



Documentation

Table of Content

HOW-TOS	5
FIRST STEPS	5
How to navigate	5
How to setup your Audio Preferences	7
CREATE	9
How to add a Track	9
How to add an Audio Track	10
How to add an Instrument	10
How to add an Effect	12
How to create a Send effect	13
How to add an Audio Pattern	14
How to add a MIDI Pattern	14
How to add MIDI Notes	15
How to add Automation Points	16
RECORD	17
How to record audio	17
How to record MIDI Notes	18
How to record MIDI CC events	20
How to record Plugin Parameter Automations	20
PROJECT	21
How to change tempo	21
How to rename elements	22
How to import audio/MIDI	23
How to export audio	24
How to invite people to a Project	27
How to delete a Project	29
PATTERNS	29
How to move, resize and loop Patterns	29
How to split a Pattern	31
How to add fades	32
How to time stretch	33
How to link MIDI Patterns	33
How to change Pattern Layer	34
MISCELLANEOUS	35
How to copy elements	35
How to loop playback	35
How to resize a Track	37
How to change Snap	38
How to ignore Snap	39
How to quantize	39
How to change velocity	40
GLOSSARY	42
Admin	42
Arm Record	43
Arrange	43
Arrow tool	44
Audio Input	44
Audio Output	45

Audio Pattern	45
Audio Track Plugin	46
Audio Track	47
Automation Point	48
Aux Rack	49
Cable Connection	49
Caret	51
Chat	51
Clipping	53
Clone	53
Contributor	54
Control change	54
Edit mode	54
Effect (Plugin)	55
Eraser (Tool)	55
External connections (Rack)	56
Freeze (Collaborative)	57
Gear Panel	59
Hand (Tool)	60
Header	60
Insert Zone (Rack)	62
Inspector	63
Instrument (Plugin)	64
Layer (Pattern)	64
Link (Pattern)	65
Loop	66
Master Connection	66
Master Rack	67
Metronome	68
MIDI Input	68
MIDI Pattern	69
MIDI Track	69
Mixer view	69
Modular view	71
Monitoring: Audio	71
Monitoring: MIDI	71
Mute	72
Mute (Tool)	73
Note (MIDI)	74
Parameter (Plugin)	74
Pattern	75
Pen (Tool)	76
Piano Roll	76
Input / Output Pin	78
Playhead	79
Plugin	80
Plugin Header	81
Plugin List	81
Power (button)	82
Preferences	83
Preroll	84
Private	85
Project properties	85
Project Roles and Rights	87
Public (Project properties)	87
Rack	88
Rack Header	89
Rights (Projects)	89
Roles (Projects)	89

Scissors (Tool)	89
Send Connections	90
Sequence overview	92
Sequencing Panel	92
Snap	93
Solo (Rack)	95
Synchronization	97
Tempo	98
Timeline	99
Track	99
Track Header	100
Transport Bar	100
Volume Plugin	101

HOW-TOS

FIRST STEPS

How to navigate

Scrolling horizontally / vertically

In both the Sequencing Panel and the Gear Panel, you can:

Use the mouse wheel (or use the vertical scrollbar) to scroll up / down.

Use shift + mouse wheel (or use the horizontal scrollbar) to scroll left / right.

Press and hold H (or select the Hand Tool in the Toolbar) then click and drag left / right/ up / down.

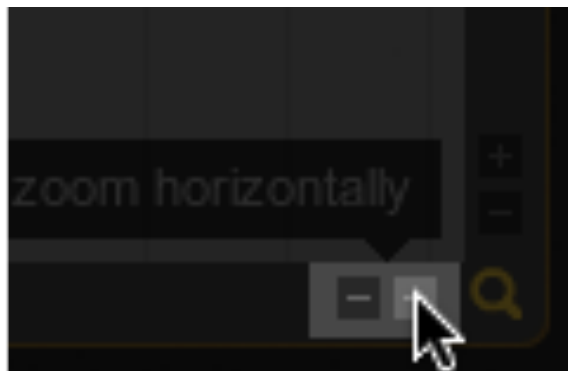
Horizontal Zoom in the Sequencing Panel

Use $\mathbb{H}$ + shift + mouse wheel to zoom in / out at the current mouse cursor position.

Press J to zoom in at the current Caret position.

Press G to zoom out.

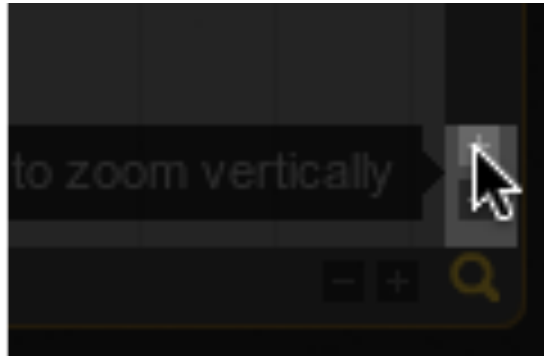
Use the horizontal + / - button.



Vertical Zoom in the Sequencing Panel

Use $\mathbb{H}$ + mouse wheel to zoom in / out at the current mouse cursor position.

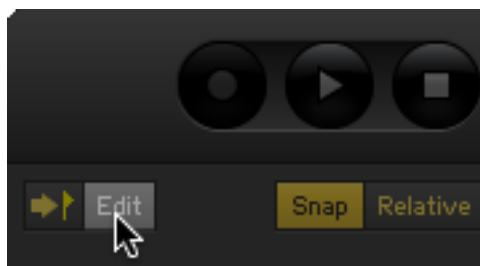
Use the vertical + / - button.



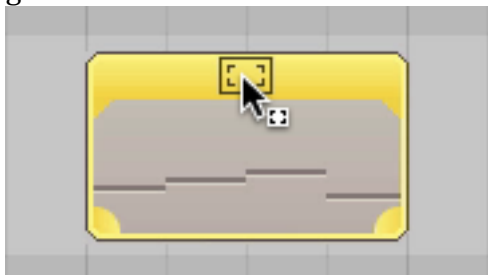
You can also resize Tracks individually.

Toggle between Edit and Arrange mode

Press tab or click on the Edit button in the Timeline Header to toggle between Edit and Arrange mode.



In Arrange mode, double click anywhere in the Sequence to go to Edit mode.
In Arrange mode, click on the fit to window button in a Pattern Header, to both go to Edit mode and focus on that Pattern.

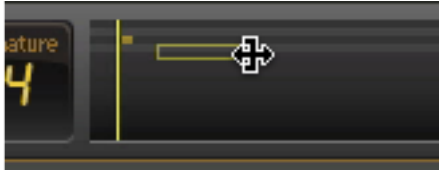


In Edit mode, press esc (or click on the ESC button) to go to Arrange mode.



Navigate with the Sequence Overview

Click somewhere on the Sequence Overview to jump to this part of the Sequence.
Click on the left / right border of the yellow rectangle and drag left / right to resize it.

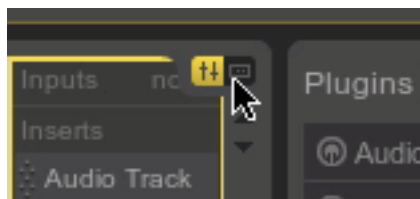


Toggle between Mixer and Modular view

2 ways of displaying the Gear Panel:

- The Mixer view
- The Modular view

To switch between views, click on the button at the top right of the Gear Panel.



How to setup your Audio Preferences

First of all, open your Ohm Studio Preferences and make sure you find yourself under the Audio tab.

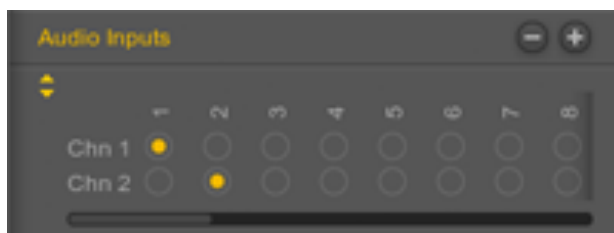


Overall setup

1. Choose a driver type in the Audio Engine drop-down menu
 On Mac, you can leave it on Core Audio.
 On Windows, it is highly recommended to choose ASIO. If there are no ASIO drivers installed on your computer, you should download and install asio4all drivers. However, it is usually recommended to install and use drivers specifically designed for your audio device.

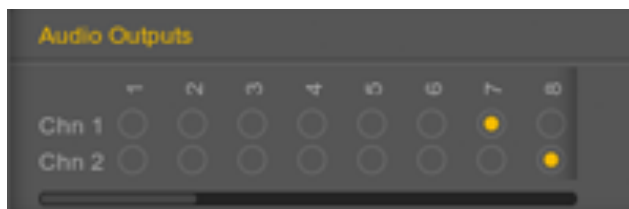
2. Choose a device in the Input Device drop-down menu (e.g. built-in microphone) or set to <None>.
3. Choose a device in the Output Device drop-down menu (e.g. built-in output).
You might have to install drivers specifically written for your Audio Device by its manufacturer in order to see its Inputs/Outputs in the list. It is recommended to use the same device for both Input and Output.
4. Choose a Sample Rate that best matches your Audio Device properties. Larger values result in lower latency at the cost of higher CPU use. 44100 is usually considered a suitable Sample Rate setting. It is recommended that all project members use the same Sample Rate to avoid potential problems related to collaboration.
5. Choose the Buffer Size that Ohm Studio will use to buffer incoming and outgoing audio data. Smaller values result in lower latency at the cost of higher CPU use. 512 is usually considered a fair balance between latency and CPU use. Don't hesitate to change the buffer size value while working on a project. For example, use lower values when recording audio / MIDI and higher values when mixing a project using many Plugins.

Audio Input



1. If you don't already have one, add an Audio Input to the list by clicking on the + / - button.
2. Click on ▲ / ▼ to add/remove channels to/from that Audio Input (e.g. 1 channel for a mono input, 2 channels for a stereo input).
3. Map each channel of your Audio Input to a physical input (the number of physical inputs available depends on the audio device you are using).

Audio Output



By default, Ohm Studio creates one stereo Audio Output.

Assign both the left and right channel (i.e. Chn 1 and Chn 2) of that Audio Output to an output channel of your audio device.

The stereo output of the Master Rack is automatically assigned to this Audio Output.

CREATE

How to add a Track

Unlike in other DAWs, a Track is not a channel strip of the Mixer.

In Ohm Studio, a Track is a horizontal lane that holds Patterns, which control the Plugin the Track is associated to.

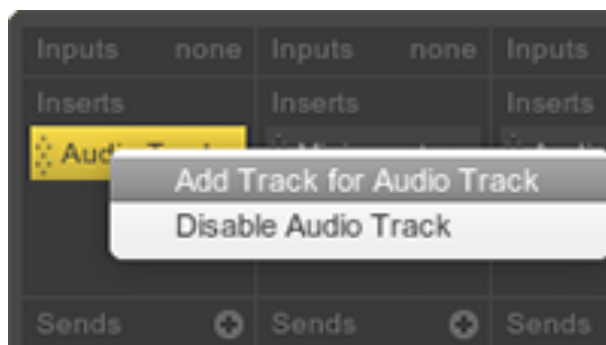
A Plugin can have 0, 1 or more Tracks.

A Rack Header must contain at least 1 Track Header. If you delete the last Track contained in a Rack, Ohm Studio automatically creates a Track for the Volume Plugin.

When you create a new Rack by dropping a Plugin from the Plugin List onto the Gear Panel, Ohm Studio automatically creates a Track for that Plugin.

Different ways of adding a Track

- Right-click on the Plugin in the Gear Panel and select Add Track for...



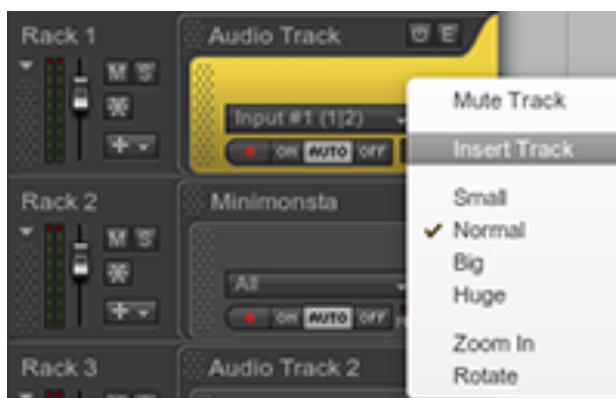
- Select the Plugin and click on Add Track for... in the Plugin Inspector.



- Click on the + button in the Rack Header and select the Plugin in the drop-down menu.

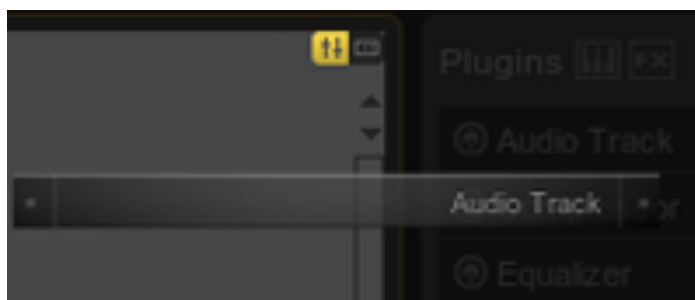


- Right-click on a Track Header and select Insert Track.



How to add an Audio Track

Drag'n'drop the Audio Track Plugin from the Plugin List onto the Gear Panel.



You can also use keyboard shortcut ⌘ / ctrl + T.

In Ohm Studio, one Plugin can have many Tracks. The Audio Track Plugin is no exception.

Read this to learn how to add a Track to an existing Audio Track Plugin.

How to add an Instrument

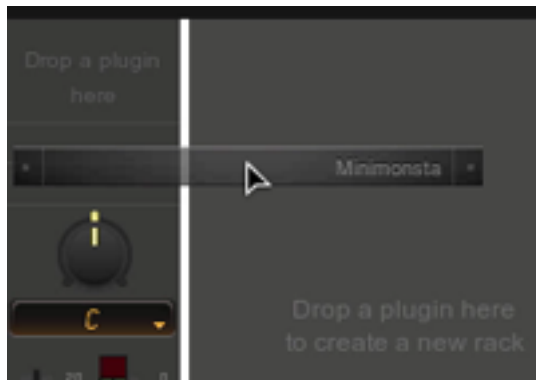
How to add an Instrument

2 ways to add an Instrument:

- Create a Rack with an Instrument Plugin
- Insert an Instrument Plugin into an existing Rack.

Creating a Rack with an Instrument Plugin

Drag and drop an Instrument Plugin (e.g. Minimosta) from the Plugin List onto the Gear Panel:



Inserting an Instrument Plugin into an existing Rack

First, make sure the Modular view is active. Drag an Instrument Plugin (e.g. Minimosta) from the Plugin List and drop it either...

1. ...onto the top of the Insert Zone of a Rack if it contains either no Plugin or only Effect Plugins (the Instrument will be inserted on top of the chain)...



2. ...or over another Instrument Plugin to replace it (if both the number of Input Pins and the number of Output Pins are identical).

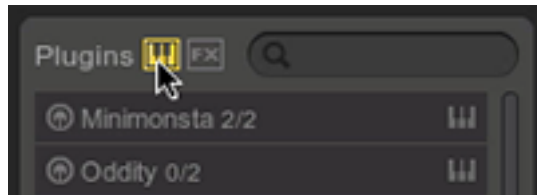


Additional information

To open the Plugin Graphical User Interface (GUI), click either on E in the Plugin Header or on the Plugin's button in the Gear Panel.

Unlike Effect Plugins, most Instrument Plugins don't have Input Pins. Therefore, they cannot be inserted after another Plugin in a Rack, or anywhere in an Aux / Master Rack.

Instruments that have Input Pins (e.g. Minimonsa) can be placed anywhere in the Insert Zone, just like Effect Plugins.



How to add an Effect

3 ways to add an Effect

- Create a new Rack with an Effect Plugin
- Insert an Effect Plugin into an existing Rack
- Create a Send effect.

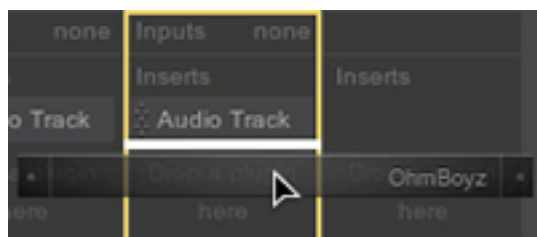
Creating a new Rack with an Effect Plugin

Drag and drop an Effect Plugin (e.g. OhmBoyz) from the Plugin List onto the Gear Panel:



Insert an Effect Plugin into an existing Rack

Drag and drop an Effect Plugin (e.g. OhmBoyz) from the Plugin List onto the Insert Zone of a Rack:



Creating a Send effect

Read this to learn how to create a Send effect.

Additional information

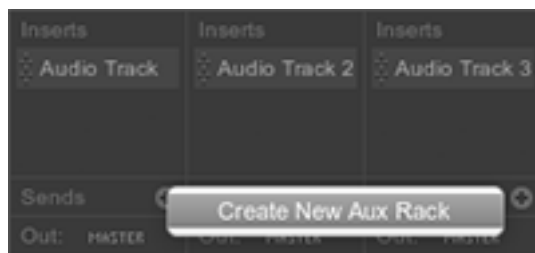
To open the Plugin Graphical User Interface (GUI), click either on E in the Plugin Header or on the Plugin's Edit button in the Gear Panel.

