

Quick Start Guide



WAVEFORM
MUSIC PRODUCTION SOFTWARE

www.tracktion.com

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Getting Started

In this section we will cover how to download the Waveform application, as well as any associated plugins and demo songs.

Downloading and Installation

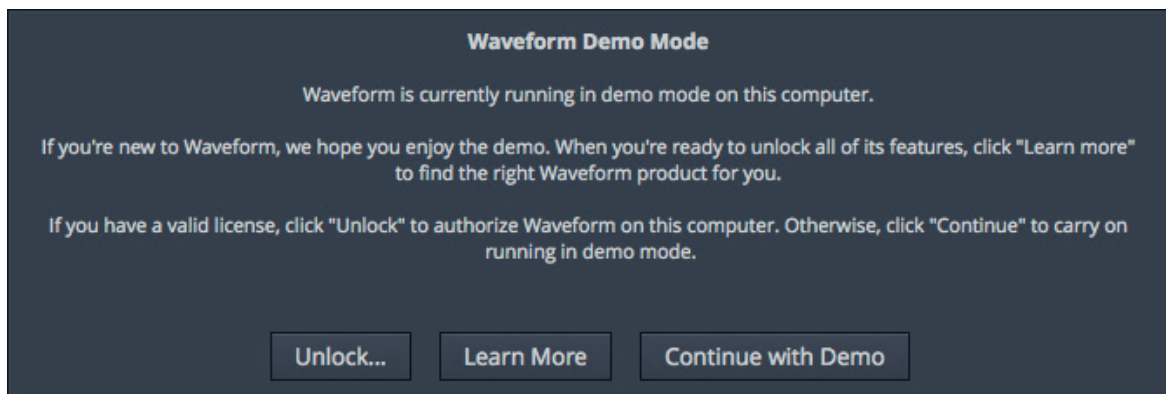
The Waveform software can be downloaded from our website: www.tracktion.com. You can download a free trial version, or purchase it on-line from the website at www.tracktion.com

On the website, enter an e-mail address and password to create an online account, and then select and download the appropriate version of Waveform.

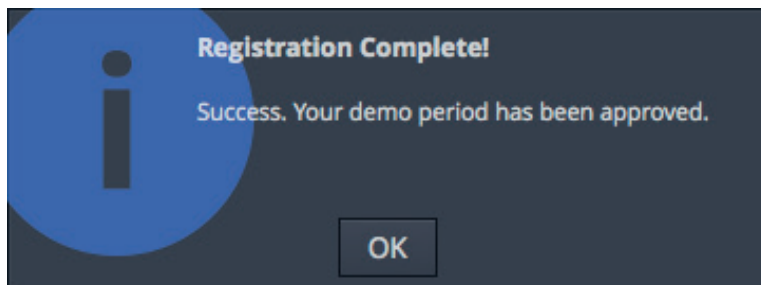
Windows Installation

For Windows machines, run the downloaded installer; the onscreen Setup Wizard will guide you through the different steps of the installation.

When the installation is complete, launch Waveform by selecting the installed desktop icon, or by selecting it from the list of programs. Initially, Waveform will run in trial demo mode.



If you have purchased a valid license, please select "Unlock" to be redirected to the login section of our website, using the e-mail address and the password you created previously. Waveform will then be authorized automatically.

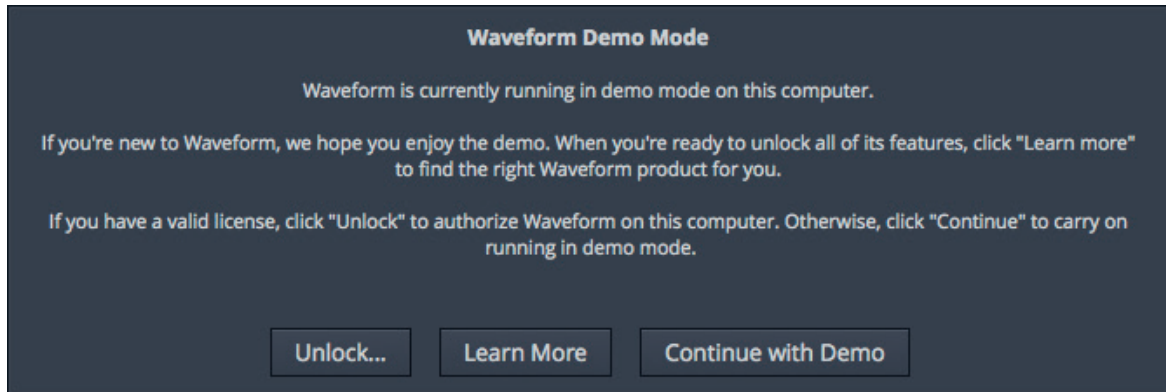


OSX Installation

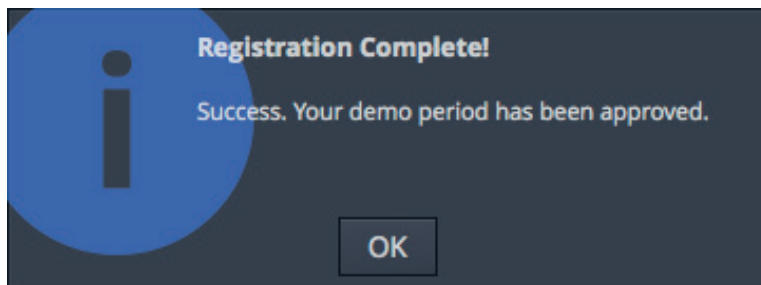
To install Waveform on a computer running OSX, download the 32-bit or 64-bit version of the installer .pkg file onto your desktop.

Double click on the .pkg file to launch the installer, then follow the onscreen prompts for the installer window.

When installation has completed successfully, Waveform will now be available to launch from your Applications folder. Initially, Waveform will run in trial demo mode.



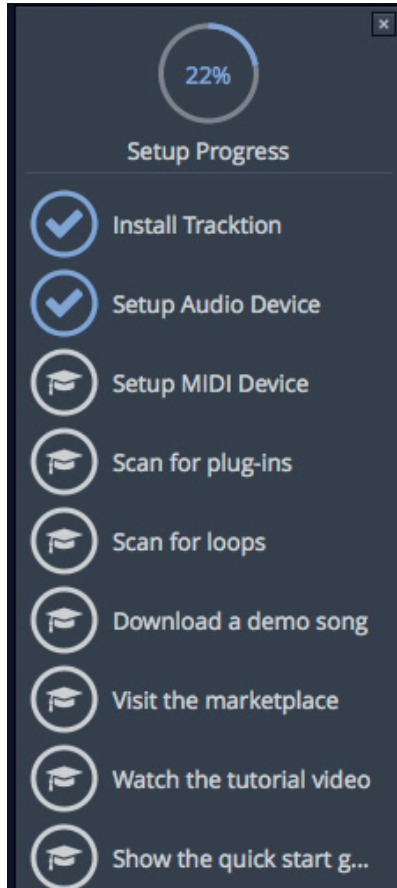
If you have purchased a valid license, please select “Unlock” to be redirected to logon to our web-site with your e-mail address and the password you created previously. Waveform will then be authorized automatically.



First-Run Setup Assistant

In this section we will run through the first-run setup assistant.

When launching Waveform for the first time, you will notice the 'first run setup assistant' on the left hand side of the interface:



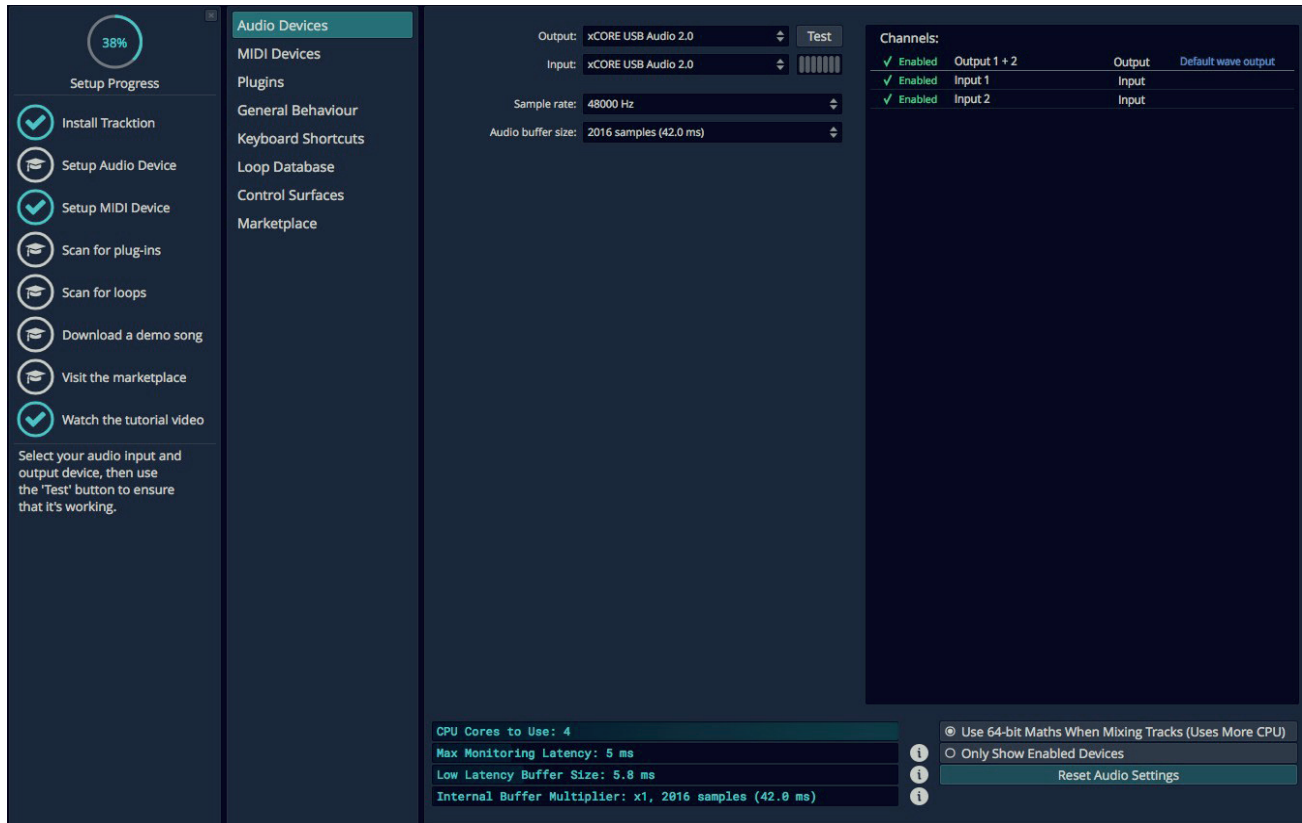
This setup assistant can be hidden and reopened at any time, regardless of whether it is completed or not, from the help menu in Waveform's lower left hand corner.

We recommend following each step, in order that the assistant can quickly configure your system, adding visual aids where appropriate.

