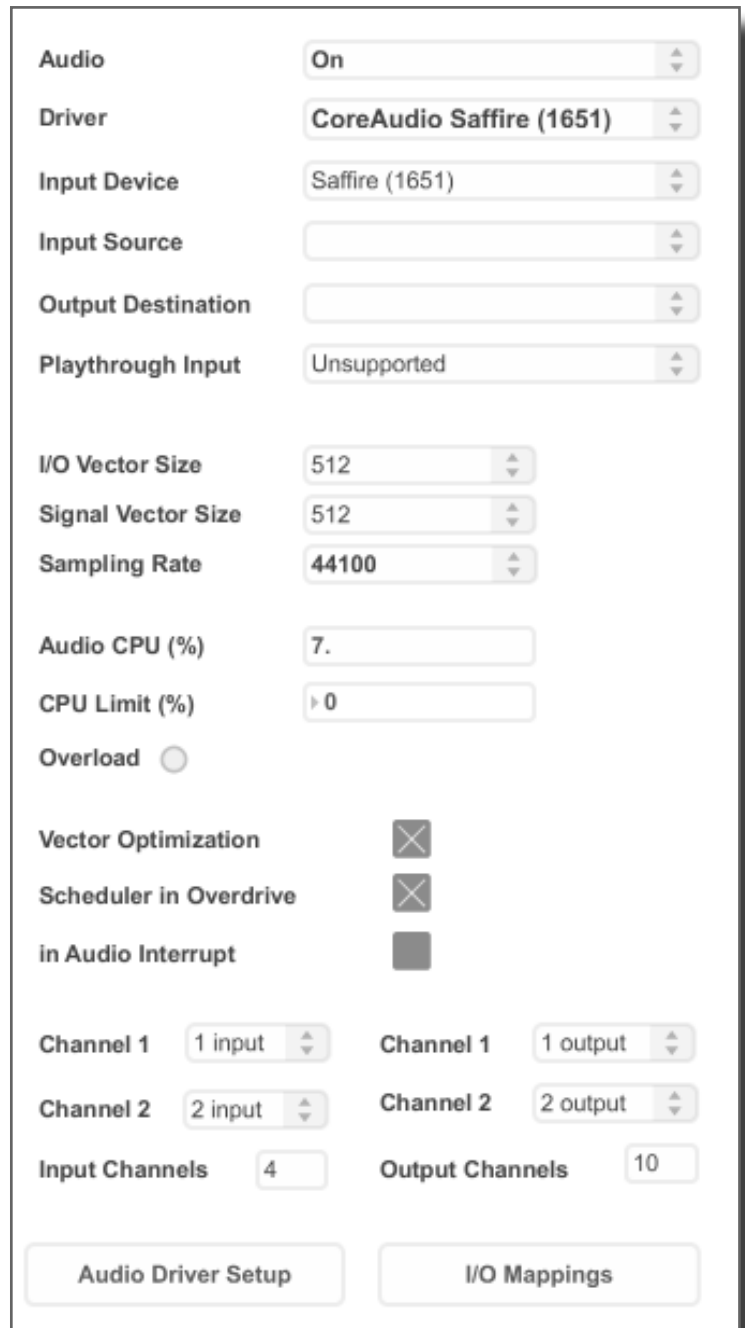
CPU Limit. This parameter allows you to set a limit on the percentage of CPU the Feedback application will use. By default this is set to 0, which does not apply any limit to CPU usage.

The Overload button will flash when the application runs out of CPU.

Vector Optimization / Scheduler in Overdrive / in Audio Interrupt. With the exception of 'in Audio Interrupt' these settings make the application more responsive when handling MIDI input.

Channel Input / Output settings. In this section you can set the default inputs and outputs that are available from your audio interface. For example if you want to send audio out of your interface's third and fourth outputs, you can select them from the right hand drop down menus.

Audio Driver Setup, when clicked this will open your systems audio driver settings.



The screenshot shows the DSP Settings window with the following controls:

- Audio:** On (toggle)
- Driver:** CoreAudio Saffire (1651) (dropdown)
- Input Device:** Saffire (1651) (dropdown)
- Input Source:** (empty dropdown)
- Output Destination:** (empty dropdown)
- Playthrough Input:** Unsupported (dropdown)
- I/O Vector Size:** 512 (spin box)
- Signal Vector Size:** 512 (spin box)
- Sampling Rate:** 44100 (spin box)
- Audio CPU (%):** 7. (text field)
- CPU Limit (%):** > 0 (text field)
- Overload:** (radio button)
- Vector Optimization:** (checkbox, checked)
- Scheduler in Overdrive:** (checkbox, checked)
- in Audio Interrupt:** (checkbox, unchecked)
- Channel 1:** 1 input (dropdown), 1 output (dropdown)
- Channel 2:** 2 input (dropdown), 2 output (dropdown)
- Input Channels:** 4 (text field)
- Output Channels:** 10 (text field)
- Buttons:** Audio Driver Setup, I/O Mappings

I/O Mappings. This button opens the I/O Mappings dialog which allows you to assign more than one channel to a single audio output.

Preferences File

When the application is first run, Feedback will save a preference file (*feedback_prefs.txt*) to one of the following locations...

Macintosh : “Macintosh HD:/Users/Shared/feedback_prefs.txt”

Windows : “C:/Users/Public/feedback_prefs.txt”

If the hard drive that Feedback is being run from is different from ‘Macintosh HD’ or ‘C’, Feedback will replace the default name with the name of the drive it is run from.

Now when you open the application, Feedback will recall the following settings...

- **Record directory / bit depth / sample rate / mono or stereo.**
- **Zoom Factor (for small screens).**
- **Shortcuts Enable / Disabled.**
- **MIDI Learn Configuration.**

Acknowledgments

Many thanks to all who have helped me over the years, either through education, creative projects, or support and enthusiasm for the software. I would not have been able to create these applications without the generous help of users on the Cycling74 forums. And of course Cycling 74 themselves, who continue to improve on a great software application in Max/MSP.

Thanks to the beta testers over both versions of the applications (apologies if I’ve forgotten anyone...). Charlie Grant, Clement Battung, Don Haugen, Ed Ten Eyck, Mario Isaac Borrell, Porya Hatami, Michael O’Bannon, Scott Simons, Ed Ten Eyck, Grant Gard, Fernando Carvalho, Yorgos Stasinoulis, John Denosky, Robert Hyman, Felix Petrescu, Dom Slessor, and John Alexander.