In Ohm Studio, every Effect Plugin has 3 additional Parameters that you can change in the Plugin Inspector: a Dry/Wet Parameter, a Bypass Parameter, an Output Gain Parameter.

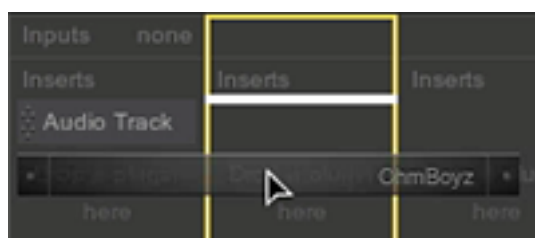
Unlike Instrument Plugins, Effect Plugins always have one or more Input Pins. Therefore, they can be placed after another Plugin (or between 2 other Plugins) in the Insert zone of a Rack.

How to create a Send effect

1. Select the Mixer View in the Gear Panel.
2. On the desired Rack, create a new Send effect: click on the + button and create a new Aux Rack (or choose an existing one).



3. Drag and drop an Effect Plugin (e.g. OhmBoyz) from the Plugin List onto the Insert Zone of that newly created Aux Rack.

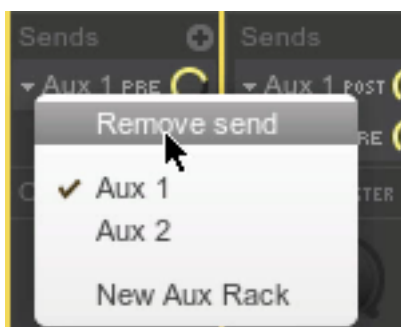


Additional information

- To adjust the Send amount, click on the knob and drag it up (to increase the Send level) or down (to decrease the Send level).
- Double-click on the knob to set it back to its default value.



- Click on the "Pre/Post" button to switch between Pre-Fader Mode and Post-Fader Mode. Read this to learn more.
- To change the "destination" of a Send, click on the drop-down menu, then choose another Aux Rack.
- To remove a Send, click on the drop-down menu, then choose Remove send. This won't delete the Aux Rack.



How to add an Audio Pattern

There are 2 ways to add an Audio Pattern inside a Project:

- Record audio on an Audio Track
- Import audio onto an Audio Track

Audio file format

Ohm Studio internally uses the WAVE file format.

On Windows, you can import files in the following formats: *.wav, *.ogg, *.aiff, *.flac

On MacOS, you can import several other file formats, including *.mp3.

These formats are automatically converted to *.wav by Ohm Studio, so that every Project member hear the same audio file.

How to add a MIDI Pattern

3 ways to add a MIDI Pattern inside a Project:

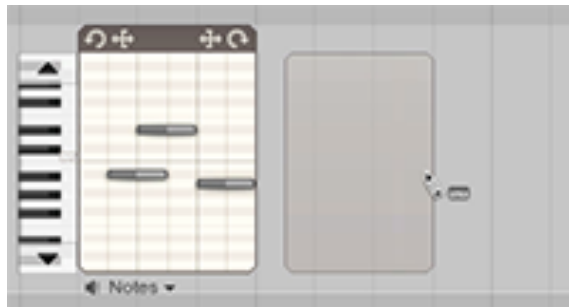
- Recording MIDI on a MIDI Track (read this to learn more)
- Importing MIDI files onto a MIDI Track (read this to learn more)
- Creating an empty MIDI Pattern using the Pen tool on a MIDI Track

Creating an empty MIDI Pattern

1. Create a MIDI Track for the Plugin which you want to create an empty MIDI Pattern for (or use an existing Track).
2. Select the Pen tool (or press and hold $\mathbb{H}$ / ctrl if the Arrow tool is selected).
3. Click where you want the MIDI Pattern to start then drag the cursor to the right. Pattern length is determined by the location you release the click at.



Note that you can draw empty Patterns in both Edit and Arrange modes.



How to add MIDI Notes

To add MIDI Notes in a Project:

- Record MIDI Notes on a MIDI Track
- Or import MIDI files onto a MIDI Track
- Or draw MIDI Notes inside a MIDI Pattern with the Pen tool.

Drawing Notes with the Pen tool

1. Go to Edit Mode.
2. Select the Pen tool in the tool bar (or press $\mathbb{H}$ / ctrl to toggle the secondary tool when the Arrow tool is selected and hold it).
3. Click on a MIDI Pattern where you want the Note to start and drag the mouse to the right as far as you want your Note to last.



Additional information

When turned on, Snap may prevent you from setting the exact duration or location of your Pattern elements (e.g. Notes). Read this to learn how to overcome this problem.

If you simply click with the Pen tool, without dragging the mouse, you will create a Note that has the same duration value as the latest Note you created.

The type of elements that the Pen tool draws is that of the top Pattern Layer. Read this to learn more.

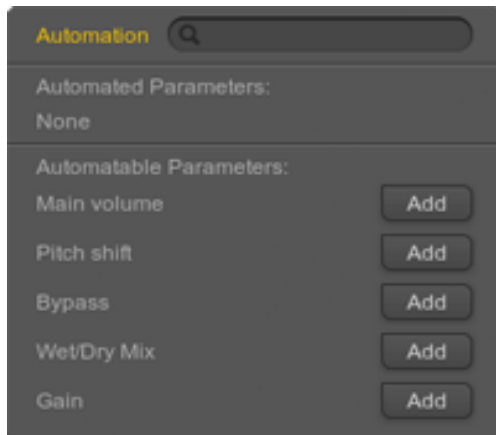
How to add Automation Points

2 ways to add Automations Points:

- Recording Plugin parameter automations (read this to learn more)
- Drawing Automation Points inside a MIDI Pattern with the Pen tool.

Drawing Automation Points

1. Create a Track for the Plugin which you want to draw Automation Points for (or use an existing Track).
2. Go to Edit mode.
3. Select a MIDI Pattern (or create a new one) and open the Inspector.
4. In the Pattern Inspector, add a Parameter to the list of automated Parameters. You will see the associated Layer automatically get on top in the Pattern.



You can use the search field to type in the name of a Parameter and quickly find it in the list.

5. Select the Pen tool in the Tool Bar (or press $\mathbb{P}$ / ctrl to toggle secondary tool when the Arrow tool is selected).
6. Click inside the Pattern where you want to add Automation Points.

Additional information

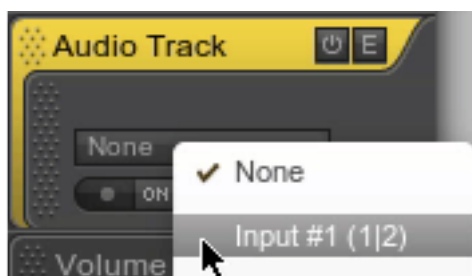
You can only create Automation Points for automated Parameters. You can see the list of automated Parameters in the Pattern Inspector and in the Pattern Layer drop down menu.

The top Pattern Layer determines the type of elements (e.g. MIDI Notes) that the Pen tool will draw.

RECORD

How to record audio

1. First of all, create an Audio Track.
2. In the Track Header, select your Audio Input in the Audio Input & Monitoring drop-down menu.



3. Click on the Arm Record button in the Track Header (or select the Track and press $\mathbb{R}$ / ctrl + R).



4. Click in the Timeline to put the Playhead where you want to start recording.
5. Click on the Record button in the Transport Bar or press **R** to enable recording.
6. Click on the Play button in the Transport Bar or press **s p a c e** to start recording.



7. Click on the Stop button in the Transport Bar or press **s p a c e** again to stop recording. The resulting Audio Pattern will automatically be uploaded to the Ohm server.

Additional information

You can turn Ohm Studio's Monitoring off while you record by clicking on **OFF** in the Track Header.



Press **↵** / **enter** while recording to cancel the ongoing recording and start another take.

You can enable Preroll in the Preferences Record tab, to get a count-in before Ohm Studio actually starts recording.

You can enable the Metronome by clicking on its icon in the Transport Bar.



How to record MIDI Notes

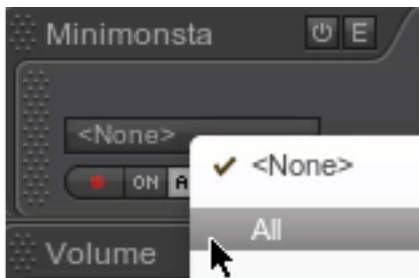
Make sure that your MIDI device is recognized by Ohm Studio

Go to your Ohm Studio Preferences and make sure that your MIDI device is in the list under the MIDI tab.

If you cannot find it although it is plugged in, you may have to restart Ohm Studio and reopen your project to see the device appear in the list.
You may have to download and install drivers specifically written for your MIDI device by its manufacturer.

Record

1. Create a Track for the Instrument which you want to record Notes with (or use an existing Track).
2. In the Track Header, select your MIDI device in the MIDI Input & Monitoring drop down menu (or select All) in the drop-down menu.



3. Click on the Arm Record button in the Track Header (or select the Track and press $\text{⌘} + \text{R}$).



4. Click somewhere in the Timeline to put the Playhead where you want to start recording.
5. Click on the Record button in the Transport Bar or press R to enable recording.
6. Click on the Play button in the Transport Bar or press s p a c e to start recording.



7. Play some notes on your MIDI device.
8. Click on the Stop button in the Transport or press s p a c e again to stop recording.

Additional information

You can enable Preroll in your Preferences Record tab to get a count-in before Ohm Studio actually starts recording.
You can apply quantization to a selection of MIDI Notes after recording them.
You can enable the Metronome by clicking on in the Transport Bar.

How to record MIDI CC events

Read how to record MIDI Notes, as CC events are recorded the same way.

Unlike MIDI Notes which are meant to be recorded on an Instrument Plugin Track in most cases, MIDI CC events can usually be recorded on both Instrument and Effect Plugin Tracks.

For some VST Plugins that have a MIDI learn feature, you can disable the Record Raw CC option in the MIDI Input & Monitoring drop-down menu. This will allow you to record Parameter Automations only, which will leave you with the desired result, while recording both Automation and CC events would have possibly caused trouble.



How to record Plugin Parameter Automations

1. Create a Track for the Plugin which you want to record Automations with (or use an existing Track).
2. Click on the Arm Record button in the Track Header (or select the Track and press $\text{⌘} + \text{R}$).



3. Open the Plugin Graphical User Interface (GUI) by clicking on the Plugin's Edit button.



4. Click in the Timeline to put the Playhead where you want to start recording.
5. Click on the Record button in the Transport Bar or press R to enable recording.
6. Click on the Play button in the Transport Bar or press `space` to start recording.



7. Change the Parameter's value on the Plugin's GUI or via the Plugin Inspector.
8. Click on the Stop button in the Transport Bar or press `space` again to stop recording.

PROJECT

How to change tempo

Changing tempo

Adjust the BPM value in the Transport Bar, either by:

- Clicking on the Tempo value and dragging it upward / downward



- Or double-clicking on the Tempo value and setting its value manually

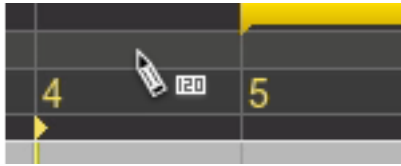


Creating tempo variations

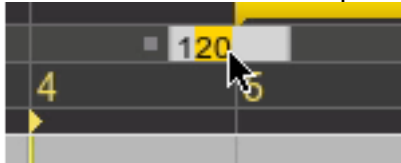
1. Right-click on the Timeline and select Show Tempo Track.



2. Select the Pen tool in the Tool bar (or press and hold `⌘` / `ctrl` to toggle the secondary tool when the Arrow tool is selected).
3. Click on the Tempo track to add Tempo Automation points.



4. Double-click on a Tempo Automation point and type in a value manually.

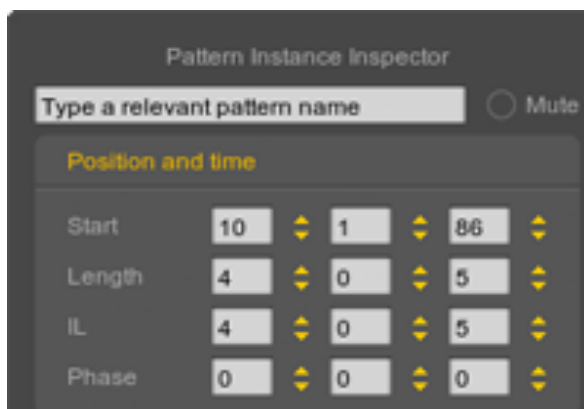
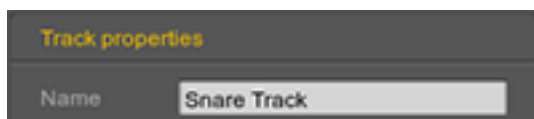
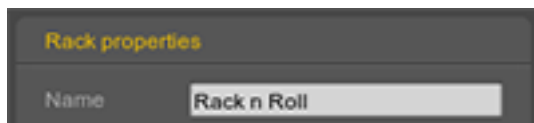


How to rename elements

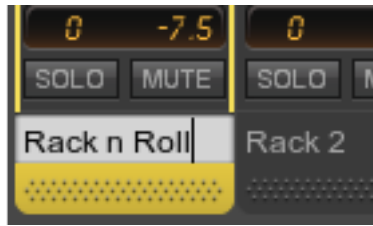
These elements can be renamed:

- Patterns
- Tracks
- Racks (except the Master Rack)

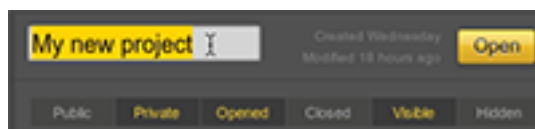
Select an element and change its name in the Inspector.



To rename a Rack, you can also double-click on its name (either in the Mixer or in the Rack Header) and edit it in place.



If you are a Project Admin, you can rename the Project itself in the Edit tab of its webpage or in the Dashboard's Inspector.



How to import audio/MIDI

3 ways to import Audio / MIDI files:

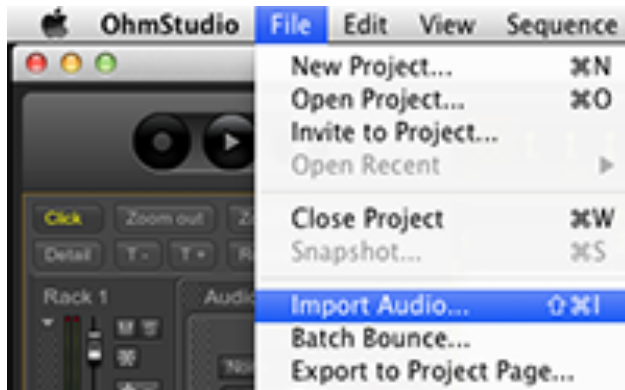
-
- Drag and drop an audio or MIDI file from your file browser directly onto an Audio track or a MIDI Track.



Note that you can drag and drop multiple audio files at once this way, if you select several audio files in your file browser.

Press and hold ⌘ / alt before dropping an audio file onto an Audio Track to open the Time Stretch Options pop up window.

- Click on an Audio / MIDI Track to put the Caret where you want the Pattern to start and choose Import Audio/MIDI... in the File menu (or press ⌘ / ctrl + shift + I).



- Right-click on an Audio / MIDI Track to put the Caret where you want the Pattern to start and choose Import Audio/MIDI... in the context menu



Audio file format

Ohm Studio internally uses the WAVE file format.

On Windows, you can import files in the following formats: *.wav, *.ogg, *.aiff, *.flac

On MacOS, you can import several other file formats, including *.mp3. These formats are automatically converted to *.wav by Ohm Studio, so that every Project member can hear the same audio file.

How to export audio

In Ohm Studio, there are different ways to export audio, and each method serves a different purpose.

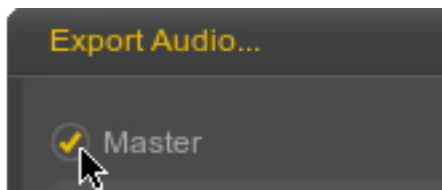
- Exporting your Project as an audio file for listening or mastering.
- Exporting your Project to its dedicated web page for other Ohm Studio users to listen to your music.
- Exporting individual Racks, to re-import Project stems in another Project or another application.

Exporting your project as an audio file

1. In the File menu, select Export Audio... (or simply use keyboard shortcut ⌘ / ctrl + ⌘ / alt + E)



2. At the top of the pop-up window, select Master.



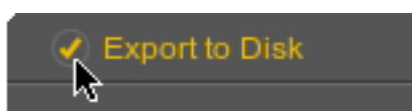
3. Change the From and To values by clicking on them and dragging up or down to set the time range you want to export.



If the Loop is enabled, its beginning and end positions will be used as default values. Otherwise, the default interval ranges from the beginning of the Project to the end of the Pattern at the farthest right.

You can also double-click and manually type in a value.

4. Select Export to Disk.



5. Select a file format in the Sample Format drop-down menu.
6. Select a Sample Rate and a Bit resolution in the last two drop-down menus (e.g. 44100 and 16-bit for standard audio CDs).