Below we will step through each item in the setup list and review in further detail.

Setup Audio Device

Settings / Audio Devices

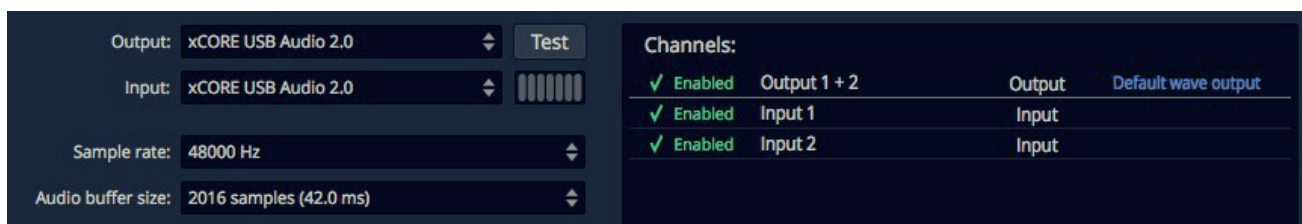


Note: Please make sure that all necessary device drivers are installed for any audio interface you wish to use.

Windows and Linux operating systems require specific device drivers that are provided by your audio interface manufacturer; we recommend ASIO drivers for Windows. If you do not have an ASIO driver, try the free one located at www.ASIO4all.com.

For **OSX**, many audio interfaces do not require additional drivers, although some manufacturers do require them for their hardware.

Any available device/drivers will be shown; pressing the 'test' button will play a tone out of the selected output. This helps if the drivers have names such as 'USB Codec' that may not seem relevant to your hardware (not all drivers are custom named by a manufacturer).



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Aggregating devices (combining the inputs and outputs of multiple devices) is possible at a driver level.

- In OSX, this is done in the “Sound” section of the system preferences window.
- In Windows/Linux, it is handled within the driver.
- Most manufacturers don’t provide aggregation in their drivers; in this case, use the ASIO4ALL driver mentioned above.

Sample Rate can be selected; the hardware device’s driver will provide the available sample rates.

Audio Buffer Size: This is a very important setting, as it controls the amount of latency associated with your audio I/O (see latency description below). The optimum audio buffer size is system dependent; a powerful computer will be able to run extremely low buffer sizes.

This number may need to be increased during a project, as more system resources are being used up by processing such as virtual instruments, high track counts and/or effects plugins. We have built some useful tools into Waveform to help with system resources; more on that later.

The ‘Channels’ area will display all available Input/Output streams presented by your audio device driver.

Channels:			
✓ Enabled	Output 1 + 2	Output	Default wave output
✓ Enabled	Input 1	Input	
✓ Enabled	Input 2	Input	

Clicking on the ‘Enabled’ field will toggle the selection between enabled or disabled.

If a stream is disabled, then it will not be available in your edit; this can be useful if your interface offers a large amount of inputs and outputs that are not being utilized (for example an audio interface with a large amount of ADAT format I/O). If you do not see all the expected I/O’s in the list, make sure you do not have the ‘show only enabled devices’ button active.

Clicking on the stream name, such as ‘Output 1+2’, will display the properties for this selection in the lower part of the screen, where you can make additional changes such as a custom name, stereo/mono settings, and more (more on this later).

If your device has multiple outputs, you can choose which pair will be the default stereo output, by choosing the ‘default wave output’. This selection will route all your tracks to this pair of outputs unless you choose to route to an alternate destination (more on this later).

Output Properties:

Output 1 + 2 (Wave Audio Output)

☒ Treat as Stereo Channel Pair

☐ Dithering Enabled

☐ Left/Right Reversed

Alias: Output 1 + 2

Input Properties:

Input 1 + 2 (Wave Audio Input)

☒ Treat as Stereo Channel Pair ☒ Live Input Monitoring Record Mode: Overlay newly recorded clips onto edit

Input Gain: +0.0 dB Filename: %projectdir%/%edit%_%track%_Take_%take%

Trigger Level: -INF dB File Format: WAV file Reset Filename

Time Adjust: 0.000 ms Auto-Detect... Bit Depth: 24-bit

Alias: Input 1 + 2 ☒ Use the Same Properties for All Devices

Note: What is “Latency?” Latency is the time it takes for a sound to travel from its source (for example your voice), through your audio interface into Waveform, through any processing, and back out the audio interface to your listening device such as speakers or headphones.

Although the time taken is very small and measured in milliseconds, if you are playing an instrument such as a guitar, you can perceive even very small delays, which can negatively impact a performance. Most audio hardware devices will have a hardware based zero-latency monitoring path to avoid this; be sure to check your hardware’s user manual to see what features are available. Waveform’s default settings are such that a recording input is not passed through to the output; this is because most hardware will handle the monitoring path.

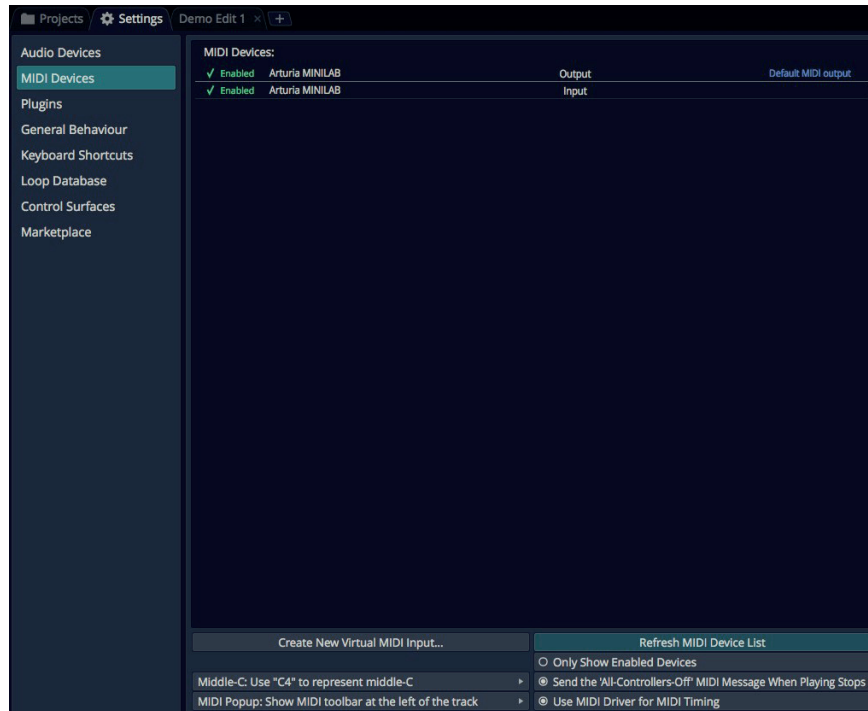
If you would like to monitor through Waveform, ensure the ‘Live Input Monitoring’ option is selected for the input.

You will notice that the Input properties screen has additional controls as well; for a full explanation of their operation, please refer to the Waveform reference guide.

Note: The ‘Reset Audio Devices’ button can be used to return to default settings; this is useful if you are experiencing problems with audio devices, as it can return all states to a known setup.

Setup MIDI Devices

Settings / MIDI Devices

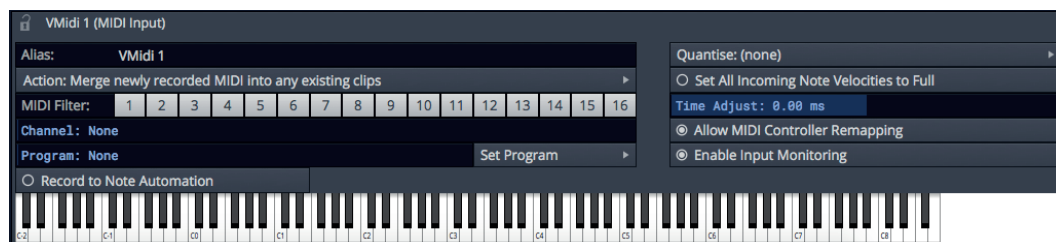


Note: Ensure all MIDI device drivers are installed; Windows/Linux operating systems require specific device drivers that are typically provided by your MIDI interface manufacturer.

All available devices will appear in the device list; if you do not see your device, check the driver installation and or connection and press the 'refresh MIDI device list' to rescan.

Clicking on the device will allow you to access additional parameters in the properties panel, including naming the device; see below:

MIDI Input Parameters



MIDI Output Parameters



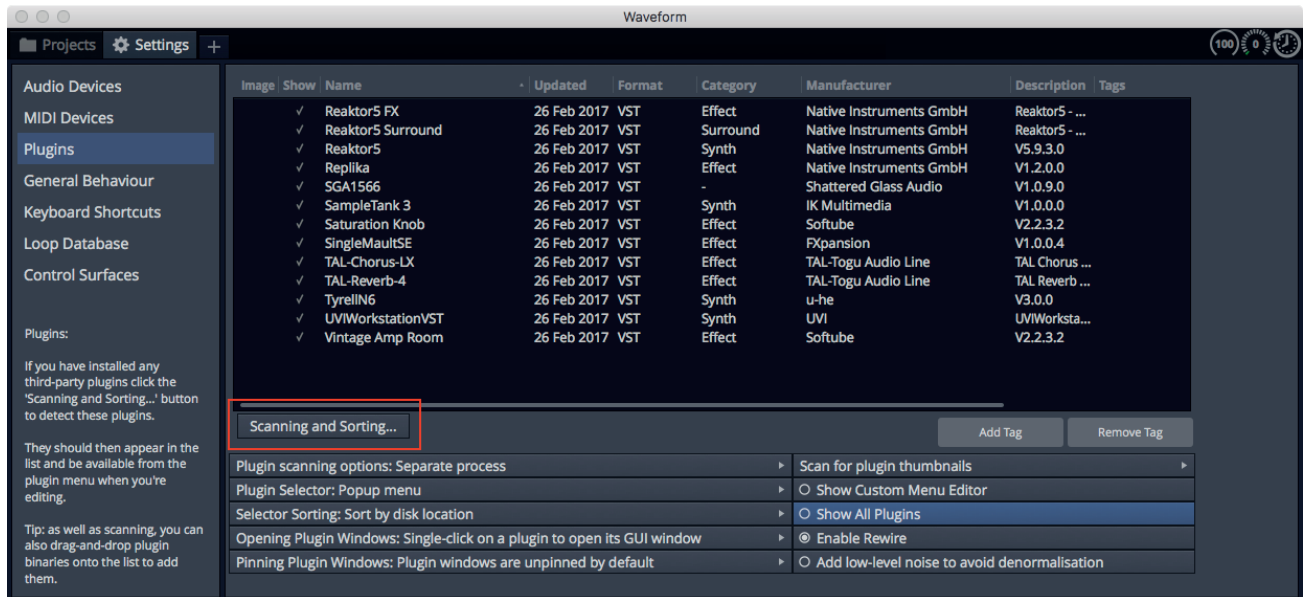
Scanning For Plugins

Adding plugins to Waveform is very simple: once the plugin has been installed (check your plugin's installation guide for detailed guidance), you can perform a scan; Waveform will then look for the plugin files, and then launch and test them before adding the plugin to the accepted plugin list. This process is designed to improve the stability of the Waveform application, since plugins can occasionally be incompatible or unstable.

Note: Plugin Bit Depth: The bit depth of your plugins must match the bit depth of Waveform. For example, if you are running the 32-bit version of Waveform, then this will only run 32-bit plugins. Most new plugins are available in both 32 and 64-bit versions, whereas older ones are typically only 32-bit.

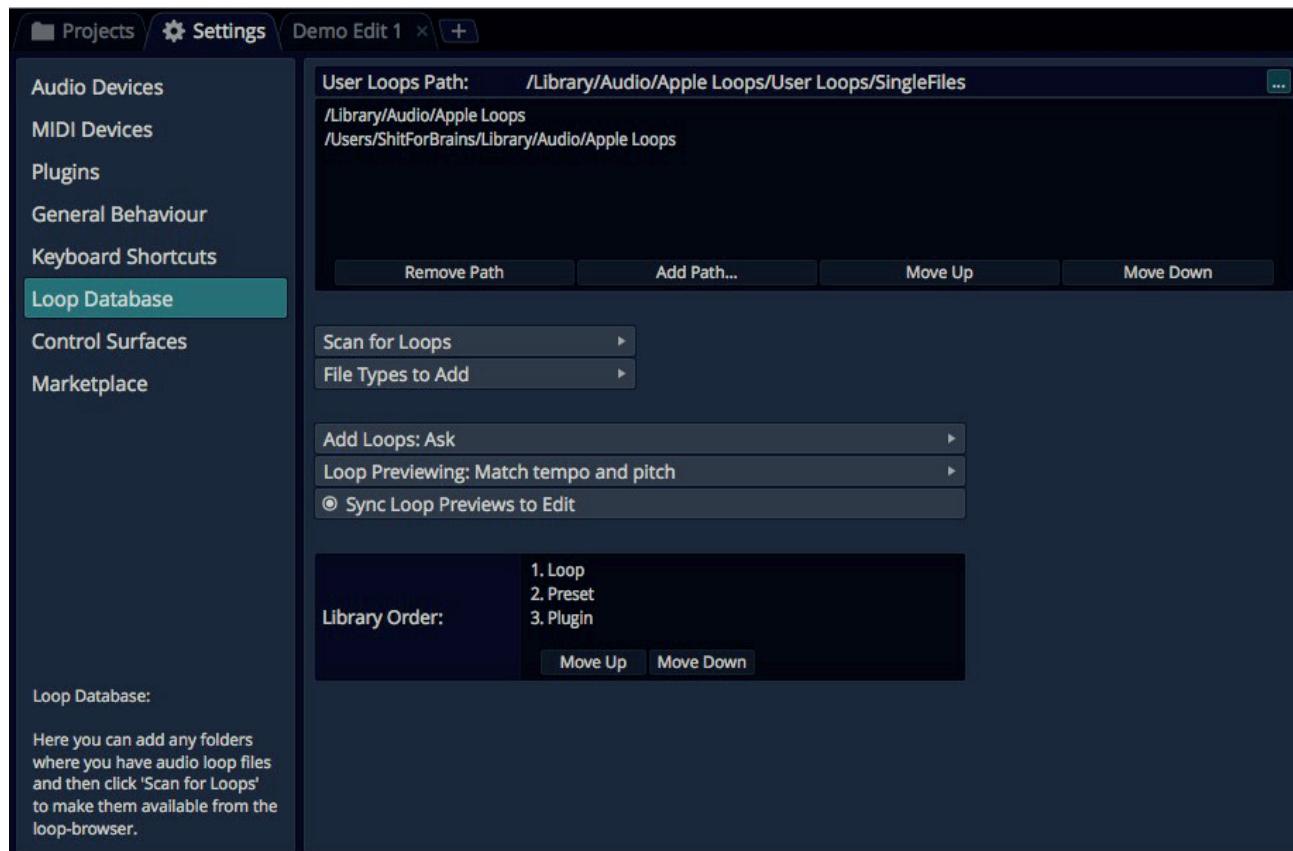
In the diagram below, you will notice the 'scanning and sorting' button; press this button to make a selection and commence a scan. Some plugins may fail to load; this might be due to an incompatible bit rate or a detected instability. As a result, an initial scan may take a few minutes, depending on the number of plugins you have installed.

Once a plugin has successfully been scanned, it will appear in the plugin list and will then be available for use in your edits.



Scanning For Loops

Similar to the plugin scan, you can also scan for loop databases installed on your system. This is less critical than scanning for plugins, as there are numerous ways to locate and add loops to your edits. Additionally, loops do not introduce any instability, so no testing is performed when scanning for loops.



Downloading a Demo Song

Demo songs can be easily downloaded from the first run wizard, and can be found at:

[www.tracktion.com/my account/my downloads](http://www.tracktion.com/my-account/my-downloads)

Once the file is downloaded, simply drag and drop it anywhere onto Waveform to import it; the file is an 'archive' which contains all the necessary files.

In the 'Projects' tab, double click on the edit to open it.

Note: Archives can be made of projects or edits; these are very useful if you wish to relocate, share or backup your work. The process of creating an archive gathers all the referenced material and makes copies to a single file; this file can then be moved and imported easily.

Visiting the Marketplace

The Marketplace is an integrated content discovery and delivery portal designed to assist in the process of adding plugins, instruments, loops, and more, as efficiently as possible. Visit it at <https://marketplace.tracktion.com/app/>

With new content being added all the time, if you are looking for new inspiration, your journey starts here. No need to put on a frock and drive to the end of town, you can shop right here in your jim-jams.

The screenshot displays the Waveform Marketplace interface. On the left is a sidebar with filters: 'SHOP BY' (empty), 'CURRENTLY SHOPPING BY' (1. Manufacturer: DDMF), 'CATEGORY' (1. Effects (8)), and 'SUPPORTED OS' (1. Mac 32bit (8), 2. Mac 64bit (8), 3. PC 32bit (8), 4. PC 64bit (8)). The main area shows a grid of products. At the top, there are controls for 'SHOW' (25 items, up arrow), 'Relevance' (dropdown), and list/grid view toggles. The first product is 'IIEQPRO VERSATILE CHANNEL EQUALIZER' by DDMF, priced at \$39.00. The second is 'LP10 10 BAND FLEXIBLE PHASE MASTERING EQ' by DDMF, also priced at \$39.00. The third is 'NOLIMITS LIMITER' by DDMF, priced at \$39.00. Each product card includes a thumbnail image of the plugin's interface, a title, a description, a 'View Details' link, and a shopping cart icon.

SHOP BY

CURRENTLY SHOPPING BY

1. Manufacturer: DDMF

CATEGORY

1. Effects (8)

SUPPORTED OS

1. Mac 32bit (8)
2. Mac 64bit (8)
3. PC 32bit (8)
4. PC 64bit (8)

SHOW 25 ↑

Relevance

IIEQPRO VERSATILE CHANNEL EQUALIZER

IIEQPro is the equalizer you would probably take with you on the proverbial island.

[View Details](#)

\$39.00

LP10 10 BAND FLEXIBLE PHASE MASTERING EQ

LP10 is your weapon of choice when you don't want to make any compromise in sound quality. Its FFT algorithm with a frequency resolution of 2.7 Hz at 44.1 kHz sampling frequency guarantees a smooth frequency response from the deepest bass all the way to top end.

[View Details](#)

\$39.00

NOLIMITS LIMITER

Look-ahead limiter. Your weapon in the loudness war. Get your message out loud and clear, with the turn of just one knob... sounds simple? Sounds good!

[View Details](#)

\$39.00

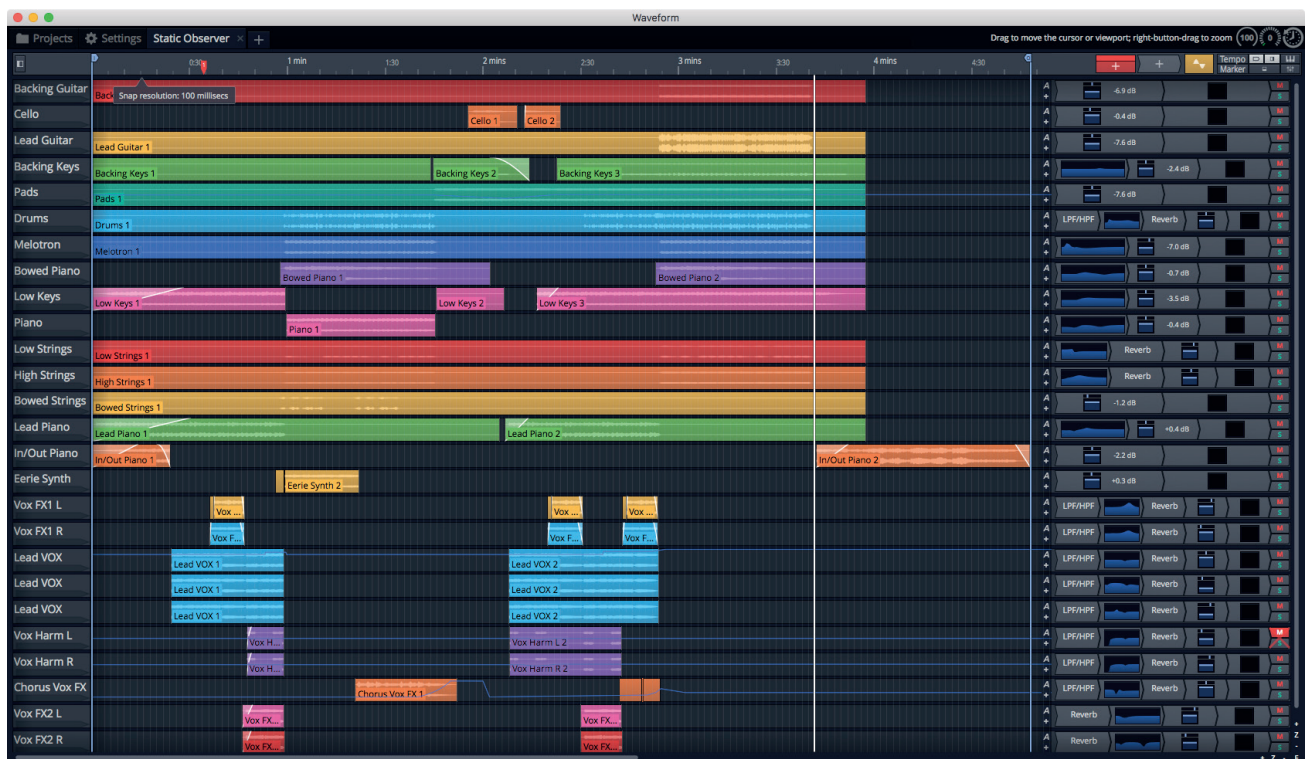
Opening a Project

In this section we will explore a demo project and discover the various key areas of the user interface.