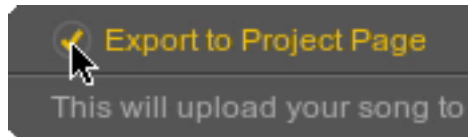


7. Finally click on Save... and choose where to save the exported file, then wait for the bouncing process to complete.



Exporting your Project to its dedicated web page

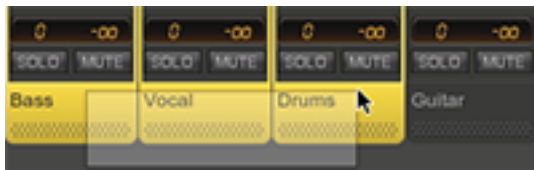
The first 3 steps are the same as the ones described in the previous method. Then simply choose Export to Project Page rather than Export to disk and click on Upload.



The bouncing process may be long, as the file is also uploaded on the Ohm Studio server. After it is uploaded, you can listen to your Project from your Dashboard and you can add it to your showcase. You have to be a Project Admin in order to be able to export the Project to its web page.

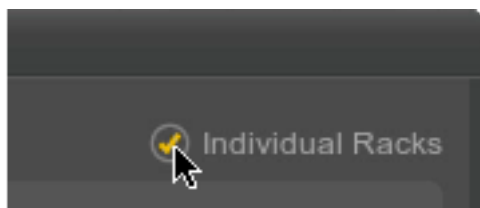
Exporting Individual Racks

1. First of all, select the Racks you want to bounce, for example in the Mixer view.

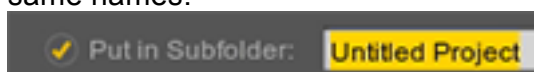


You can use shift + click on an element to add it to your selection.

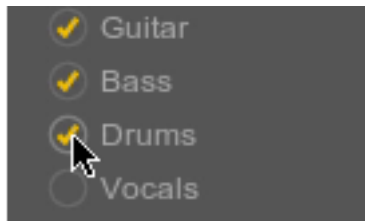
2. In the File menu, select Export Audio... (or simply use keyboard shortcut ⌘ / ctrl + ⌘ / alt + E).
3. At the top of the pop-up window, select individual Racks.



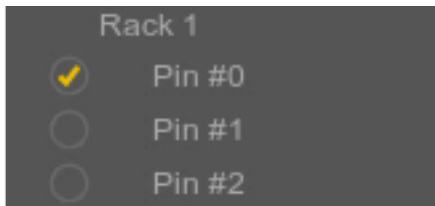
4. Change the From and To values. See the first method to learn more.
5. In the Options section, select a Sample Format, a Sample Rate and a Bit resolution in the 3 drop-down menus (e.g. Wave / 44100 / 16-bit for standard audio CDs).
6. Choose the Folder where you want to save the exported audio files. You can also create a Subfolder to avoid overwriting existing files with the same names.



7. If necessary, select / unselect Racks in the last section.



For Racks that have several Output Pins, select only the desired ones.



The greyed out text at the right of a Rack's name is the name of the first Plugin contained in that Rack.

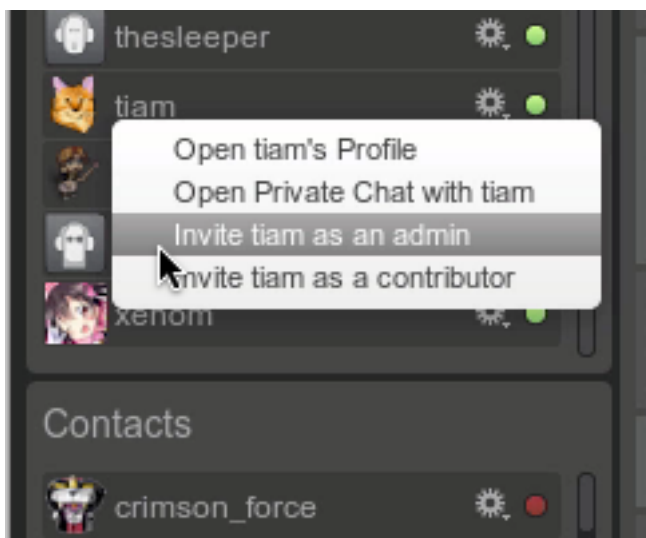
8. Finally click on Bounce and wait for the bouncing process to complete.

How to invite people to a Project

As a Project Admin, you may invite another user to your Project as an Admin or a Contributor.

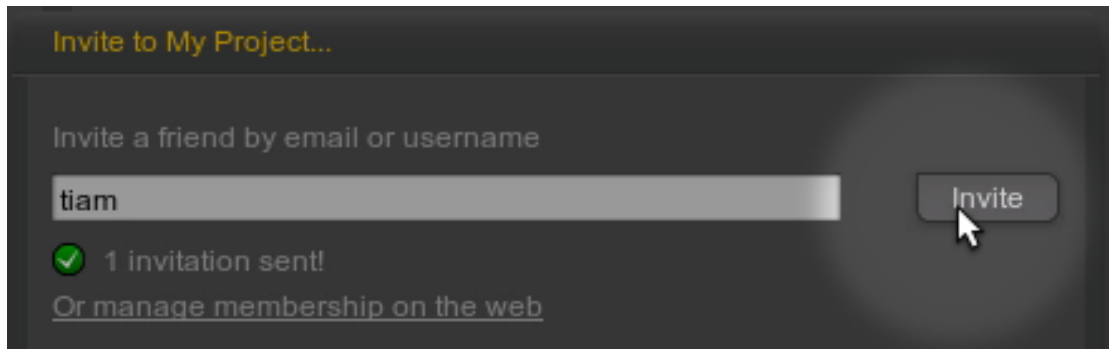
3 ways to invite someone to your Project

- From the Chat panel
Right-click on a user name (either from the current chatroom or from your Contact list) and select "Invite as..."

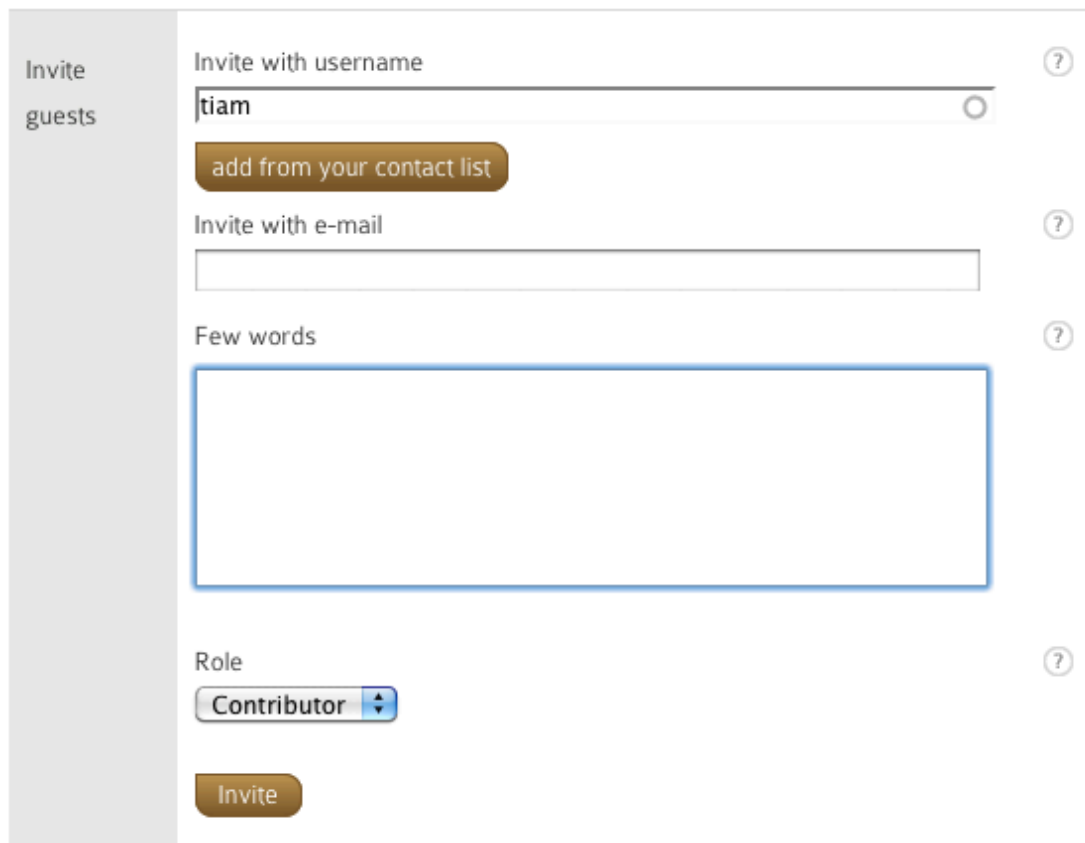


- From the Invite panel
Click on the yellow "Invite" button (either the one from the Dashboard's

inspector or the one below the "Export" button) then type in a user name and click on "Invite".



- From a Project webpage on www.ohmstudio.com Click on the "Share" button, then enter a user name in the dedicated text field and choose a role (Admin/Contributor) from the drop-down menu before clicking on "Invite".



That user will then receive a notification message containing a clickable link allowing him/her to join the project.

Note that after inviting someone as a Contributor, you can later go to your Project's webpage and "upgrade" his/her Role to Project Admin, or you can also choose to "Kick" that user from the Project.

How to delete a Project

Unlike a local file on your hard drive, an Ohm Studio Project primarily exists on the Ohm Studio Server.

As it may be shared among many participants, the process of deleting a Project is slightly different than deleting a file on your computer.

A Project must have at least 1 Admin in order to be opened and edited by its Project members.

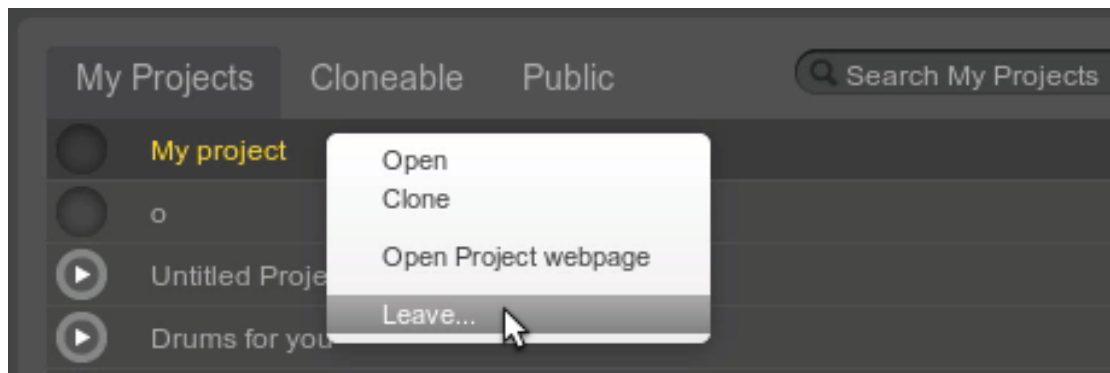
Consequently, a Project is bound to deletion from the moment its last Admin leaves the Project.

You can delete a Project by leaving it if you are the Project's only Admin.

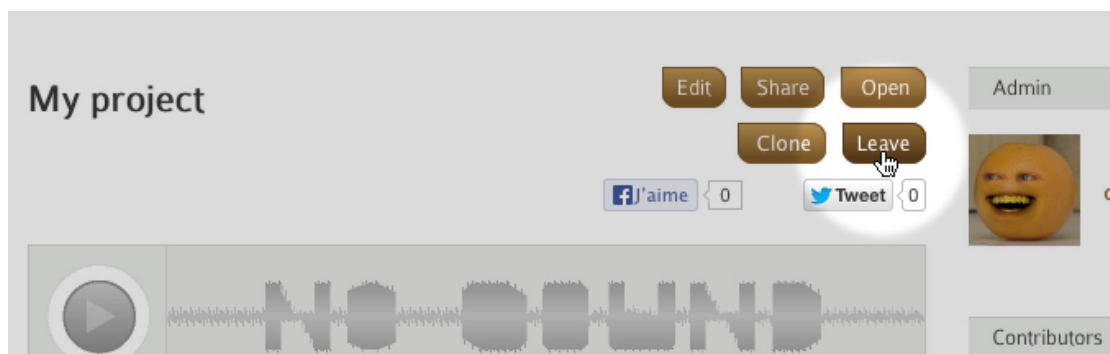
When you do so, all remaining Contributors will also automatically leave the Project.

2 ways to Leave a Project

1. Right-click on a Project from the "My Projects" tab and select "Leave..." from the context menu



- Click on the Leave button available on the project's dedicated webpage



PATTERNS

How to move, resize and loop Patterns

Moving a Pattern

In Arrange mode, click anywhere on the Pattern and drag it to the left/right or up/down.



In Edit mode, click on the Pattern Header and drag it to the left/right or up/down.



Resizing a Pattern

In Arrange mode, click on the left/right top corner (just below the Pattern Header) and drag it to the left / right.



In Edit mode, click on the resize icon on the left / right top corner of the Pattern Header and drag it to the left/right.



Looping a Pattern

In Arrange mode, click on the left / right bottom corner and the loop icon will appear; drag it to the left / right.



In Edit mode, click on the loop icon on the left / right top corner of the Pattern Header and drag it to the left/right.

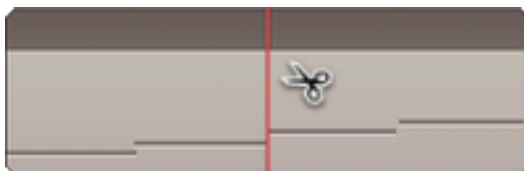


When turned on, Snap may prevent you from making changes to your Patterns the way you want to. Read this to learn how to overcome this problem.

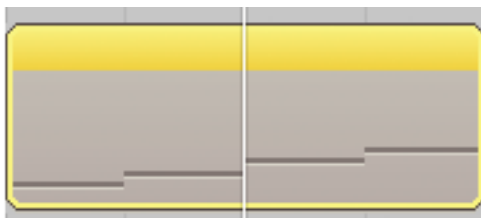
How to split a Pattern

To split a Pattern into two different Patterns:

- Click where you want to split the Pattern with the Scissors Tool



- With the Arrow Tool, click on a Pattern to place the Caret where you want to split and use the ⌘ / ctrl + shift + E keyboard shortcut.



Ohm Studio does not allow Pattern overlapping. If a Pattern extends over another one, the former will cut the latter at the point where its extension stops.

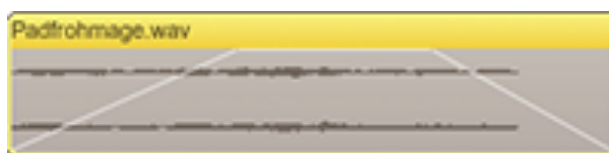


In order to have 2 (or more) Patterns control the same Plugin at the same time, place each Pattern on a different Track.



How to add fades

1. Select the Audio Pattern.
2. Open the Inspector.
3. Under the Samples properties section of the Inspector, adjust the Fade in/out duration.



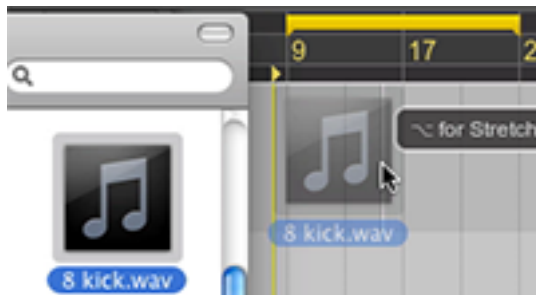
The Volume parameter is the Audio Pattern's maximum level, which value is fixed at 1 by default (i.e. the sample's original volume). The Fade In parameter lets you set the duration it will take the sample to reach the Volume value you defined. The counting starts from the beginning of the Audio Pattern. Conversely, the Fade Out parameter lets you set the duration it will take the sample to become "silent". The counting starts backwards from the end of the Audio Pattern.

Leaving these Fade In/Out parameters unchanged or setting them back to 0:0:0 comes back to applying no fade.

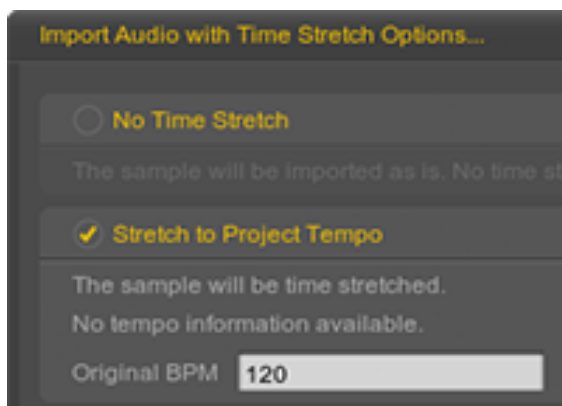
How to time stretch

When importing loops containing a BPM meta-data information, or audio stems from another project, you can time-stretch those samples so that they match your Ohm Studio Project tempo.

1. Select the sample in your file browser.
2. Drag it over an Audio Track, while pressing and holding $\simeq$ / alt, and finally drop it where you want it to start.



3. In the Import Audio with Time Stretch Options... pop-up window, select Stretch to Project Tempo.



4. In the Original BPM text field, type in the BPM of the sample you are importing.
It is automatically filled with appropriate value when the sample contains BPM meta-data information. For instance, if the original sample is set to 200 bpm and the project tempo is 100 bpm, the sample will be twice slower.
5. Press OK and wait for the stretching process to complete.