Note: Popup Help: When you first run Waveform, the pop up help tool is active by default; this allows you to hover over features or controls, and a popup window will appear offering guidance. You can adjust the settings for the popup help in Menu/Help. Waveform is always offering advice even when the popup help is turned off; as you mouse over relevant areas, tips will be displayed in the top right hand corner of the screen.

In this section, we will be looking at the demo session 'Static Observer'; if you have not downloaded the project, simply visit the 'my downloads' area of your account on the main website, where you will find a link to download the archive.

Once downloaded, drag the archive anywhere onto the Waveform user interface to import the session. On the 'projects' tab, click on the 'Static Observer' project and then double click on the edit to open it. Below is the full screen image of the 'Static Observer' edit:



Tip: Press F8 to expand all tracks to fit the screen

To view more keyboard shortcuts, go to settings/keyboard shortcuts.

The 'edit' page is logically laid out with a left to right workflow: inputs on the left, editing in the middle and mixing/routing on the right. Across the top of the screen you can find global features such as timeline, tempo and marker tracks, while across the bottom of the screen are the menu, properties panel and transport.

All versions of Waveform and Tracktion utilize the same single screen paradigm, allowing you to quickly access all the features needed for any given task.

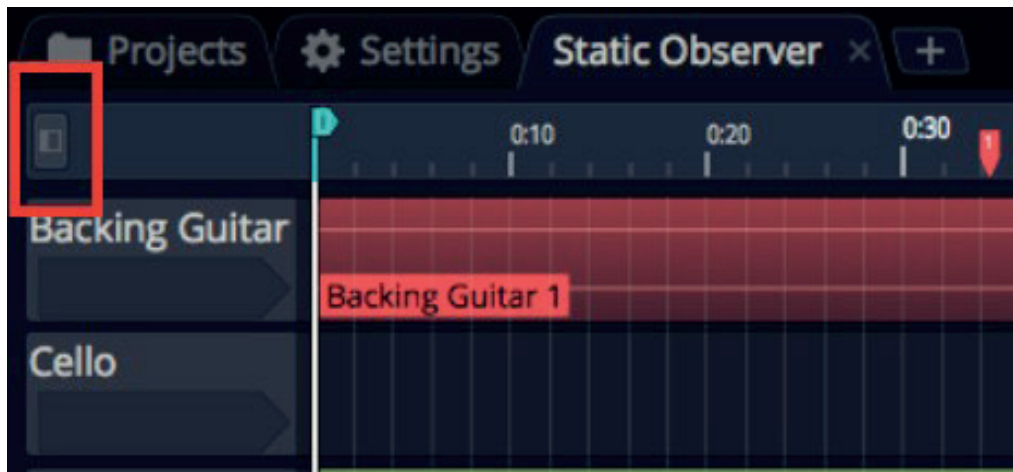
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The area of the screen can be minimized, allowing you to choose the appropriate layout of the interface depending on tasks at hand – these controls are highlighted below:

The collection of buttons in the top right hand corner of the screen show/hide the tempo track, marker track, track inputs, mixer area and properties panel; the buttons are arranged to match the visual orientation of the panels being controlled.

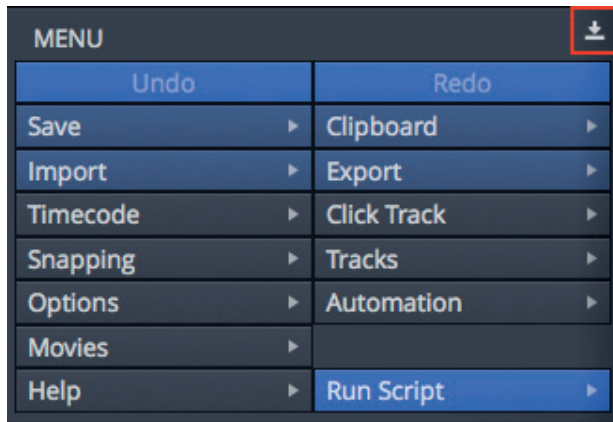


The tab in the top left hand corner of the screen shows/hides the browser panel, and can also be used to re-orient the panel by dragging the tab to either side or top of the screen.

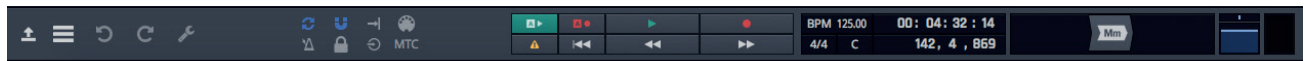


The button found in the top right of the menu area is used to switch between standard view and slimline view for the properties/transport panel:

Standard View

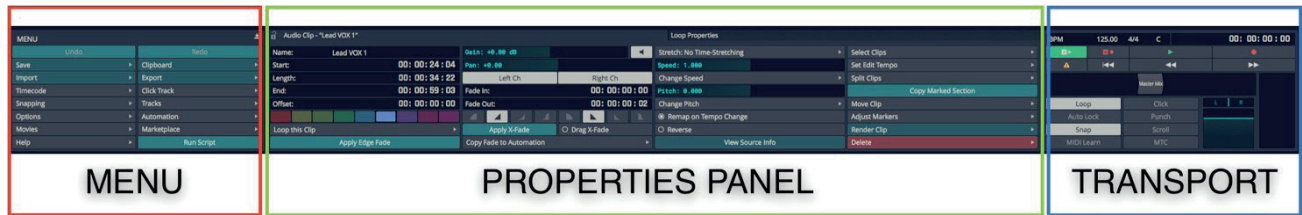


Slimline View



Menu/Properties/Transport Panels

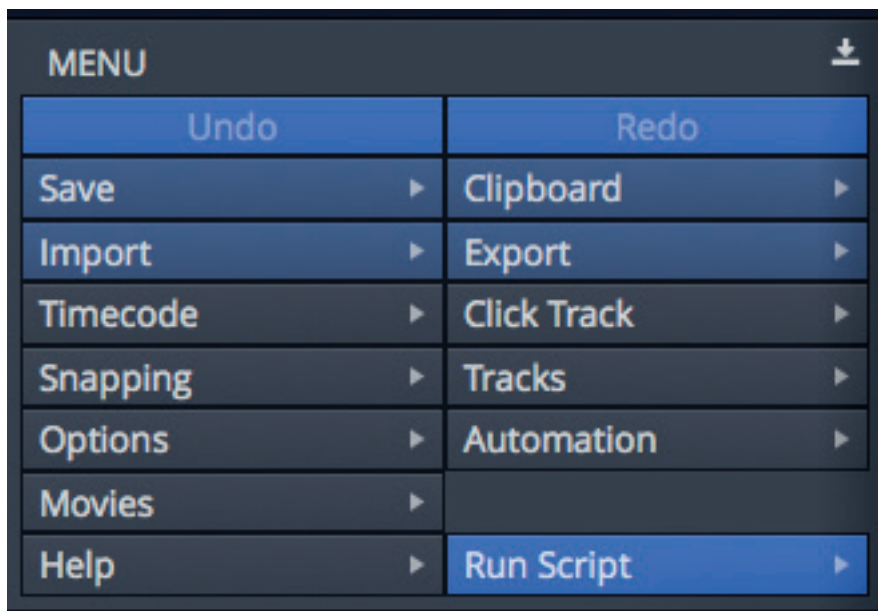
The image below shows the different sections of the lower control panel; highlighting the individual regions for the menu, properties panel and transport. These 3 sections are described in detail below:



Menu Panel

The menu panel groups together common settings; this is where you can:

- Create new tracks (tracks menu)
- Change the time code view from bars/beats to SMPTE (Timecode menu)
- Activate the click track (click track menu)
- Access the log file to send to support (Help menu)
- Export your edit to an MP3 file (Export menu).



Properties Panel

The properties panel always displays relevant information for whatever object in Waveform is currently selected.

The example shown below is for an audio clip. This functionality is known as ‘object oriented’ and is extremely useful, as it presents all of the common tools right when you need them, and does not overload the user interface with too much information.

Additionally, this type of interface does not bury important features in menus. This programming style was pioneered by Larry Tessler (Apple Chief Scientist) as part of his ‘modeless’ concepts

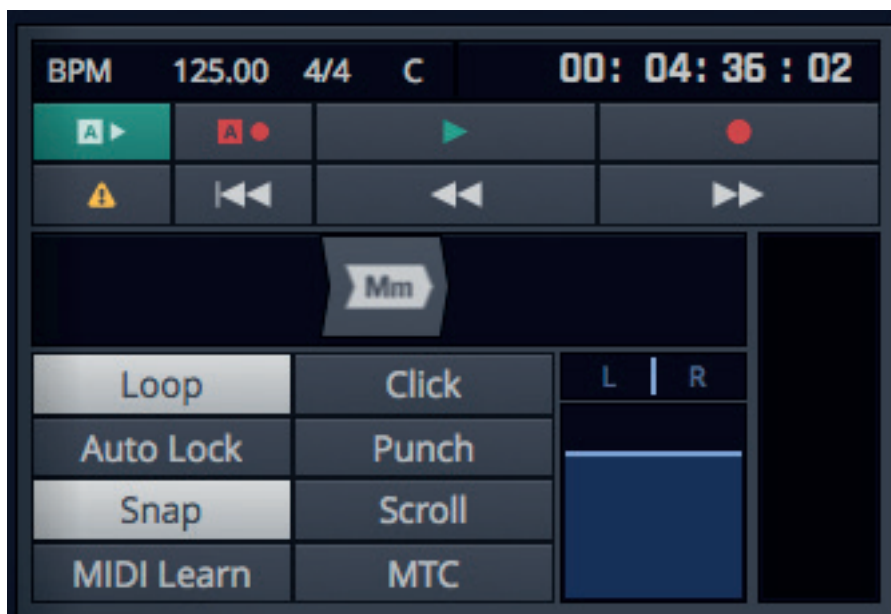


Transport Panel

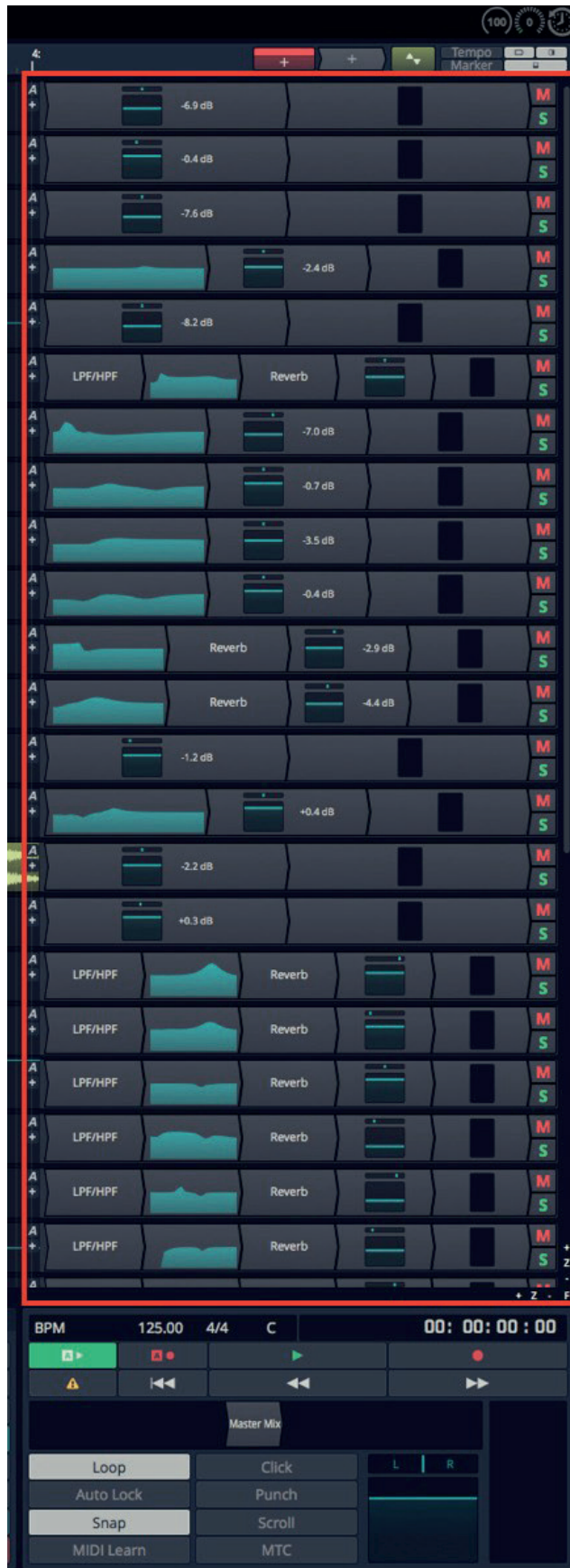
The transport panel is used to define the current edit's global tempo, time signature and playback recording properties.

Clicking on different areas of this panel will display additional information in the ‘properties panel’.

You can also drag plugins to the master L/R output and they will then act as an effect for the entire overall mix. For example, the Master Mix plugin is used in the image shown below.



Mixer Panel



Waveform's mixer panel at the right of the Edit page is unique in that its default version is inline with your tracks, rather than the more common vertical layout. This design ensures you never get lost when navigating a larger edit.

For users who prefer a more traditional "vertical" mixer view, Waveform offers that as well, by clicking on the mixer icon in the upper right corner.

The mixer is completely modular; you can drag new plugins anywhere into the mixer by dragging the 'new plugin chevron'; see image below.



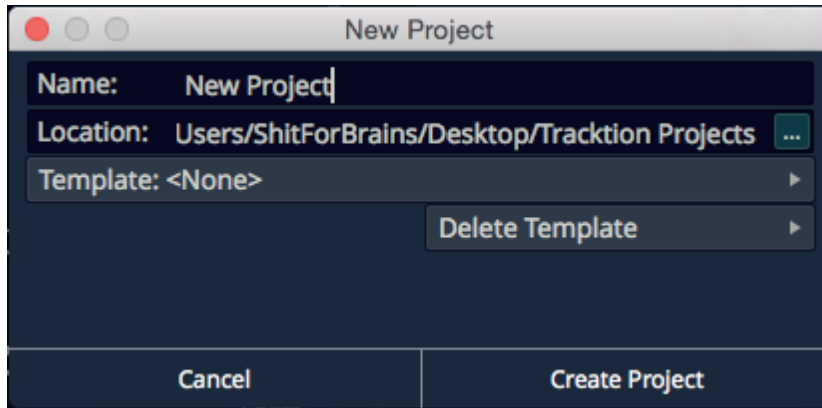
Clicking on elements in the mixer will present the relevant controls in the properties panel; double clicking on third party plugins will launch their GUI.

Elements within the mixer can be moved at any time, and you are completely free to choose the order of all the processing, including volume/pan controls (you can even have multiple volume/pan controls on a track).

Starting a New Project

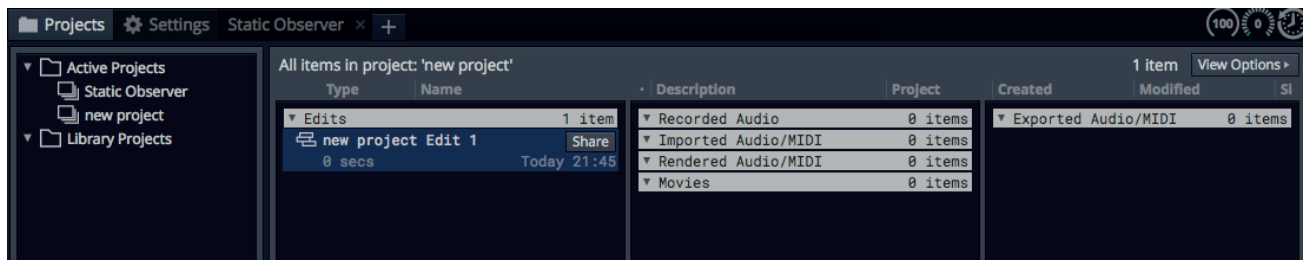
In this section we will start a new project and edit covering common workflow such as recording audio or MIDI and using loops.

To start a new project, go to the 'Projects' tab and choose 'New Project' from the menu area; this will open a dialog box where you can choose a name and location for the project.



Tip: if you have typical setups for your edits (for example you may have all channels from your audio interface routed to new tracks), then you can save your edit as a template from the 'save' menu. The next time you create a new project you can use the template as a starting point to save time

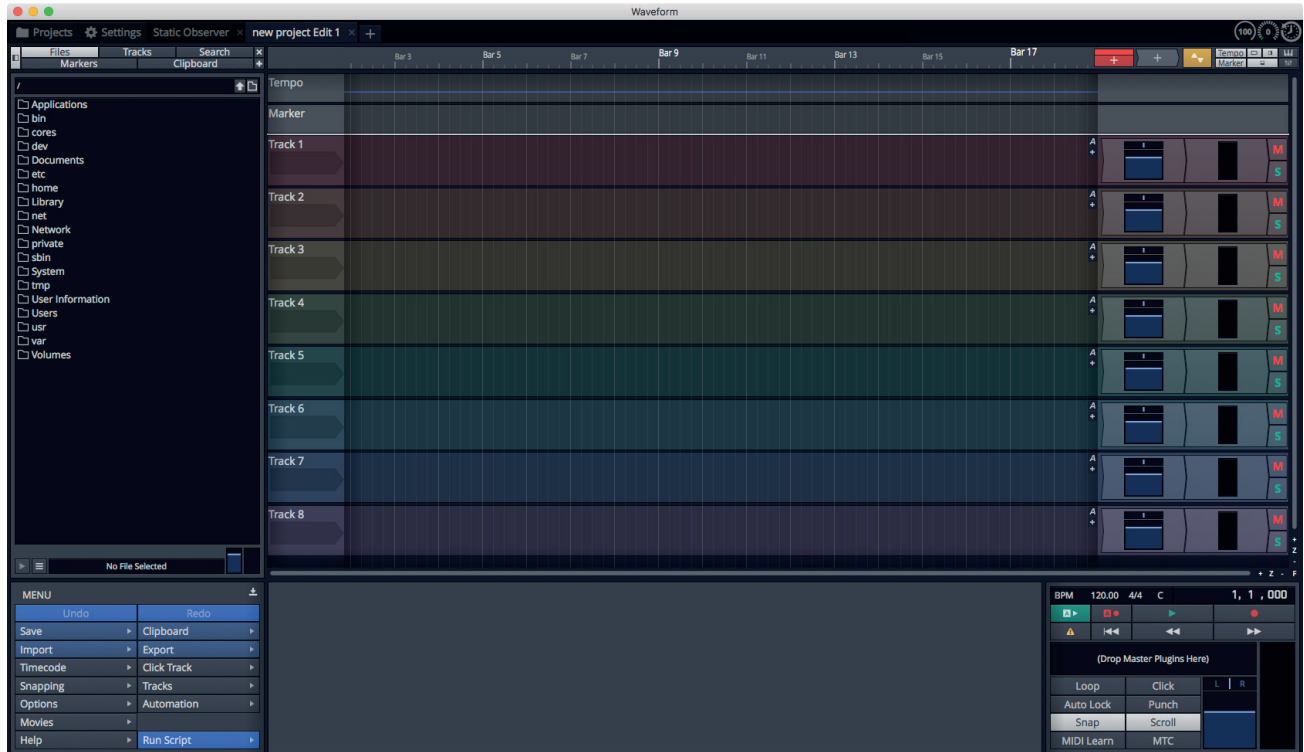
Creating the project will also create an edit; to open the edit, double click on the edit name to launch it.



Note: A project can contain any number of edits; you can freely create new edits and quickly copy edits, allowing you to test ideas and experiment with ease. Click on the edit name to access these features and more, in the properties panel.

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The default edit will look like this:

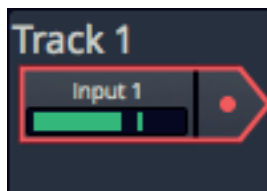


Choosing an input for recording is simple; click on the shaded arrow beneath the track name to show the input list. You can select any available:

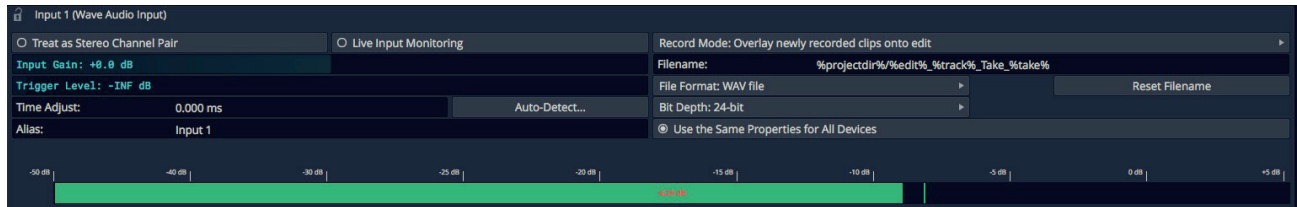
- Audio input (the names of the inputs can be changed in the settings tab under 'audio devices')
- MIDI input (the names of the inputs can be changed in the settings tab under 'MIDI devices')
- Other tracks (more on this later)

For this example, we are selecting an audio input: the input icon will update to look like the image below.

You will be able to see any incoming signal in the metering display (both in the input icon and also expanded in the properties panel). The input is not activated until the 'record arm' button is pressed (the red dot area of the icon).