How to link MIDI Patterns

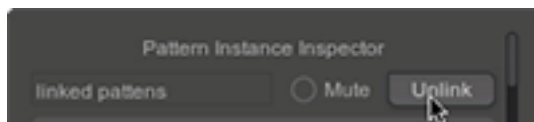
To link MIDI Patterns:

- Create a Linked copy of a MIDI Pattern by using $\text{⌘} / \text{alt} + \text{shift} + \text{drag'n'drop}$.



- Or paste "as Linked" using $\text{⌘} / \text{ctrl} + \text{shift} + \text{V}$ after copying ($\text{⌘} / \text{ctrl} + \text{C}$) a Pattern.
- Or split a MIDI Pattern into 2 Linked Patterns by clicking on a Pattern where you want to perform the split and using $\text{⌘} / \text{ctrl} + \text{shift} + \text{E}$.

To break the link between a Pattern and its linked Patterns, select the Pattern and click on the Unlink button in the Pattern Inspector.



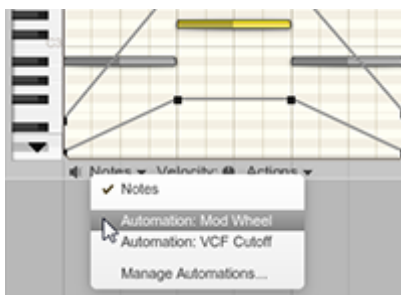
You can only link Patterns of one same Plugin instance (i.e. linked Patterns must be on the same Track or on 2 different Tracks of the same Plugin).

How to change Pattern Layer

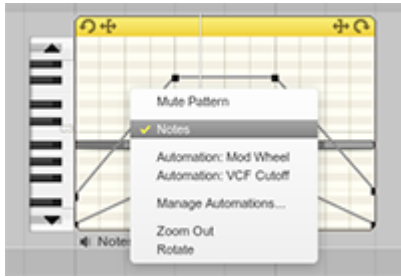
The top Pattern Layer determines the type of elements (Note or Automation Point) that the Pen tool draws.

3 ways to change the Top Layer

- Simply select an element of a MIDI Pattern (e.g. a MIDI Note) to automatically have its associated Layer get on top.
- In the footer of a MIDI Pattern footer, click on the Pattern Layer drop-down menu and select a Layer.



- Right-click on a MIDI Pattern and select a Layer in the context menu.



You can add as many Layers as there are Parameters available for your Plugin.

MISCELLANEOUS

How to copy elements

Duplicating elements with the Arrow tool

1. Select the elements you want to duplicate.
2. Press and hold $\sim$ / alt.
3. Click on one of the selected elements and drag to where you want it to be copied.



4. First release the mouse button, then release the $\sim$ / alt key.

In the Sequencing Panel, you can duplicate Patterns, Notes and Automation points.

In the Gear Panel, you can duplicate Racks and Plugins.

Additional information

You can copy ($\mathbb{C}$ / ctrl + C) elements you select and paste ($\mathbb{V}$ / ctrl + V) them at the Caret position in the Sequencing Panel.

You can select an element and press one of the 4 arrow keys while holding $\sim$ / alt to duplicate by one increment in the Sequencing Panel.

You can also create a Linked copy of a MIDI Pattern by holding shift while copying, according to the drag'n'drop method described above.

How to loop playback

To playback a part of the sequence repeatedly, you must create a Loop in the Timeline.

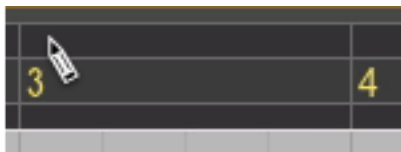
To toggle the Loop

- Simply click on the Loop in the Timeline.
- Or press L on your keyboard.

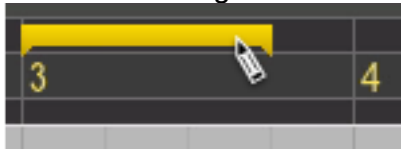
To create a Loop

Draw a new Loop with the Pen Tool in the Timeline:

1. Place your mouse pointer over the upper part of the Timeline area; the pointer automatically turns into a pen regardless of the currently selected tool, except if the targetted area is already part of the Loop (see Forcing the Pen tool below).



2. Click and drag leftward or rightward to draw a Loop.

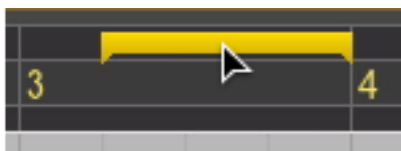


Or select one or more Patterns and use ⌘ / ctrl + L to loop the selection.

If you select many Patterns, the loop will cover the whole range between the beginning of the Pattern at the farthest left and the end of that at the farthest right.

To move the Loop

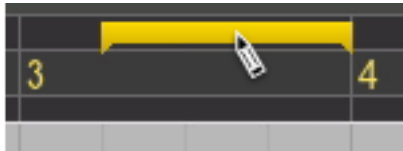
1. Place your mouse pointer over the Loop; the pointer automatically turns into an arrow regardless of the currently selected tool.
2. Click and drag leftward or rightward to move the Loop in time.



Forcing the Pen Tool

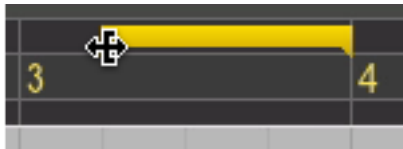
When your mouse pointer is over the Loop, you can force the Pen tool to draw a new Loop onstead of moving it:

1. Press and hold ⌘.
2. Click and draf left or right to make the Loop longer or shorter.



Resizing the Loop

1. Place your mouse pointer over the Loop's left or right border.
2. Click and drag left or right to make the Loop longer or shorter.



Additional information

When the Loop is on, you can click on the Stop button in the Transport Bar (or press ⏏ / enter) to make the Playhead switch position from beginning of the Loop to beginning of the Project.

When the Loop is off, this will make the Playhead switch position from beginning of the Project to the Caret's position.

The Loop must have a minimum duration value of 1/4th note.

Currently, it is not possible to loop and record at the same time (i.e. the Loop is ignored during a recording).

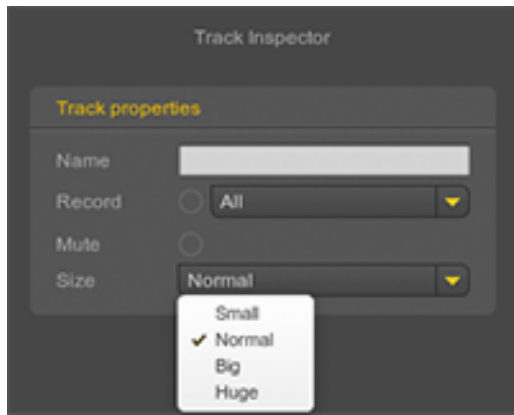
How to resize a Track

To change the vertical size of a Track:

- Right-click on a Track Header and select a size in the context menu.



Or select a Track, then open the Inspector and choose a value in the Size drop-down menu.

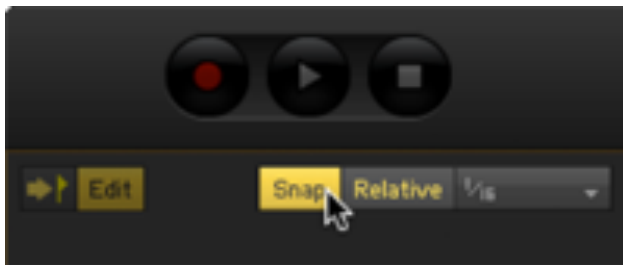


How to change Snap

If you're not familiar with the various Snap options, read this first to learn more about each one of them.

To toggle Snap:

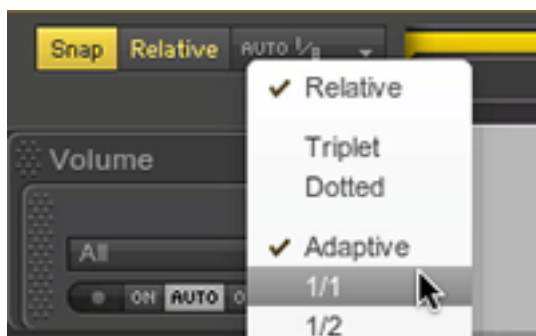
- Use keyboard shortcut S.
- Or press and hold $\mathcal{H}$ / ctrl while dragging an element (read this to learn more).
- Or click on the Snap button in the Timeline Header.



To toggle the Relative mode:

- Use keyboard shortcut shift + S.
- Click on the the Relative button in the Timeline Header.

To change the Snap value, open the corresponding drop-down menu, select either Adaptive mode or a fixed value (e.g. 1/1 note).



The Snap value is also used for "quantizing". Read this to learn more.

How to ignore Snap

Practical problem

When creating, moving, resizing or looping a Pattern, you can create a MIDI Pattern by drawing it from head to tail. You can also move, resize or loop Patterns.

Likewise, when creating, moving or resizing elements of a MIDI Pattern, you can create Notes or Automation points inside a Pattern. You can also move both of them, and resize Notes.

But these actions can have limited accuracy when Snap is turned on and is not tailored for vertical divisions sharp enough.

Normally you would disable then re-enable Snap every time needed, but you may feel that doing this frequently slows down your workflow.

Yet, there is a better way to get rid of such annoyance!

General rule

Hold ⌘ / ctrl during a mouse drag (i.e. while moving the mouse with its left button pressed) to disable Snap until you release pressure.

Application case 1: disabling Snap when creating a MIDI Pattern

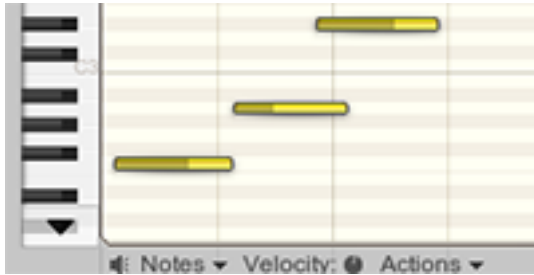
1. Leave your Snap unchanged.
2. Hold ⌘ / ctrl to toggle your secondary tool, which is the Pen tool by default. The arrow will then turn into a pencil).
3. Now, move your mouse pointer over a MIDI track then press and hold the mouse left button.
4. At this stage, you can safely release ⌘ / ctrl without losing your pencil.
5. After releasing pressure, hold ⌘ / ctrl again to ignore Snap.
6. Finally adjust length as desired and release the mouse button, then release ⌘ / ctrl.

Application case 2: disabling Snap when resizing a MIDI Note

1. Make sure Snap is enabled.
2. Now, move your mouse pointer over the left/right border of the MIDI note, then press & hold the mouse left button.
3. Hold ⌘ / ctrl.
4. Finally adjust length as desired and release the mouse button, then release ⌘ / ctrl.

How to quantize

1. Select the elements you want to quantize.
2. Adjust the Snap value in the Timeline Header. In Adaptive mode, you may want to zoom in / out horizontally to get the desired spacing between the vertical lines of the Grid.

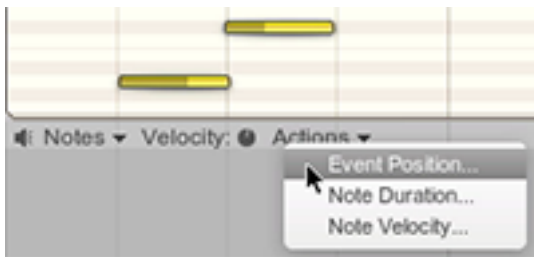


3. Press Q to quantize selected elements to current Grid. You can also use keyboard shortcut shift + Q to apply 50% quantization (instead of 100%).

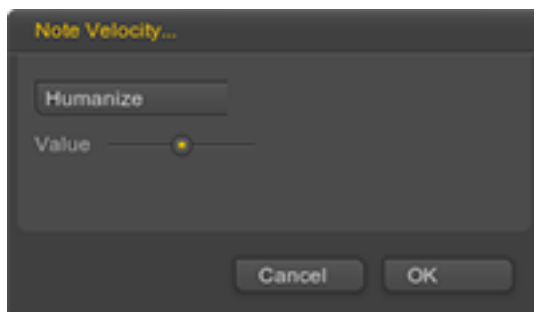
Other Actions...

You can apply other types of Action to your selection, such as humanize position or equalize durations:

1. Click on the Actions drop-down menu in the Pattern Footer and select a target for the Action (e.g. Note Velocity...).



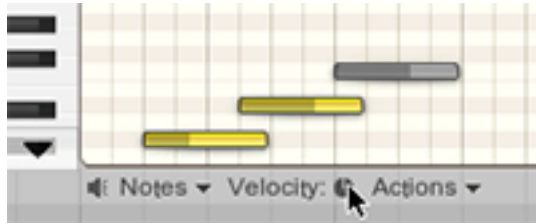
2. In the pop-up window, select Quantize in the drop-down menu, adjust the Quantize value and click on OK.



How to change velocity

To change the velocity of a Note:

- Select one or several notes, then click on the Velocity knob in the Pattern footer and drag the mouse up / downward to increase / decrease the velocity.

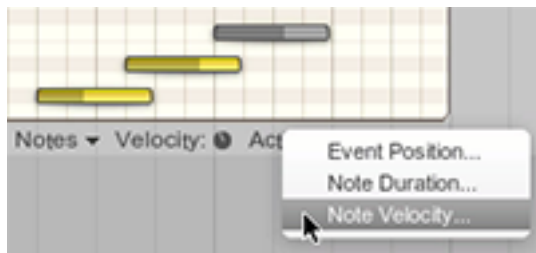


- Or select one or several notes, then change the velocity value with the Velocity fader in the Note Inspector.

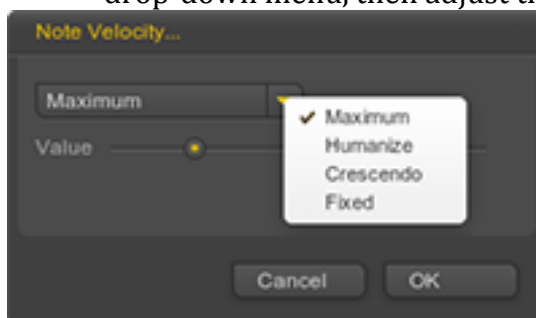


To apply specific actions on Note Velocity:

1. Select one or several Notes, then in the Actions drop-down menu, choose Note Velocity.



2. In the pop-up window, choose a type of action (e.g. humanize) in the drop-down menu, then adjust the Value and click on OK.



Glossary

As you step into the Ohm Studio environment, you will often need to know what a given term refers to, for instance when reading through the documentation section.

Not everybody is a proficient musician acquainted with DAWs' classic terminology, plus the fact that the application is built upon a proper ground with its own notions makes it very likely that starting with Ohm Studio will demand a little briefing even for the most advanced users.

So here is a list of all terms – some of them quite obvious, others trickier.

Admin

Roles

A member of an Ohm Studio is either a Project Admin or a Project Contributor.

3 ways to become an Admin:

- Create a new Project to automatically become an Admin of it.
- Get invited to a Project as an Admin.
- Get another Project Admin to change your role from Contributor to Admin.

3 ways to become a Contributor:

- Get invited to a Project as a Contributor.
- Join a Public Project.
- Get accepted by a Project Admin after applying for membership.

Rights

Roles are significant in that they determine a member's rights regarding a Project.

Action	Admin	Contributor
Can modify Project properties and tags	✓	X
Can open and edit the Project	✓	✓
Can invite people to the Project	✓	X
Can upgrade Contributor to Admin	✓	X
Can downgrade Admin to Contributor	X	X
Can kick an Admin off the Project	X	X
Can kick a Contributor off the Project	✓	X

Can leave the Project	✓	✓
Can delete a Project	✓ (under specific circumstances)	X
Can export Mixdown to Project Page	✓	X

Arm Record

Arm Record is a button with a red dot (like a record button) that can be found on every Track.



Arming record comes back to enabling the Track's input sources and making it available for record.

On activating the button, it will turn red indicating that the Track is effectively armed.

When Exclusive Arm Record is enabled, you can use shift+Click on the Arm Record button to arm several Tracks at once.

When Exclusive Arm Record is disabled, you can use alt+Click on Windows (⌘+Click on Mac) on the Arm Record button to arm only 1 Track at a time.

Arrange

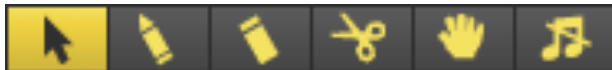
Arrange is the Sequencing Panel's default mode.



Use this mode to create, resize, split, copy, and loop Patterns and also to create and reorder Tracks.

Arrow tool

The Arrow tool is your mouse pointer's default outfit in Ohm Studio.

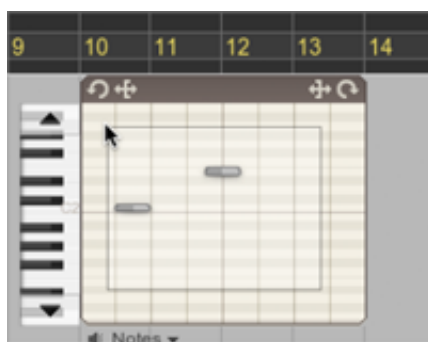


It is used to select and move elements of your project, such as Racks, Plugins, Tracks, Patterns, Notes, Automation Points, CC events, Tempo and Time Signature changes events).

Click on an element to select it.

To select multiple elements, press shift while clicking with the Arrow tool.

You can also select one or many elements by using a marquee: click on an empty space, then drag through space as far as to include all the elements you wish to grasp.