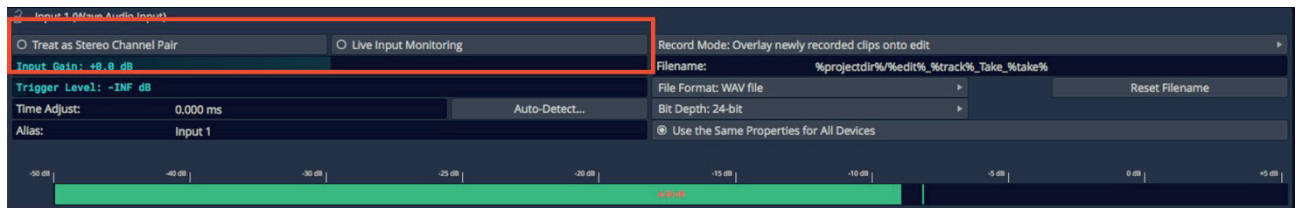
The properties panel will now show detailed information about the input device:



There are a couple of important features to note here:

- The 'Treat As Stereo Channel Pair' button allows you to switch adjacent inputs from stereo to mono.
- If your audio interface has two inputs, switch this to mono if you are recording a mono signal such as vocal or guitar.

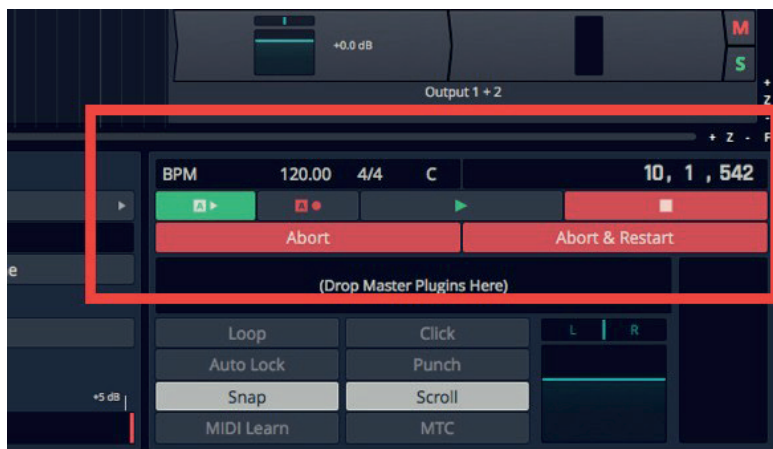
Waveform's 'Live Input Monitoring' function allows you to monitor a recording through Waveform's audio engine; By default this is INACTIVE, as most audio interfaces offer zero latency monitoring.



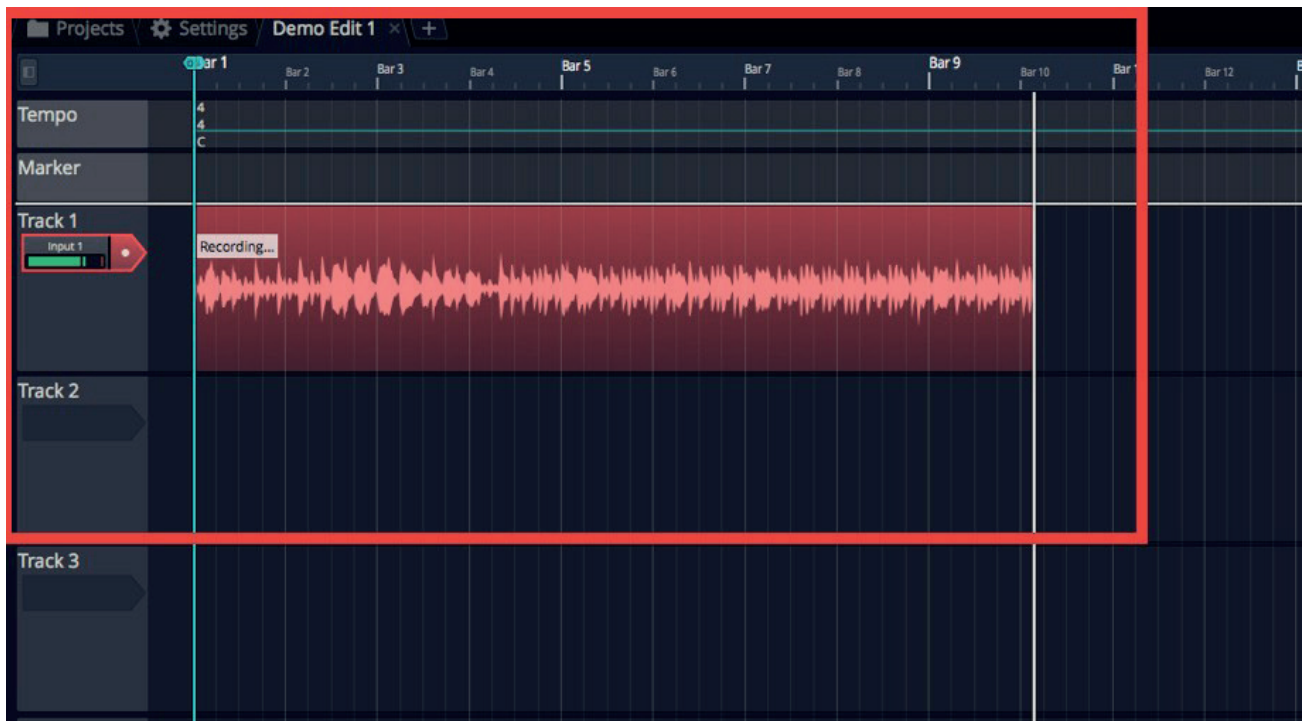
Pressing the 'record arm' button in the input icon will arm the input for recording; this allows you to have several inputs configured in your edit, but only those that are 'record armed' will actually record when the recording commences.

Before recording, it is a good idea to check your signal levels: try playing as loud as you will during your performance to ensure the input does not clip, then adjust the gain at the signal source (for example the microphone preamp) such that your signals approach 0 dB on the meters, but do not clip.

To commence recording, press the record button in the transport section:



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Tip: An input can be dragged to any other track input area to save time. You can record any type of input to any track: you could even record MIDI and audio to the same track if desired, although with no limitations on track count, it would be better to record them to discrete tracks.

Recording MIDI is very similar; the only significant difference is that MIDI is only data, and is used to trigger sounds from an instrument, typically a 'virtual instrument' (VI). The input is selected in the same way as described above. However, you must also load a VI onto the track. To do so, drag the 'new plugin' icon to the track mixer area:



As you hover the icon over the mixer area, you will notice you can place it in any position in the signal chain; any items in the mixer area can be freely moved by dragging at any time. Releasing the icon will bring up the plugin selector menu, where you can locate and select the desired virtual instrument.

Double-clicking on the instrument will open its custom graphical user interface (GUI) if available.

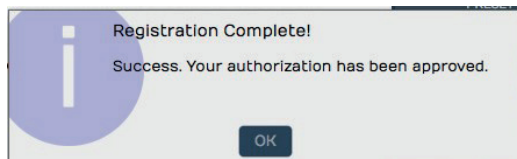


Authorizing Plugins

Initially, plugins available for purchase from tracktion.com will run in “Demo Mode” and will need to be authorized. The following example shows our “Master Mix” plugin. Click on the “Unlock” button at the far right.



As if by magic, another menu will appear, allowing you to enter your e-mail address and password for our website. If the plugin has been correctly purchased, the authorization will be approved.



Editing

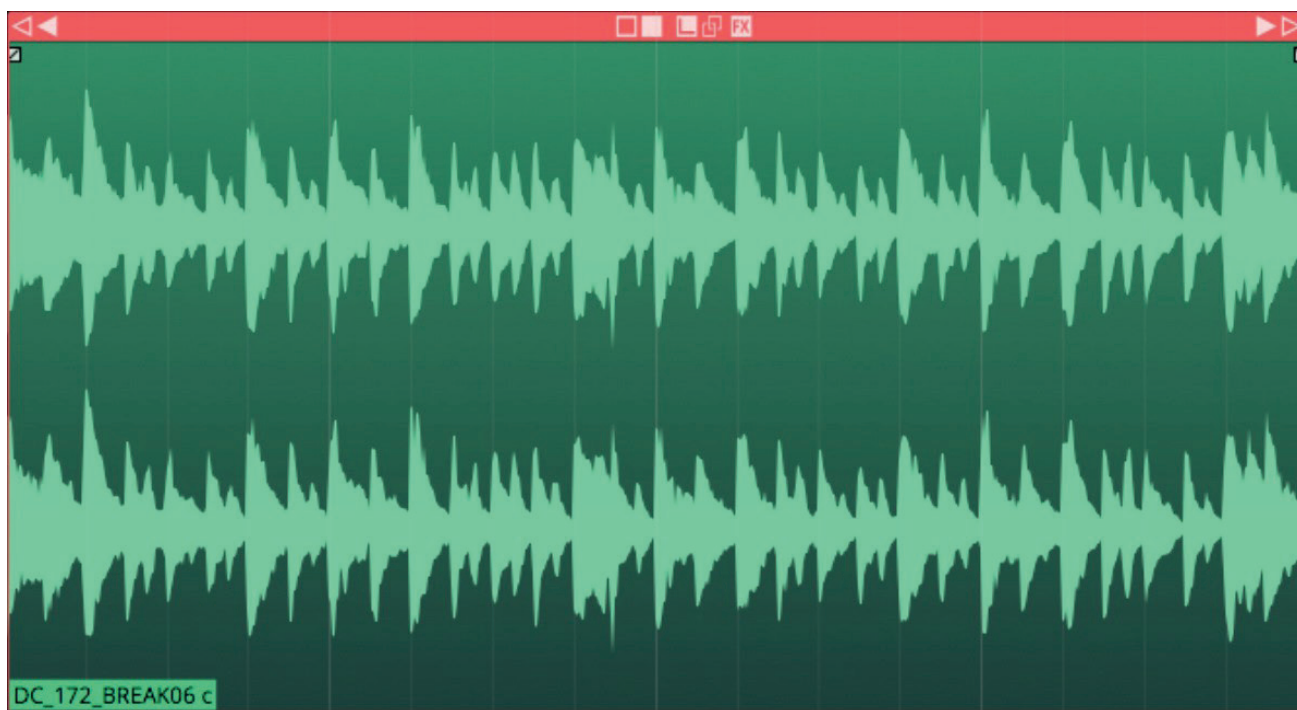
In this section we will learn how to edit clips.