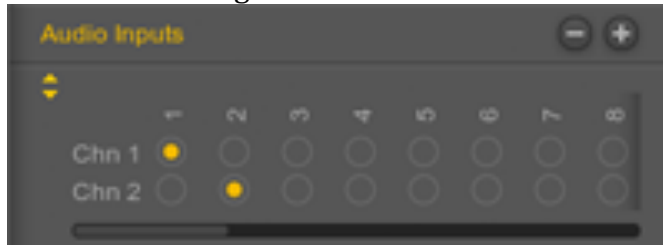
Press and hold the ⌘ / ctrl key to quickly switch to the Pen tool when Arrow tool is selected.

You can edit the properties of the selected element(s) in the Inspector.

Audio Input

Audio Inputs are used by Ohm Studio:

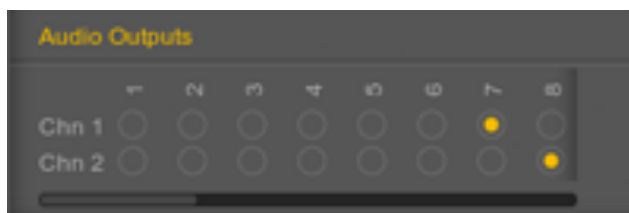
- To monitor (i.e. hear) an audio signals from your audio interface or computer sound card.
- To record an audio signal onto an Audio Track contained in an Audio Track Plugin.



Audio Inputs use 1 channel to record a mono source, 2 for a stereo source.



Audio Output

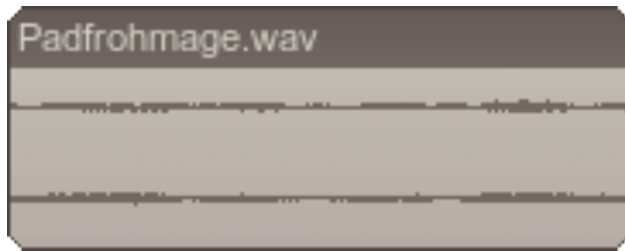


Ohm Studio uses 1 stereo audio output to route the audio signal from the application into your audio interface.

The stereo output of the Master Rack is automatically mapped to that Audio Output.

Audio Pattern

Audio Patterns are Patterns containing digital audio data in the WAV file format.



When you record audio in Ohm Studio, your recording is automatically copied in your cache folder and then uploaded to the Ohm Studio Server.

When you import an audio file into a project, the file is automatically converted to *.wav if necessary, then copied in your cache folder and finally uploaded to the Ohm Studio Server.

Audio Patterns will play effectively only if they find themselves on an Audio Track.

Upload and download of audio files

In order to achieve a seamless synchronization of audio data, audio files referenced by Audio Patterns are automatically uploaded/downloaded to/from the Ohm Studio Server in 3 different versions.



As you can see in the Pattern Inspector:

- the 1st version is highly compressed and is therefore quickly uploaded/downloaded, which allows for a near real time collaboration
- the 2nd version is also compressed but in higher quality
- the 3rd version uses a lossless compression algorithm, which means it will take longer to upload/download the file completely

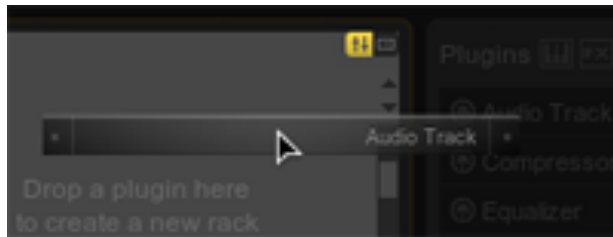
Audio Track Plugin

The Audio Track Plugin, as its name suggests, is a special kind of Plugin that lets you create Audio Tracks.

Similarly to Instrument Plugins, the Audio Track Plugin generates sound. But instead of using MIDI inputs, it uses Audio Inputs.

You can think of the Audio Track Plugin as a sort of virtual tape recorder.

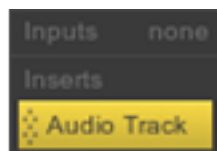
Inserting an Audio Track Plugin



The Audio Track Plugin in the Sequence



The Audio Track Plugin in the Mixer



Audio Track

In Ohm Studio, a Track is a horizontal lane that holds Patterns, which control the Plugin the Track is associated to.



Unlike in other DAWs, a Track is not a channel strip of the Mixer (see Racks). A Track is always contained in a Plugin, which can have 0, 1 or more Tracks under its Plugin Header.

There are 2 types of Tracks:

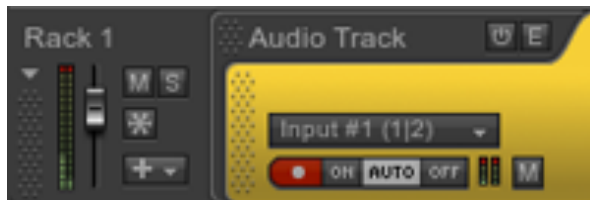
- Audio Tracks
- MIDI Tracks

In the Sequencing Panel, a Track Header is located below a Plugin Header, which itself is contained in a Rack Header.

A Rack Header must contain a least 1 Track Header (and its associated Plug-in Header). If you delete the last remaining Track contained in a Rack, Ohm Studio will automatically create a Track for the Volume Plugin.

Audio Tracks

Audio Tracks are used to playback and record audio.



They are associated to the Audio Track Plugin.

Likewise, Audio Patterns are associated to Audio Track.

MIDI Patterns may be found on Audio Tracks but will make no sound.

MIDI Tracks

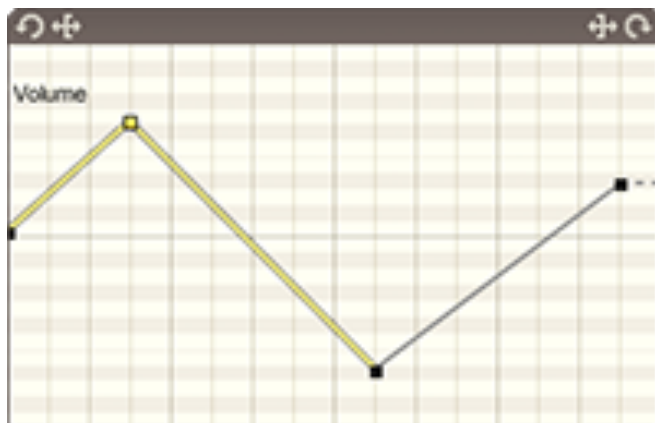
A MIDI Track is used to playback and record MIDI events (e.g. Notes) and Plugin Parameters automations.



Each Instrument and Effect Plugin needs its own MIDI Tracks to play MIDI Patterns.

Automation Point

An Automation Point is an event contained in a MIDI Pattern that is used to automate the value of a given Plugin Parameter over the course of time.



A MIDI Pattern can contain Automation Points for several different Plugin Parameters.

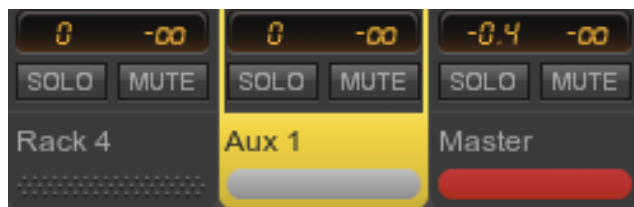
In Edit Mode, an Automation Point is displayed as a small square that is connected to others associated to the same Parameter and thus forming "automation lines".

The vertical position represents the point's value (which depends on the automated Parameter).

Edit the horizontal and vertical positions to "shape automation lines".

Aux Rack

Aux Racks are Racks dedicated to Audio Effect Plugins and are used in conjunction with Sends.



They are visible in the Sequencing Panel and in the Gear Panel's Mixer View. Several Racks can send their Output to the same Aux Rack to be processed by the same chain of effects.

One Project can have many Aux Racks and their outputs are automatically connected to the Master Rack.

Cable Connection

A Cable Connection is used to route an audio signal between 2 Racks, from an Output Pin to an Input Pin.

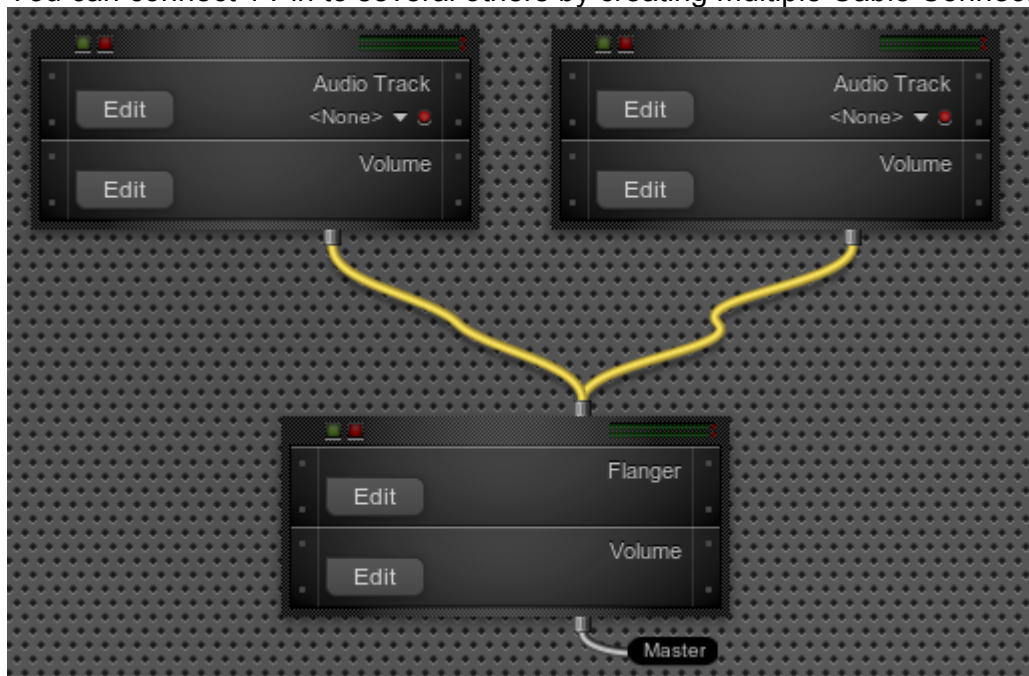


It can only be seen, created and edited in the Modular view.

To create a Cable Connection, click on a Pin and drag the mouse over another one.

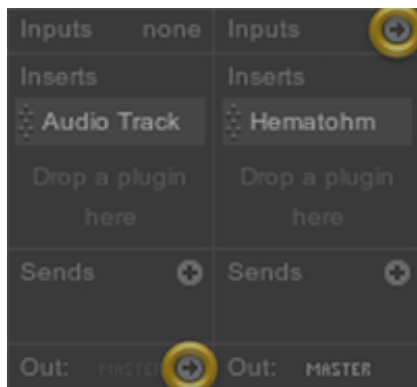
To change the source or destination of a cable, click on one end of the cable and drag it over another pin.

You can connect 1 Pin to several others by creating multiple Cable Connections



For example, click on one end of a cable and drag it over another pin while holding ⌘ / alt, it will duplicate the Cable.

In the Mixer view, Cable Connections are materialized by arrows, located both at Inputs and Outputs sections. Clicking on an arrow will select the Connection, taking you to the Modular view at the same time.



Caret

The caret is a white blinking vertical line that is visible in the Sequencing Panel on only 1 Track at a time.



It is an indicator that serves 3 main purposes:

- Import Audi/MIDI
The Caret is used as an insertion point for importing Audio/MIDI files.
- Split a Pattern
The Caret is used as a splitting point for Patterns.
- Copy/paste
The Caret is then used to paste previously copied elements at the desired position.

To move the Caret, simply click anywhere on a Track, whether it is on the lane itself or on a Pattern it contains.

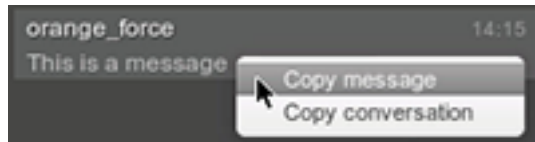
The Caret is also used to zoom in when pressing G.

Chat

The Chat is a place where you can talk with currently connected Ohm Studio users.

You and all other online users find yourselves in the General chatroom.

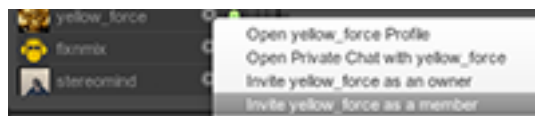
You enter a project-specific chatroom called Project chatroom when you open a Project. It gathers all currently online members of the Project.
You can switch display between both chatrooms by clicking on the one you want to talk in and/or follow.
Using right-click on a message, you can copy either the line your mouse is hovering over (copy message) or the whole conversation (copy conversation).



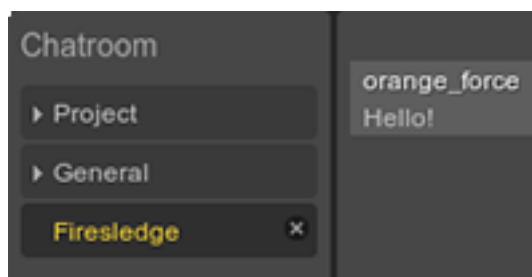
For each user currently online or in your contact list, there is a status indicator: it is green if the user is online and active, orange if online but inactive, red if offline).



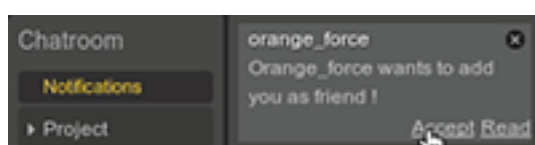
Next to the status indicator, there is a gear button: it allows you to visit the user's Profile on the web, open a Private chat (see below) with him/her, and invite him/her to your currently open Project.



Double-click on a username to open a Private chatroom with any user currently online.

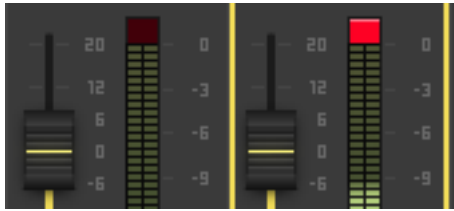


You will be informed of any significant event about your projects or your contacts through a special chatroom that will appear only if there is any incoming notification.



Clipping

The clipping indicator lights up if the level of a Rack's output exceeds 0db during playback.



Click on the clipping indicator to reset it. You can also stop and restart playback to reset all indicators at once.

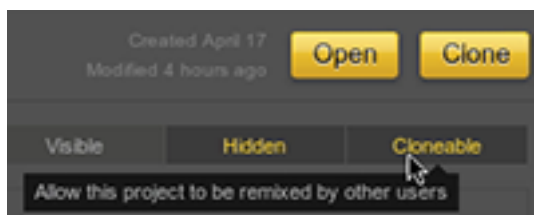
Clipping on the Master Rack's means that the audio signal is too loud and can result in distorted sound.

Clone

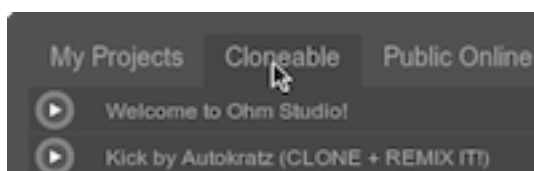
Ohm Studio allows Project Admins to clone a Project (i.e. duplicate it), so that an exact copy of it will be created and added in your Project list.

You can clone your Project from the Dashboard environment after selecting it in your Project list or from www.ohmstudio.com after logging in.

As a Project Admin, you can change the Project properties to make it Cloneable, allowing anybody (i.e. not only Contributors) to clone the Project.



In the Dashboard environment, a tab displays a list of some recent Cloneable Projects created by the Community.



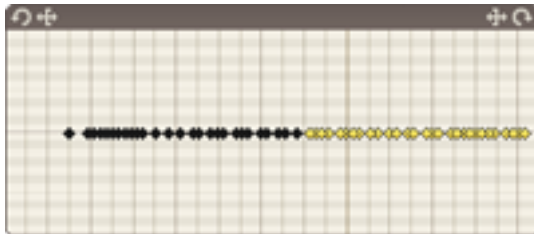
Note that when you clone a Project, its list of Snapshot is also duplicated. So you can first clone a Project and at a later time use the Revert Snapshot function and still have access to earlier Snapshots from the original Project.

Contributor

See “Project Roles and Rights”

Control change

A control change or CC is a MIDI event contained in a MIDI Pattern that is used to send messages to a Plugin to control a wide range of behaviors.



MIDI CCs can also be transmitted directly from a MIDI device to a plug-in when monitoring is set to ON.

CCs are numbered from 0 to 127, and each CC event has a value ranging from 0 to 127.

Most commonly used CC messages include CC#1 (Modulation) and CC#7 (Volume).

Currently, Ohm Studio has no editor for MIDI CC events. In Edit mode, CC events are indistinctly displayed as lozenges.

Edit mode

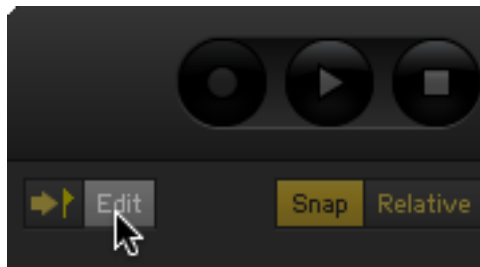
Edit is the Sequencing Panel's second mode.



It is particularly suited for editing MIDI Patterns.

Use this mode to create and edit Notes and Automation Points.

To switch to Edit mode, double-click anywhere in the Sequence or click on the Edit button.



Effect (Plugin)

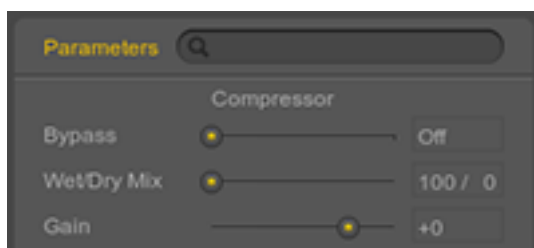
An Effect Plugin is a kind of Plugin that processes an audio signal.



This signal is received through the Effect's Input Pin(s) and the altered signal passes through its Output Pin(s).

Commonly used Effect Plugins include compressors, reverbs, equalizers, etc. Some Effect Plugins such as spectrum analysers don't alter the sound they processes.

In Ohm Studio, every Effect Plugin has 3 additional Parameters that you can change in the Plugin Inspector: a Dry/Wet Parameter, a Bypass Parameter, and an Output Gain Parameter.



Eraser (Tool)

The Eraser tool is the mouse tool that lets you erase elements (Rack, Plug-in, Track, Pattern, Note, Automation Point, CC event, Cable Connection, Tempo events) of your project.



Click on an element (or a selection of several elements) to delete it.

Press 3 to select the Eraser tool.

Another way to delete elements is to select them with the Arrow tool and press  / del.

When the Eraser tool is selected, press and hold the  / ctrl key to quickly switch to the Arrow tool.

External connections (Rack)

A Rack has one or many Output Pins that can be connected to Input Pins of another Rack in different ways:

- Cable Connections to route an audio signal between racks similarly to a studio patch bay



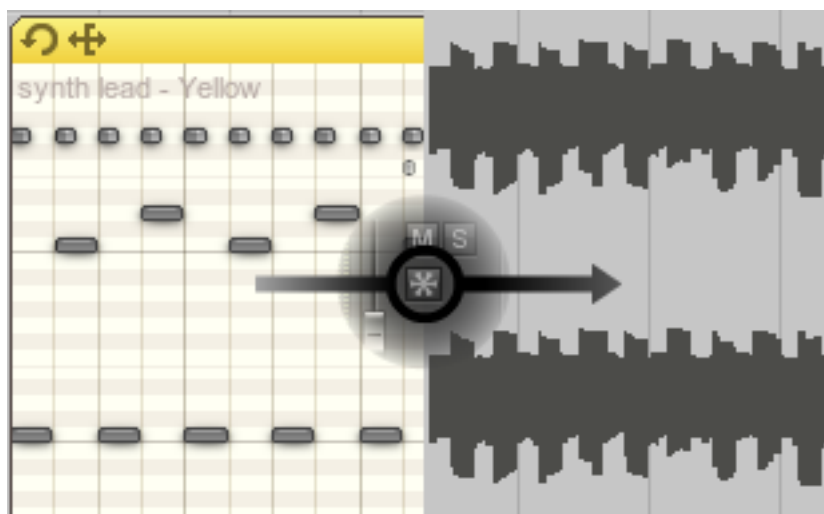
- Send Effects to connect the Output Pin of several Racks to the Input Pin of an Aux Rack



- Master Connections to connect the Output Pin of several Racks to the Input Pin of the Master Rack



Freeze (Collaborative)



Collaborative Freeze is a function associated to a given Rack that allows several project members to work on a same project even if they don't use the same Plugins.

If a project member has all the Plugins contained in a Rack, he/she can "bounce" the Rack to audio, while other project members can enable this bounce if necessary (e.g. if they don't have one of the Plugins used in that Rack).

Similarly to the way Audio Patterns are automatically shared among project members, the upload/download of a Rack's "bounce" is automatic. This means that:

- when a member bounces a Rack, the resulting audio file is automatically uploaded to the Ohm Studio server.
- when a member re-bounces that Rack, the resulting audio file overwrites the previously uploaded one.
- when a member enables the bounce for that Rack, the most recent one is automatically downloaded from the Ohm Studio server.

The Collaborative Freeze function consists in 2 buttons visible in a Rack Header:

- Bounce (snowflake icon)
- Toggle Bounce (speaker icon)

Bounce

Click on the snowflake icon to bounce a Rack to audio and automatically upload the resulting audio file on the Ohm Studio Server.

Click this button again if you want to replace an existing bounce by a new "up-to-date" bounce.

See "How to export audio" to learn how to bounce a Rack to an audio file on your disk.

Toggle Bounce

This button appears as soon as a project member clicks on the Bounce button (i.e. the snowflake), meaning that other project members can enable or disable the latest bounce for a Rack.

When a Rack's bounce is enabled, the waveform of the corresponding audio file appears on the Sequence, meaning that all the Plugins contained in that Rack (except the Rack's Volume Plugin) are temporarily replaced by 1 Audio Track Plugin.

This Audio Track Plugin is used to playback the Rack's bounce, but unlike ordinary Audio Patterns, the bounce cannot be edited (i.e. moved, split, looped...).



Similarly to freeze functions available in other DAWs, enabling a Rack's bounce will usually reduce CPU load because all the Plugins contained in that Rack (except the Rack's Volume Plugin) are automatically disabled.

Additional Information

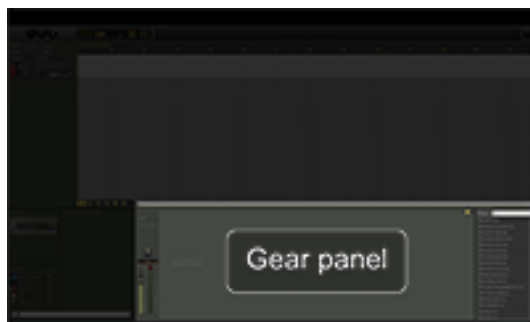
When you bounce a Rack, its outgoing audio signal is "recorded" just before it reaches the Rack's Volume Plugin. This means that you can edit the Rack's volume and pan parameters in the Mixer View even if the Rack's bounce is enabled.

To avoid user errors, a confirmation dialog box appears if a project member clicks on the Bounce button but does not have all the Plugins contained in a Rack. You can use $\mathbb{H}$ / ctrl + Click to "force" the bounce and bypass the dialog box.

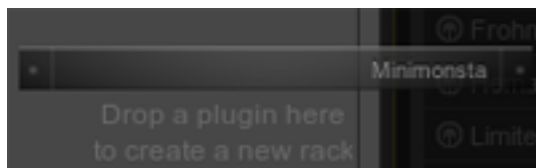
When you open a project, a dialog box may appear asking you if want Ohm Studio to automatically enable the bounces for Racks containing Plugins not available on your computer.

Gear Panel

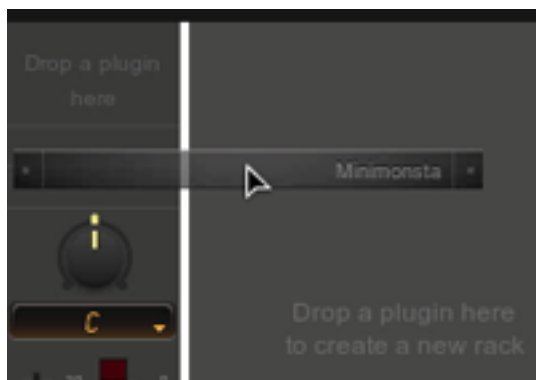
The Gear Panel is the place where you create and manage Racks and Plugins.



To create a new Rack: drag a Plugin from the Plugin List onto the Gear Panel.



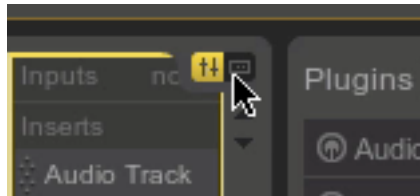
To insert a Plugin, drag a Plugin from the Plugin List onto the Insert zone of an existing Rack.



2 ways of displaying the Gear Panel:

- The Mixer view
- The Modular view

To switch between views, click on the button at the top right of the Gear Panel.



Hand (Tool)

The Hand tool is the mouse tool that lets you manually scroll across the Sequencing Panel or the Gear Panel.



Click and drag to scroll.

Hold down the H key or press 5 to quickly select the Hand tool.

When the Hand tool is selected, press and hold the $\mathbb{H}$ / ctrl key to quickly switch to the Arrow tool.

Header

Headers are located at the left of the Sequencing Panel.

They are used to select and handle the elements they are associated to.

They also give a visual representation of the way these elements relate to one another.

Types of Headers:

- Rack Header
- Plug-in Header
- Track Header

Rack Header



The selected part represent the Rack Header.

Plug-in Header



The selected part represents the Plug-in Header.

Track Header



The selected part represents the Track Header.

Timeline and Pattern Header

The zone at the left of the Timeline is sometimes referred to as Timeline Header.



The zone at the top of a Pattern is sometimes referred to as Pattern Header.



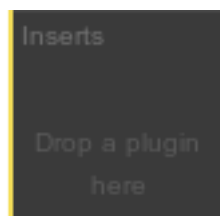
Pattern Header in Arrange mode



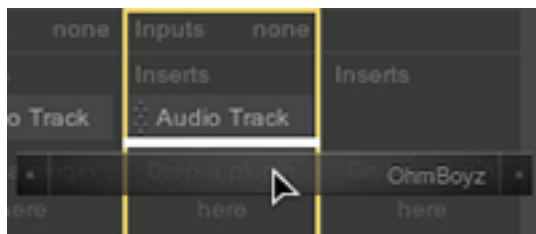
Pattern Header in Edit mode

Insert Zone (Rack)

The Insert zone is used to insert new Plugins from the Plugin List into a Rack, as well as select, move, duplicate, replace and delete those already contained in a Rack.



As it is inserted into a Rack, a Plugin is sometimes referred to as an "insert".



The audio signal goes through each Plugin one after the other in a top-down direction.

Typically, the first Plugin (i.e. the one on top) will be an Instrument or an Audio Track Plugin.

You can drag'n'drop a Plugin over another one to replace it.



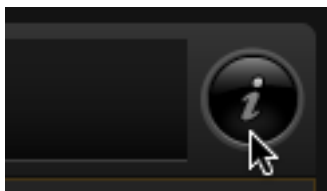
You can replace a Plugin by another one only if both have the same Input and Output Pin configuration.

Aux Racks and the Master Rack can only "host" Plugins that have an Input Pin (typically Effect Plugins), and their Inserts zone is accessible only in the Mixer view.

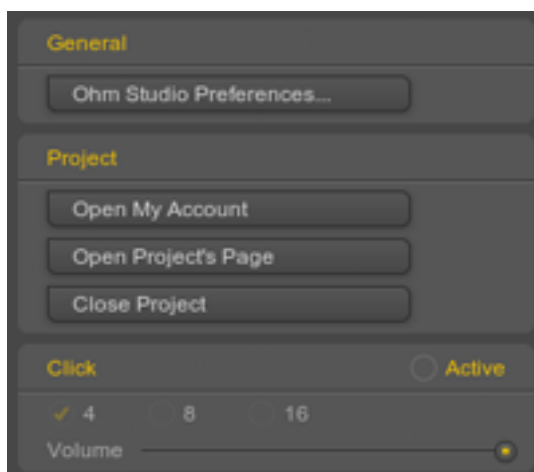
Inspector

The Inspector displays information about the selected element and allows you to make various changes on it.

Click on the icon on the top right or press i to access the Inspector.



When no element is selected, the Inspector displays a "Project Inspector", which provides shortcuts to software Preferences, project and your profile web page, as well as a controller for the volume of the Metronome.

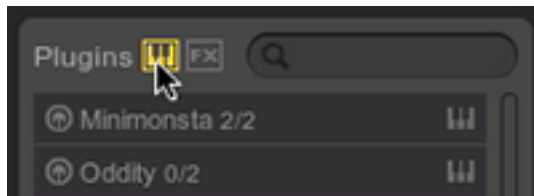


Instrument (Plugin)

An Instrument Plugin is a kind of Plugin that takes MIDI Notes (from a MIDI Pattern or a MIDI Input) and converts them into an audio signal.



Instrument Plugins generate sound while Effect Plugins process sound. Examples of Instrument Plugins include virtual synthesizers and samplers. Ohm Studio comes with Minimonsa:Melohman and Oddity as readily available Instrument Plugins.



Layer (Pattern)

A MIDI Pattern can contain several layers. Each layer corresponds to a type of data contained in that Pattern (e.g. Notes).

The top Pattern Layer determines the type of element (Note or Automation point) that the Pen tool draws.

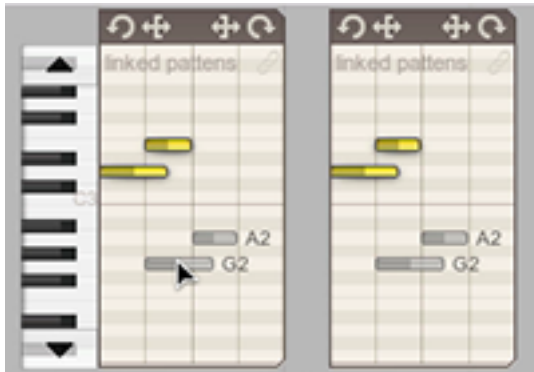
The Pattern Layer drop-down menu in the Pattern Footer lets you see the current top Layer and choose a new one.



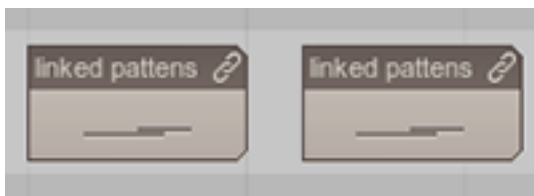
Link (Pattern)

Linked MIDI Patterns are ghost copies of the same original Pattern.

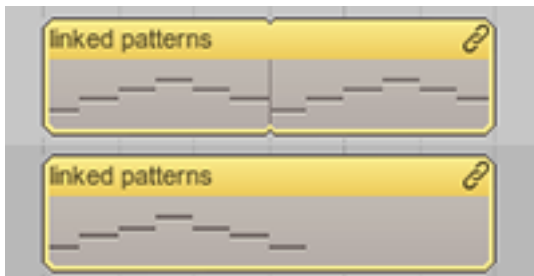
This means that changing the content (e.g. Notes) of one Pattern will change its Linked Patterns accordingly.



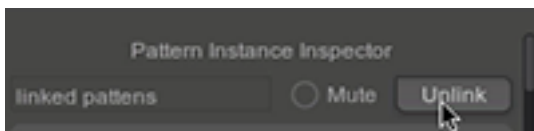
Linked Patterns are identified by a link icon in their Header.



You can crop or loop different parts of their content without breaking the link between Linked Patterns.



To break the link between one Pattern and its Linked Patterns, select it then and click on the Unlink button in the Pattern Inspector.



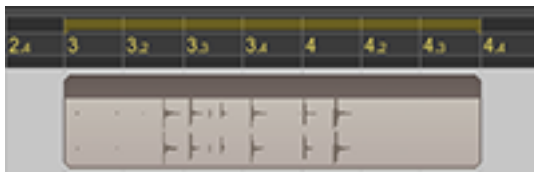
You can only link Patterns of one same Plugin instance (i.e. Linked Patterns must be on the same Track or on 2 different Tracks of the same Plugin).

Loop

A Loop is used to playback a part of the sequence repeatedly. It appears as a thin horizontal yellow bar in the upper part of the Timeline area and it is greyed out when disabled.



► Loop on



► Loop off

The left border represents the beginning of the loop while the right border represents the end of the loop.

Currently, it is not possible to loop and record at the same time (i.e. the Loop is ignored during a recording).

The Loop must have a minimum duration value of 1/4 note.

Master Connection

A Master Connection is a connection between the Output Pin of a Rack and the Input Pin of the Master Rack.

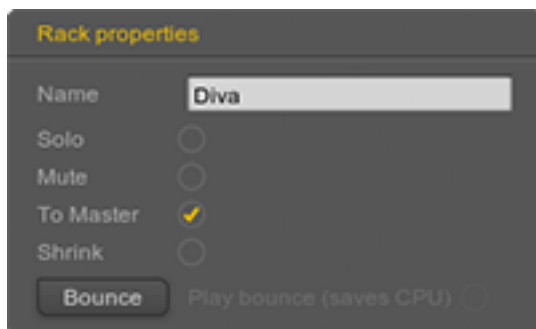
In the Mixer view, click on the little MASTER button in the Out section to connect / disconnect the Rack's first Output Pin to the Master Rack.



In the Modular view, right-click on an Output Pin and select Connect to Master to establish connection. Select it and press $\boxtimes$ / del to remove it.

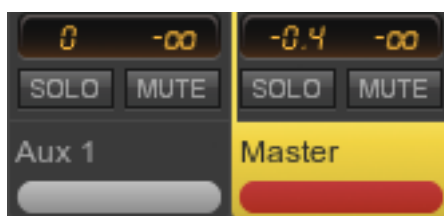


In the Rack Inspector, click on the To Master checkbox to connect/disconnect the Rack's first Output Pin to the Master Rack.



Master Rack

The Master Rack is present in every project and controls the overall volume of the project.



The Master Rack's stereo output is connected to your Audio Output.