Tip: Here are some really useful editing keyboard shortcuts:

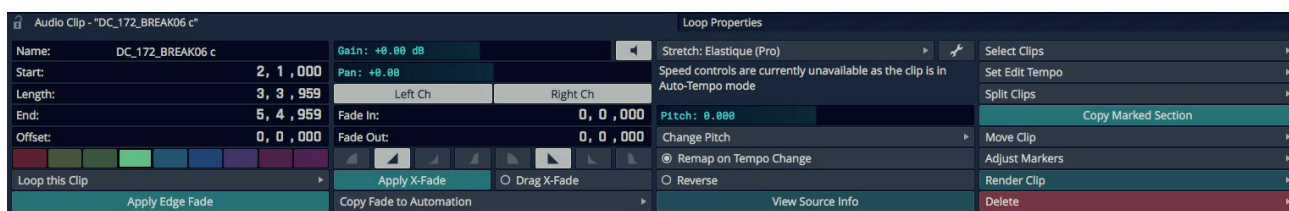
Split clip at cursor position:	/
Zoom in selection:	option/alt shift drag
Zoom out selection:	option/alt shift click
Scroll:	mouse wheel while cursor is over track input or mixer area
Zoom horizontal:	mouse wheel over edit area
Zoom vertical:	control mouse wheel over edit area
Fit all tracks to screen:	F8

Editing Audio

As part of the modeless operation in Waveform, all of the necessary editing tools can be found at the clip level. You will notice various editing tools nested in the top bar of the audio clip, as seen below.



Secondary editing controls can also be found in the properties panel, when a clip is selected.

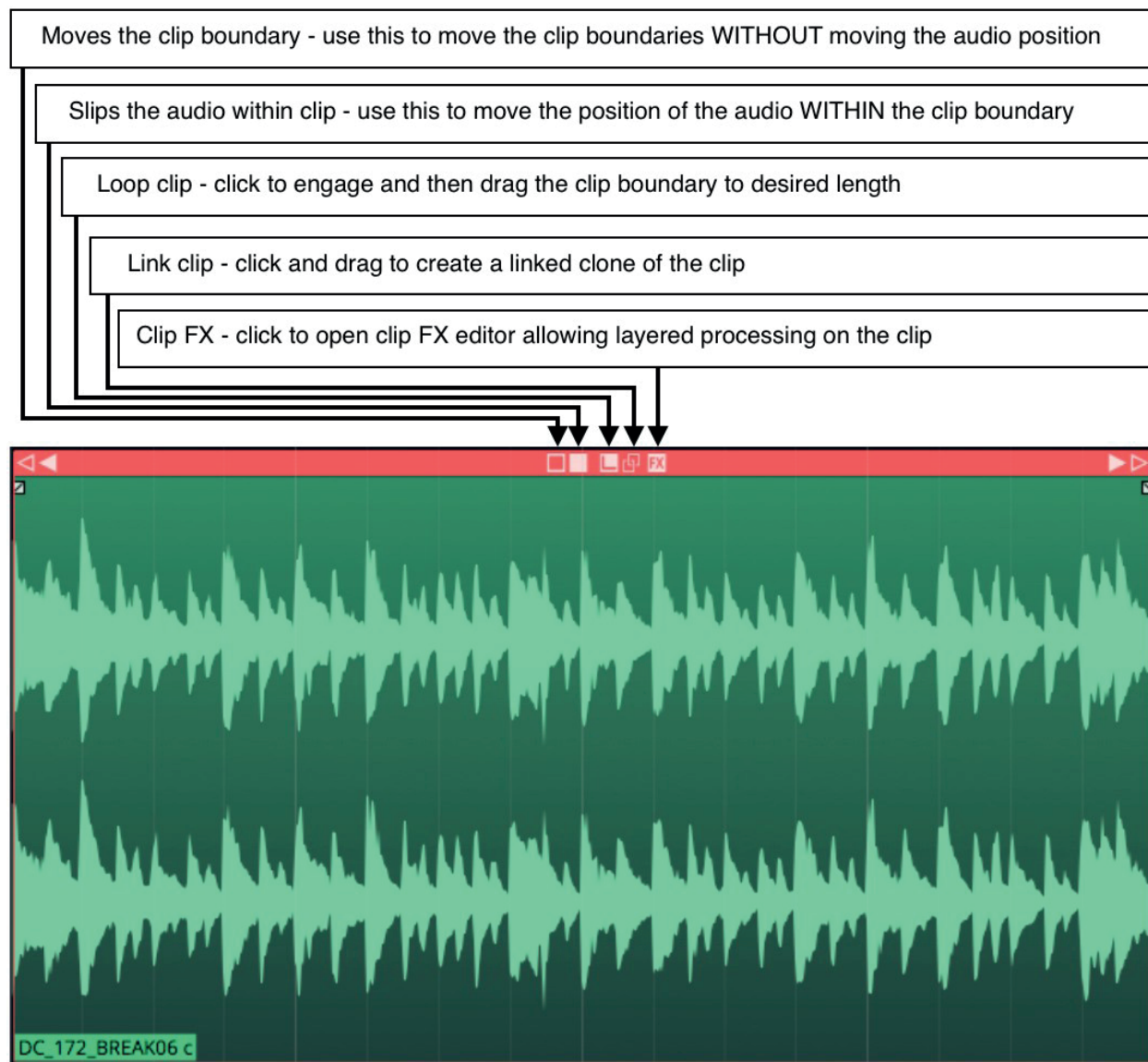


The Editing Controls

The editing controls at the top of a clip work as follows:

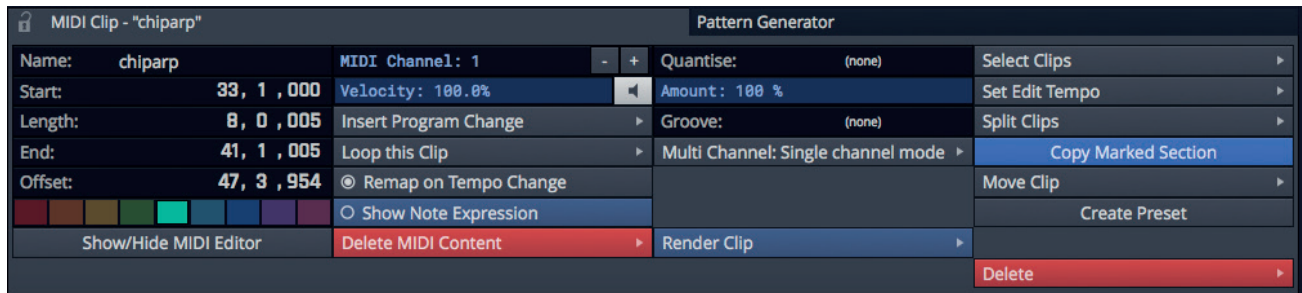


The Editing Controls (continued)



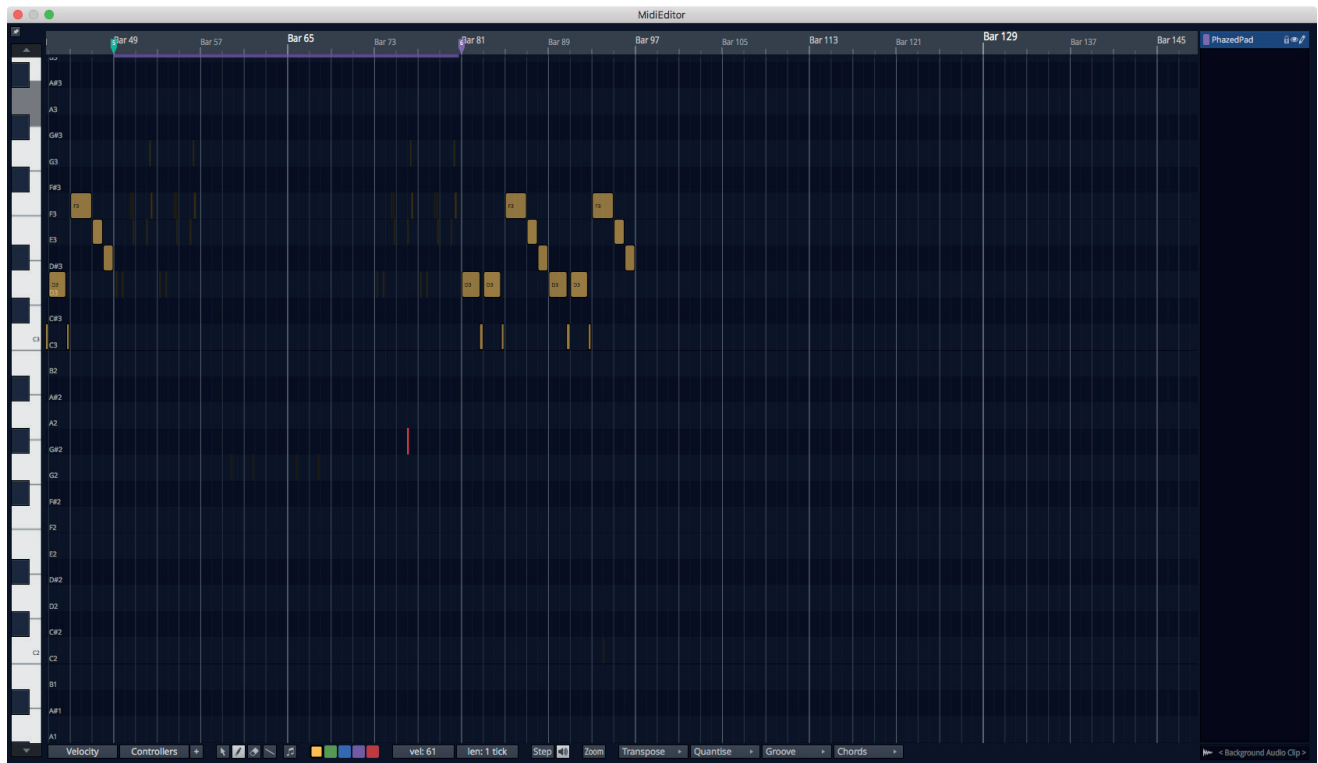
Editing MIDI

You can set the MIDI input to automatically quantize, which is helpful if you are not an accomplished keyboard player; click on the input icon and choose your level of quantize from the properties panel.



Waveform also contains a comprehensive set of MIDI editing tools, which allow you to work with and improve the timing, performances, and creative aspects of the MIDI data you are working with. The screen below shows the properties panel that appears when a clip containing MIDI data is selected.

You can also show/hide the dedicated MIDI editor window, where you can graphically drag the individual MIDI notes in space, to change their pitch, timing, and duration.



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Waveform even contains creative MIDI composition tools, such as the MIDI pattern generator shown below. Using this tool, you can quickly and easily create musical sounding patterns and arpeggios.



Racks

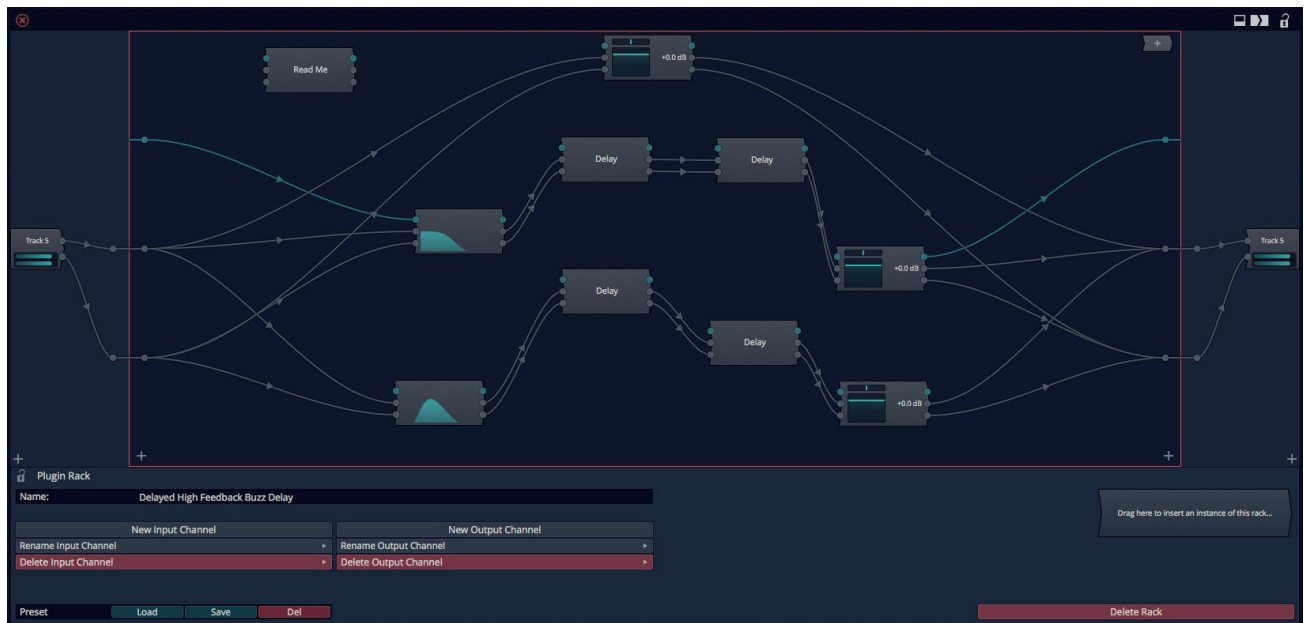
In this section we will explore the rack environment. Racks are an extremely creative tool within Waveform, allowing you to create combinations of processing, linking instruments freely and routing flexibly.

To create a rack, or recall a preset rack, drag the 'new plugin' icon to your track and then select from the 'racks' menu.

Plugins or instruments can be dragged into the rack, and connected using the virtual patch cables. They can then be routed to any number of tracks, as well as saved for easy recall. MIDI and audio data can both be routed, and all inputs and outputs are shown for multi channel plugins.

Common uses for racks are as follows:

- Sound design: Load multiple virtual instruments and add DSP to the signal chain. This allows the user to create complex and layered soundscapes
- Recallable FX chains: Create your favorite combination of processing. For example, a vocal processing chain for a particular singer, recallable at the touch of a button
- Complex routing: Route single instruments to multiple destinations for creative mix processing.



Mixing

In this section we will explore Waveform's modular mixing capabilities. The default integrated mixer is shown below, but the concepts all apply equally to the vertically oriented traditional mixer as well.

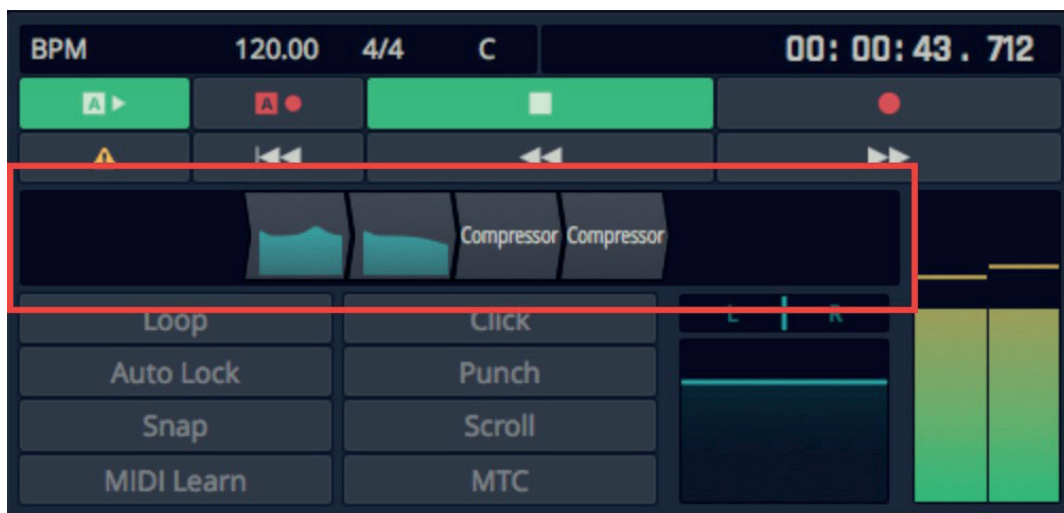
The mixer in Waveform is completely modular, allowing you total freedom to design the signal flow. Simply drag elements of the mixer to move them and/or drag the new plugin icon to add elements:



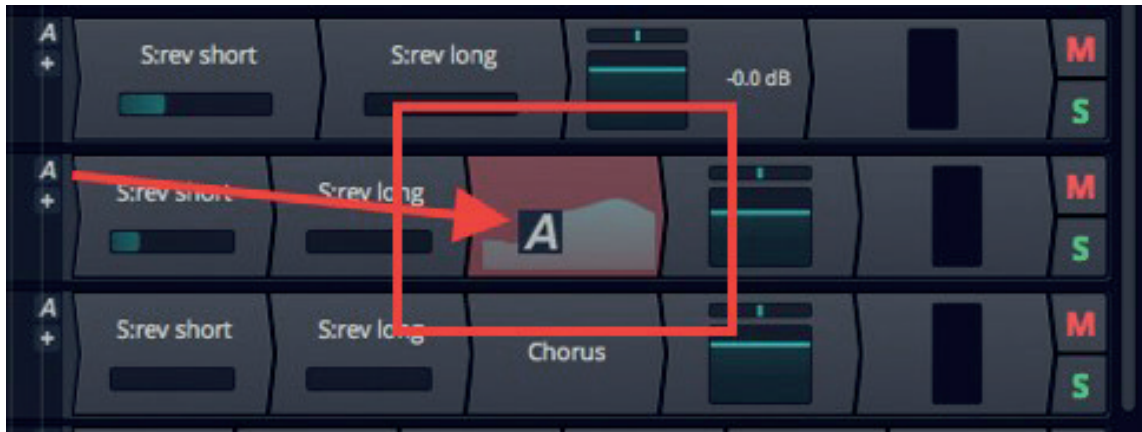
Selecting any single element will display detailed information in the properties panel, and double clicking will launch the plugins user interface (where available).



Plugins can be added to the master output bus by dragging the new plugin icon to the 'master plugins' area. This is useful for processing an entire mix with mastering type effects such as eq or limiting.



Automating plugins is very easy: simply drag the small 'A' found at the end of each track to the desired mixer element you wish to automate:



This will then create an 'automation lane' in the edit area; double click anywhere on the line to add automation nodes, then drag nodes to change values.

The red 'M' and green 'S' buttons in the right edge of the mixer area are 'Mute' and 'Solo' respectively; These allow you to quickly isolate tracks for monitoring.

Traditional Mixer Orientation

If you prefer, you can also select a more "traditional" vertical mixer orientation by clicking on the mixer icon in the upper right hand corner. This will change the screen to a traditional, vertically-oriented mixer that appears underneath the place of Waveform's default left to right interface, as shown:



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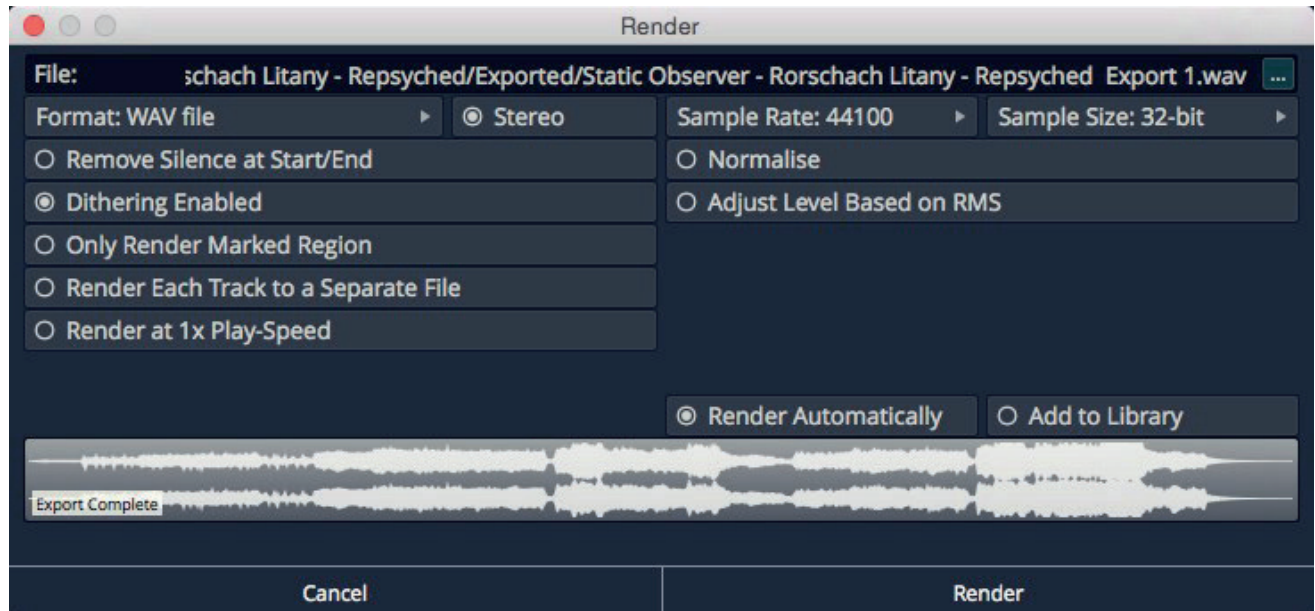
The traditional mixer has other useful capabilities; It can:

- Be split off into its own separate window, useful when working with two monitors
- Can be viewed with/without the properties pane at the bottom of the screen
- Various elements of the mixer's "channel strip" can be hidden/shown, allowing you to tailor the mixer screen to suit your individual style of working.

Completing a Project

In this section we will learn how to export an edit to a file type, backup or move a project.

When you are satisfied with your edit and you would like to export it as a file, for example an MP3, all you need to do is choose the 'export' menu and then 'render to a file'. This will launch a window where you can set your preferences such as file type, sample rate and bit-depth:



Archiving a project or edit is an important tool; this will gather copies of all the information and assets associated with the project/edit and compress them into a single file. This file can then be moved easily, either for storage or sharing with a bandmate. To unpack an archived file, simply drag anywhere onto the Waveform user interface.

To archive an edit, within the edit screen select the 'export' menu / create an archive of this edit'.

Additionally, the edit can be selected in the 'Projects' tab and archive option appears in the properties panel. Projects are archived by selecting in the 'Projects' tab and properties panel.



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