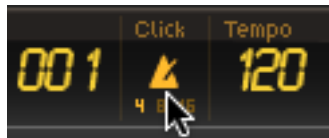
Normal Racks' outputs are by default connected to the Master Rack input by a Master connection.

Aux Racks' outputs are always connected to the Master Rack input

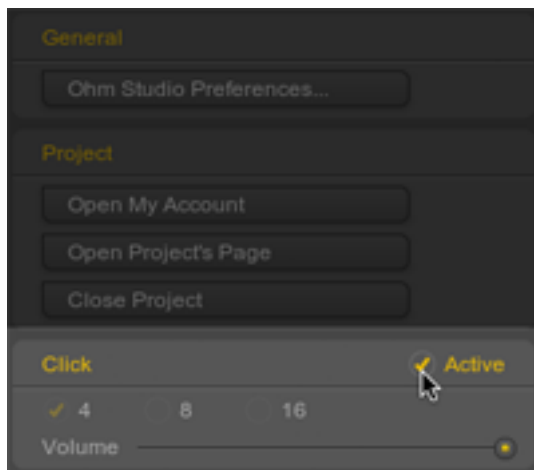
Metronome

The metronome is a device that produces regular "click" sounds in sync with the Project Tempo.

Click on the "click" switch button in the Transport Bar to enable the metronome.



You can adjust the volume of the metronome in the Inspector when the selection is empty (i.e. when no element is selected).

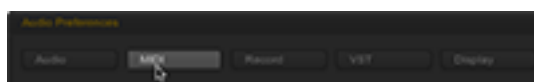


The metronome output is connected directly to the audio output (i.e. its audio signal does not go through the Master Rack).

MIDI Input

MIDI Inputs are used by Ohm Studio:

- To send MIDI events (e.g. MIDI Notes) from a MIDI device (e.g. a MIDI keyboard) to a Plugin (e.g. a virtual Instrument Plugin).
- To record MIDI events from a MIDI device onto a MIDI Track.



MIDI Pattern

MIDI Patterns contain MIDI events (e.g. Notes, Control changes) as well as Automation Points for Plugin Parameters.



MIDI Patterns will play effectively only if they find themselves on a MIDI Track. If a Patterns contains Automation Points commanding a Plugin Parameter, it must be on a Track that is part of that Plugin.

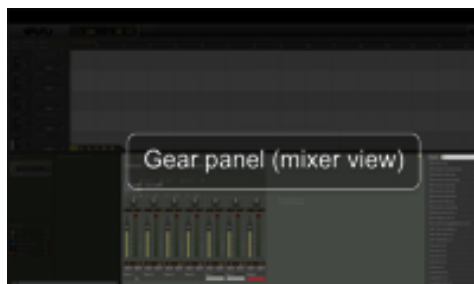


MIDI Track

Read "Track"

Mixer view

The Mixer view is the Gear Panel's default view.

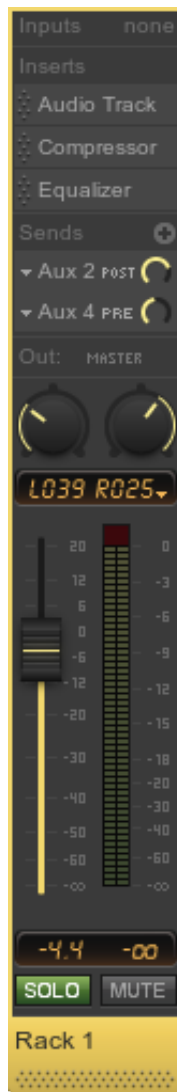


This view shows Racks and Plugins like on a traditional mixing console, where a channel strip represents a Rack and where an Insert represents a Plugin.

It is the only place where you create Send effects and Aux Racks.

Horizontally, Racks are displayed in the following order:

- Ordinary Racks on the left
- Aux Racks, a.k.a. Returns in the middle
- the Master Rack at the far right



Vertically, we have:

- The name of the Rack at the very bottom
- Then solo and mute
- Volume and panning
- Outputs
- List of Sends
- Finally, we have the name of all the Plugins you insert, the first one on top representing the beginning of the chain.

Modular view

The Modular view is the Gear Panel's second view.



It gives an intuitive representation of the audio routing, showing how Racks are connected to one another, and letting you freely position them and the Plugins they contain across space.

In this view, a Rack appears as a traditional hardware rack and Plugins appear as sound modules mounted on that Rack.

You need to be in the Modular view to create Cable Connections between an Input Pin and an Output Pin.

Monitoring: Audio

Audio monitoring is a function associated to a given Audio Track Plugin that enables or disables the audio signal coming from the selected Audio Input.



Depending on your audio interface, you may prefer to use its "direct monitoring" function and disable Ohm Studio's internal Monitoring.

3 modes

- - When ON is selected, you will always hear your Audio Input.
 - When AUTO is selected, you will hear your Input only if the one the Track contained in the Audio Track Plugin is armed for recording.
 - When OFF is selected, you won't hear your Audio Input.

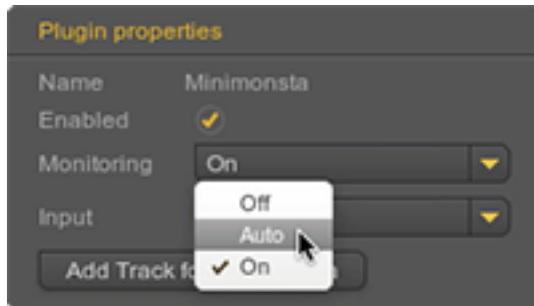
Monitoring: MIDI

MIDI Monitoring is a function associated to a given MIDI Plugin that enables/disables the MIDI events (e.g. MIDI Notes) coming from the selected MIDI Input(s).



In order to play a virtual Instrument with a MIDI keyboard, the Plugin's Monitoring function must be enabled.

MIDI Monitoring can be enabled in a MIDI Track Header, or in the Plugin Inspector.



3 modes

- When ON is selected, the Plugin will always receive incoming MIDI events (i.e. monitoring is always enabled).
- When AUTO is selected, MIDI events are sent to the Plugin only if a Track is armed for recording (i.e. monitoring is enabled only when the Track's Arm Record is enabled).
- When OFF is selected, MIDI events are sent to the Plugin only during actual recording (i.e. when the Track has been armed for recording and Record is enabled in the Transport Bar).

In most cases, you'll want to leave it on AUTO and only use the Arm Record button.

Mute

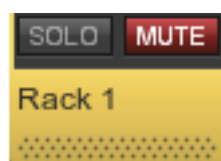
Generally speaking, muting an element means disabling it. The exact behaviour depends on the type of element being muted.

4 types of elements can be muted:

- Racks
- Plugins
- Tracks
- Patterns.

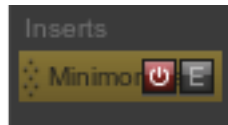
Rack

Muting a Rack will make its output(s) silent. On a given Rack, Solo has priority over Mute (i.e. when both Solo and Mute are enabled on a Rack, Mute is ignored).



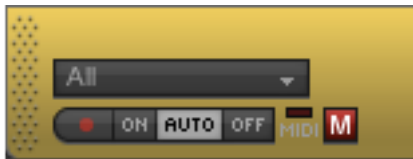
Plugin

Muting a Plugin comes back to activating the Power button.



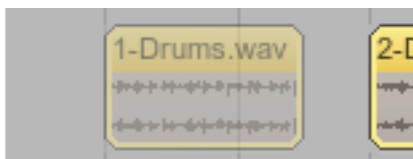
Track

Muting a Track comes back to muting all the Patterns located on that Track.



Pattern

Muting a Pattern will make its associated Plugin ignore that Pattern and the elements it contains (e.g. Notes).



Additional information

Of the 4 above mentioned, only Track and Pattern mute functions are shared among all members of the Project: a Project member can mute a Rack or a Plugin without affecting the work of other Project members.

There are different ways to mute an element depending on its type:

- Use its mute button (for Racks, Plugins and Tracks).
- Right-click on that element and select its mute option in the context menu (for Plugins, Tracks and Patterns).
- Click on that element with the Mute tool (for Racks, Plugins and Patterns).
- Select it and press M (for Racks, Tracks and Patterns).

Mute (Tool)

The Mute tool is the mouse tool that lets you mute Patterns.



Click on an element (or a selection of several elements) to mute it.

Press 6 to select the Mute tool.

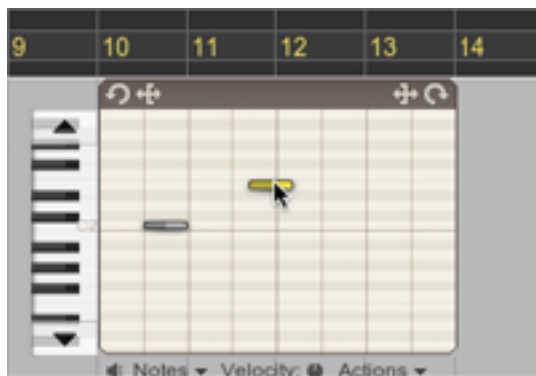
When the Mute tool is selected, press and hold the ⌘ / ctrl key to quickly switch to the Arrow tool.

Another way to mute elements is to select them with the Arrow tool and press M.

Unlike muted Racks, muting a Pattern will mute it for all members of the Project.

Note (MIDI)

A note is a MIDI event contained in a MIDI Pattern that is used to play virtual Instruments.



MIDI notes can also be transmitted directly from a MIDI device to a Plugin when monitoring is set to 'ON'.

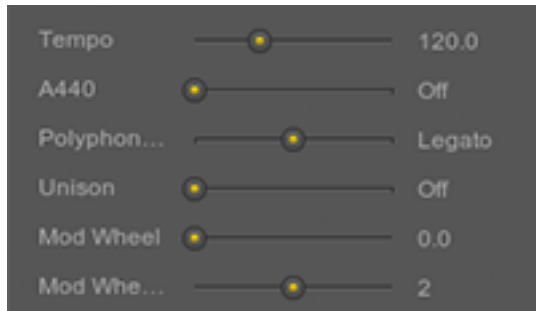
In Edit mode, a Note is displayed as a rectangle in a traditional Piano Roll fashion:

- The left border represents the MIDI note on event.
- The right border represents the note off event.
- The vertical position represents the note's pitch.
- The darker greyed part inside the rectangle represents the note's velocity.

Parameter (Plugin)

Built-ins and third-party Plugins offer several parameters to control their behaviour.





Every Plugin Parameter can usually be directly manipulated with the mouse (thanks to the Plugin's GUI or the Plugin Inspector) or a MIDI controller (if the Plugin has a MIDI learn feature).

Parameters can also be controlled over the course of time with Automation Points.

Plugin Parameters are part of the shared document: if a project member changes a Plugin Parameter, other members see the Parameter change in "real time".

In Ohm Studio, every Effect Plugin has 3 additional Parameters that you can change in the Plugin Inspector: a Dry/Wet Parameter, a Bypass Parameter, and an Output Gain Parameter.

Pattern

A Pattern (a.k.a. clip) is a container of audio or MIDI data, and is itself contained in a Track.

Patterns make arranging a Project easier in that they let you handle large amounts of data as a single block.

There exist 2 types of Patterns:

- Audio Patterns
- MIDI Patterns

You can move, resize, loop, copy, mute, rename, and link them.

In order to have 2 (or more) Patterns control the same Plugin at the same time, place each pattern on a different Track.



Ohm Studio does not allow Pattern overlapping. If a Pattern extends over another one, the former will cut the latter at the point where its extension stops.



Pen (Tool)

The Pen tool is a mouse tool that lets you create new elements depending on the current mode you find yourself in.



You can only use in the Sequencing Panel and the Timeline.
Press 2 to select the Pen tool.

When the Pen tool is selected, press and hold the $\mathbb{A}$ / ctrl key to quickly switch to the Arrow tool.

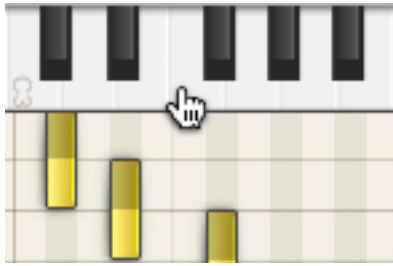
Conversely, when the Arrow tool is selected, press and hold the $\mathbb{A}$ / ctrl key to quickly switch to the Pen tool.

In Arrange mode, use the Pen tool to create MIDI Patterns.

In Edit mode, use it to create Notes and Automation Points.
On the Timeline, use it to create Tempo and Signature change events.

Piano Roll

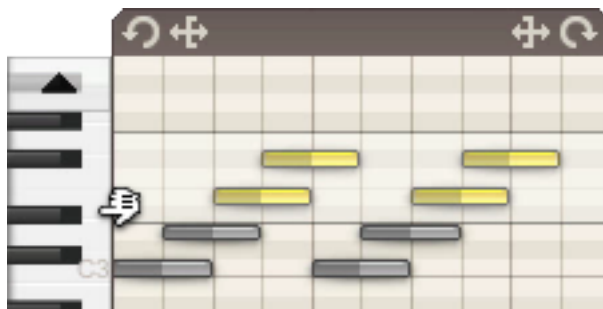
In Edit mode, the Notes contained in a MIDI Pattern are displayed in a traditional "piano roll" fashion.



It helps you see the pitch and duration of every Note you draw or record.

The black and white piano keys at the left side of a MIDI Pattern represent a virtual piano keyboard, which is used:

- To scroll vertically inside the Pattern's note range (from C-2 to G8) by clicking on the ▲ / ▼ buttons.
- To send a "MIDI note on / off" event to an Instrument Plugin by clicking on a piano key.
- To select all the Notes contained in a note range by clicking on a piano key and dragging the mouse up / down to create a selection marquee.



By default, the following actions will automatically trigger MIDI Notes on / off events so that you can audition them:

- Clicking on a piano key.
- Editing a Note's position / pitch / velocity.
- Drawing new Notes.

Click on the speaker icon in the Pattern footer to enable / disable this behaviour.



To see more octaves simultaneously, you can resize the Track.

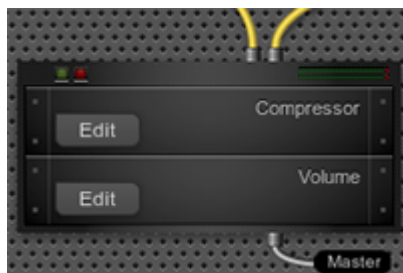
To show the piano keys in Edit Mode, simply click on a MIDI Pattern.

Input / Output Pin

Plugins use Input pins to receive the audio signal sent by the Outpin Pin of another Plugin.



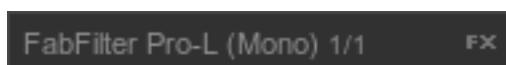
You typically find one stereo Input Pin on every Effect Plugin.
Some Effect Plugins have more than 1 Input Pin, sometimes used as sidechain (e.g. Compressor).



You typically find one stereo Output Pin on every Plugin (i.e. both Effects and Instruments).
Some Plugins have multiple Output Pins to allow for individual effect processing and mixing of each output.



Some Plugins use mono Input / Output Pins.

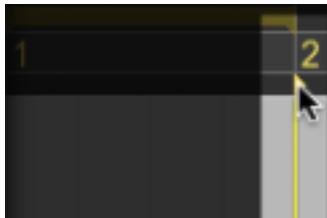


4 different ways to connect Pins

- Cable connection
The Gear Panel's Modular view allows direct access to a Plugin's Input Pin if it's the first Insert in a Rack, and to its Outpin Pin if it's the last. Create virtual cables to connect a Rack's output to another one's input.
- Send connection
It is a connection between an "ordinary" Rack's first Output Pin and an Aux Rack's Input Pin.
- Master connection
It is a connection between a Rack's Output Pin and a Master Rack's Input Pin.
- "Implicit" Insert connection
It is automatically established when you insert a Plugin into a Rack: 2 consecutive Plugins in the Insert Zone of a Rack get their Input and Output Pins connected automatically.

Playhead

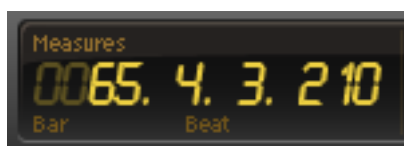
The Playhead is a yellow vertical line that indicates the current playback position in the Sequencing Panel.



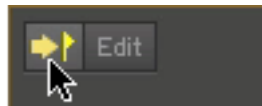
Click in the lower part of the Timeline to move the Playhead to the desired position.

When the Loop is enabled, you can click repeatedly on the Stop button in the Transport Bar (or press the ↵ / enter key on your keyboard) to make the Playhead switch position from beginning of the Loop to beginning of the Project.

In the Transport Bar, you can see the Playhead's current position in a "Bar::Beat::1/16::Ticks" time format.



Enable the Follow Playhead option in the Timeline Header to make the Sequence scroll horizontally during playback so that the Playhead is always visible.



Record

The Playhead's position determines where recording should start. Enabling record in the Transport Bar automatically moves the Playhead to the closest 1/4th note in the Timeline.

You can enable Preroll in the Preferences Record tab to get a count-in before Ohm Studio actually starts recording.

Plugin

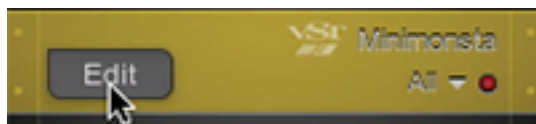
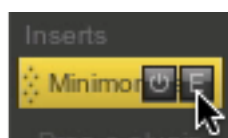
A Plugin is a module that generates or processes sound.

It is an element of a Rack.

As it is inserted into a Rack, a Plugin is sometimes referred to as an Insert.

A Plugin itself can host one or many Tracks.

Most Plugins have a Graphical User Interface (GUI) window which can be accessed by clicking on the Plugin's Edit button.



Types of Plugins:

- Audio Track Plugin
- Instrument Plugin
- Effect Plugin
- Volume Plugin

In the Sequencing Panel, a Plugin Header groups together all the Tracks it contains.

In the Gear Panel's Mixer View, a Plugin appears as an insert on a channel strip.

In the Gear Panel's Modular View, a Plugin appears as a sound module mounted on a traditional hardware rack.

Plugin Header

Read “Header”

Plugin List

The Plugin list gathers all the Plugins you can add to the Project by drag'n'dropping them on the Gear Panel.

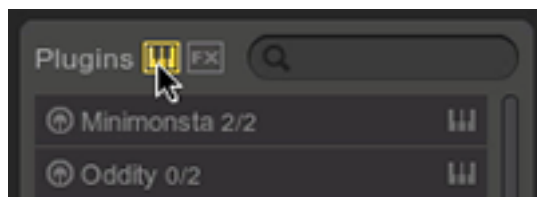


It is found on the bottom right corner in the section.

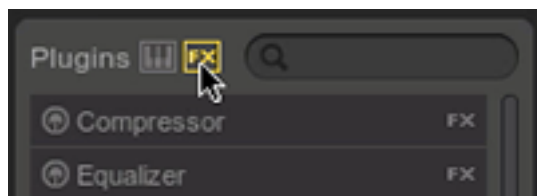
The list first displays Ohm Studio's built-in Plugins followed by other third-party Plugins sorted in ascending lexicographical order.

The two figures separated by a slash bar at the end of the name indicate the number of Input / Output channels the Plugin has (2 channels usually means 1 stereo input / output Pins).

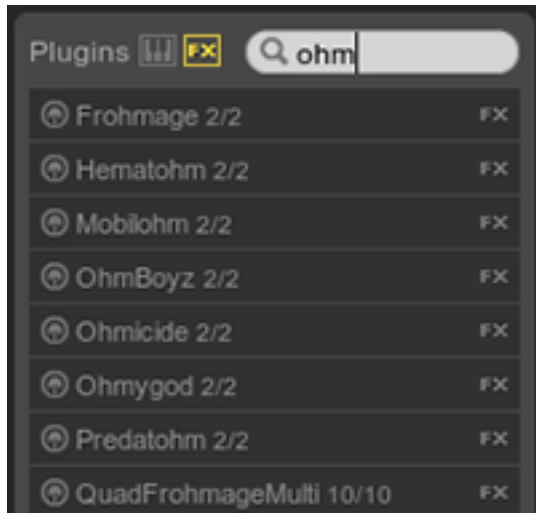
Click on the Piano Keys icon to filter the list and show only Instrument Plugins.



Similarly, you can click on the FX icon to see only Effect Plugins.



You can also click in the text field and type in the name of a Plugin (or just a substring of its name) to filter the list and quickly find the desired Plugin.



Power (button)

Every Plugin has a Power button that serves 2 purposes:

- Temporarily disable the plug-in to save CPU.
- Turn a Plugin on and off repeatedly to compare how a Rack sounds with or without this particular Plugin in its "chain" of inserts.

In this respect, it is the equivalent of a Mute button.

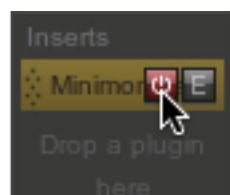
Like the Rack Mute and Solo buttons, the Plugin's Power button is no part of the shared document: a Project member can turn a Plugin off without affecting the work of other Project members.

The Power button is accessible:

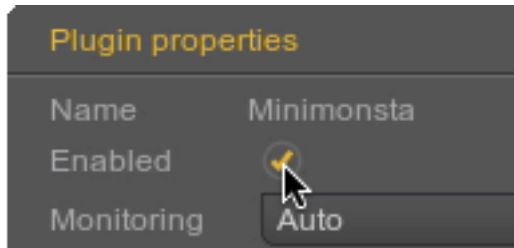
- In the Plugin Header



- In the Mixer view



- In the Plugin Inspector

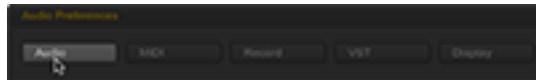


Preferences

The Preferences window is where you can configure various Ohm Studio settings. It is organized under 5 tabs described below.
Press ⌘ / ctrl + , to access this menu.

Audio Tab

The Audio Preferences is the default tab.



MIDI Tab

MIDI devices recognized by Ohm Studio appear in this list and will be available as MIDI Inputs in the Track Header drop-down menu. To disable unused devices, remove the ticks off them.

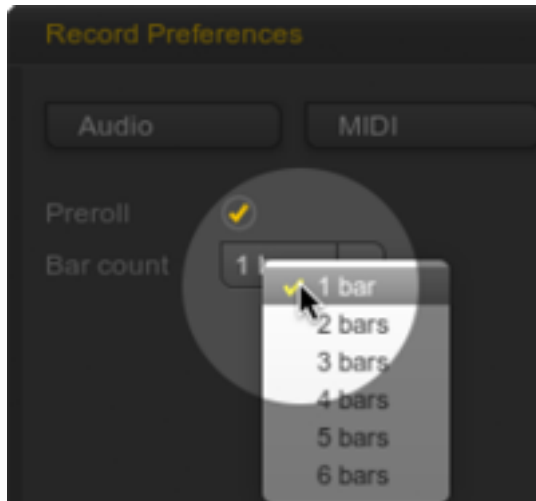


You may have to download and install drivers specifically written for your MIDI device by its manufacturer.

Record Tab

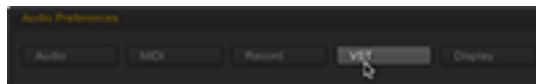
Enable Preroll to get a count-in before Ohm Studio actually starts recording.
Adjust the count-in duration in the Bar count drop-down menu.



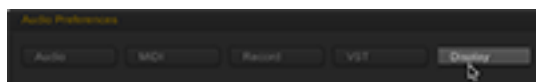


VST Tab

Add or remove folders containing VST Plugins to be scanned next time you launch the application. Ohm Studio's built-in Plugins are automatically scanned.



Display



Contrast & Luminosity - adjust those value to get the desired display settings.
GPU Consumption - increase the refresh rate limit to get a smoother display at the cost of higher GPU and CPU use.

Follow Playhead - enable this option to make the Sequence scroll horizontally during playback so that the Playhead is always visible.

Show Scrollbars - disable this option to hide the vertical and horizontal scrollbars in the Sequencing Panel and in the Gear Panel.

Preroll

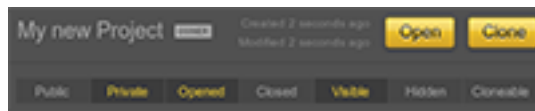
Read "Preferences"

Private

Read "Project properties"

Project properties

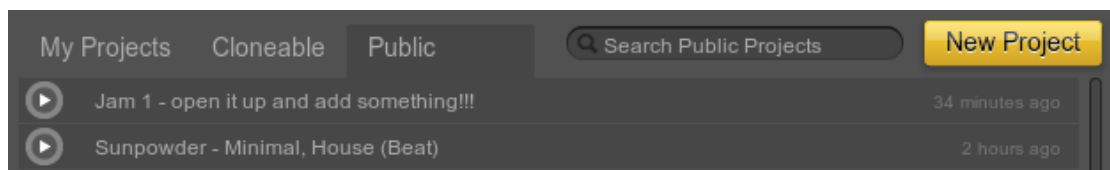
A Project Admin can determine the extent to which the Project will be accessible, browsable and duplicable by setting its properties.



Public/Private

- A Public Project is visible and accessible to any Ohm Studio user.
- A Private Project is accessible either on invitation or approval of "membership request" by a Project Admin.

Recent Public Project can be joined by anyone thanks to the Public tab available on both "Dashboards".



Dashboard

New Project



Open/Closed

This Project Property is relevant mainly to Private Projects, even if you can set a Public project to Closed if you want to.

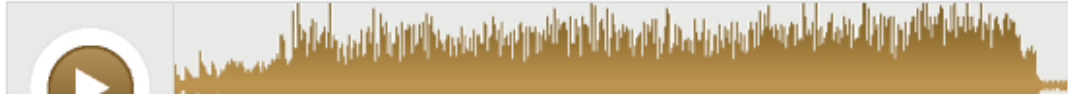
- With Open Projects, users can apply for membership (if the Project is Private) or simply open the Project (if it is Public).
- A Closed Project, on the other hand, can be joined on invitation by an Admin only (i.e. users cannot apply for membership).

Glass Encased Brain

Apply

f J'aime 0

Tweet 0



Apply for membership by using the Apply button available on a Project webpage. An Admin can then accept or refuse your application.

Visible/Hidden

This Project Property is relevant only to Private Projects.

- A Project is Visible by default, which means that it appears in search results.
- A Hidden Project will no longer be listed in search results, nor on the profiles of its members.

However, a Hidden Project can remain visible in the Showcase of a Project member (assuming that member added that Project to its Showcase).

Cloneable

- If you make a project Cloneable, any Ohm Studio user can clone the Project (assuming he/she is able to find the Project).
- Note that Project Admins can always clone a project, even if it is not Cloneable.

Application case 1

To make a project "remixable" by other Ohm Studio users, choose the following properties:

- Private
- Closed
- Visible
- Clonable

Application case 2

To let any Ohm Studio users join a Project as a Contributor, choose the following properties:

- Public
- Open
- Visible

Project Roles and Rights

Roles

A member of an Ohm Studio is either a Project Admin or a Project Contributor.

3 ways to become an Admin:

- Create a new Project to automatically become an Admin of it.
- Get invited to a Project as an Admin.
- Get another Project Admin to change your role from Contributor to Admin.

3 ways to become a Contributor:

- Get invited to a Project as a Contributor.
- Join a Public Project.
- Get accepted by a Project Admin after applying for membership.

Rights

Roles are significant in that they determine a member's rights regarding a Project.

Action	Admin	Contributor
Can modify Project properties and tags	✓	X
Can open and edit the Project	✓	✓
Can invite people to the Project	✓	X
Can upgrade Contributor to Admin	✓	X
Can downgrade Admin to Contributor	X	X
Can kick an Admin off the Project	X	X
Can kick a Contributor off the Project	✓	X
Can leave the Project	✓	✓
Can delete a Project	✓ (under specific circumstances)	X
Can export Mixdown to Project Page	✓	X

Public (Project properties)

Read "Project properties"

Rack

A Rack is a chain of Plugins connected to one another.

The audio signal goes through each Plugin one after the other in a top-down direction.

A Rack always contains at least one Plugin, which is the Volume Plugin, at the end of its chain.

Types of Rack:

- Ordinary Racks, visible in both the Mixer view and the Modular view.
- Aux Racks visible only in the Mixer view.
- The Master Rack visible only in the Mixer view.

In the Sequencing Panel, a Rack Header is located at the left of a Track Header and groups together all the Tracks belonging to the Plugins hosted by the Rack.



In the Gear Panel's Mixer View, a Rack appears as a channel strip of a mixing console and Plugins appear as inserts.

In the Gear Panel's Modular View, a Rack appears as a traditional hardware rack and Plugins appear as sound modules mounted on that Rack.



Rack Header

Read Header

Rights (Projects)

Read Project properties

Roles (Projects)

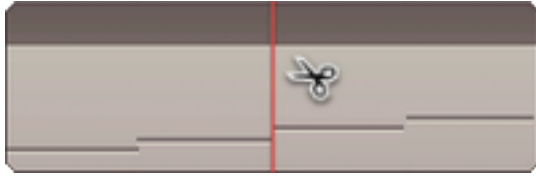
Read Project properties

Scissors (Tool)

The Scissors tool is the mouse tool that lets you split Patterns.



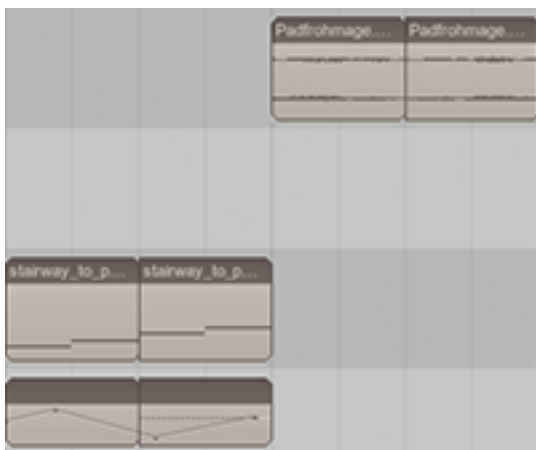
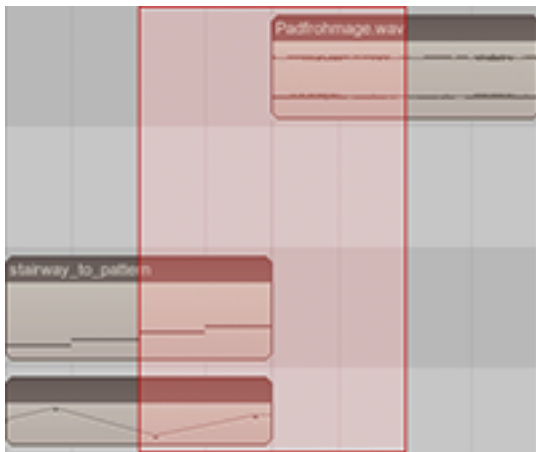
After selecting it, the mouse pointer will be followed by a red bar which materializes the splitting point and moves according to the currently running Snap value. Click where you want to perform the split.



Change the snap value if you need greater freedom in locating the split bar. You can also press 4 to select the Scissors tool.

Another way of splitting is to place the Caret at the desired splitting point with the Arrow tool and press ⌘ / ctrl + E.

To split many elements at once, select the Scissors tool, then click and drag to create a marquee. All the elements intersecting the marquee's left and right side will be split.



Send Connections

In Ohm Studio, Sends (sometimes referred to as "send effects") are used in conjunction with Aux Racks to create a classical send-return scheme as can be done on a mixing console. Several Racks can "send" their Output signal to the

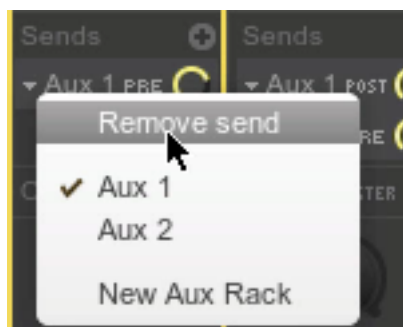
same Aux Rack to be processed by the same chain of effects, typically a reverb or a delay effect.

A Send is a connection between the 1st Output Pin of an ordinary Rack (i.e. the source) and the 1st Input Pin of an Aux Rack (i.e. the destination).

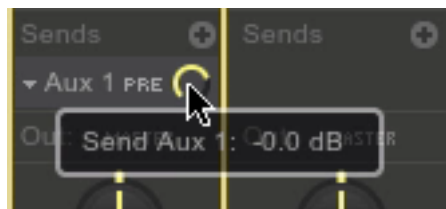
Sends are automatically deleted when the Aux Rack they're associated to is removed.

Sends can only be created and edited in the Gear Panel's Mixer view. They are not visible in the Modular view (where you can use Cable Connections instead of Sends).

Use the Send drop-down menu to change the destination of the Send by either choosing an existing Aux Rack or by creating a new one.



The Send level knob lets you adjust the volume of the outgoing audio signal.

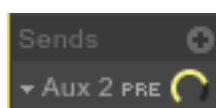


This level can be adjusted individually for each send before the signal reaches the Aux Rack (while adjusting the Aux Rack's volume will affect all the sends associated with that Aux). Currently, it's not possible to create an automation for the send level parameter.

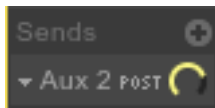
Pre-Fader and Post-Fader mode

Click on the little PRE / POST button to switch between pre and post fader mode.

- In Pre-Fader Mode, the output signal of the Rack will be sent to the Aux Rack before it goes through the Rack's Volume Plugin.



- In Post-Fader Mode, the output signal of the Rack will be sent to the Aux Rack after it went through the Rack's Volume Plugin.



In either mode, you may want to remove the Rack's Master Connection so that the Rack's output signal is not duplicated.

Sequence overview

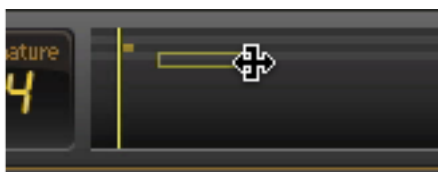
The Sequence overview gives a global view of the sequence.



The yellow rectangle helps you quickly determine where in the sequence you currently are.

Click somewhere in the Sequence or quickly jump to another part of the sequence.

You can resize this rectangle to zoom in and out.



Orange rectangles show where other Project members are working.

Sequencing Panel

The Sequencing Panel is the place where you "build up" a song by creating Tracks, arranging and editing Patterns, recording audio and MIDI, among other possibilities.



The Sequencing Panel works just like in most DAWs: the horizontal axis represents time, while the vertical axis makes simultaneous use of several Tracks possible.

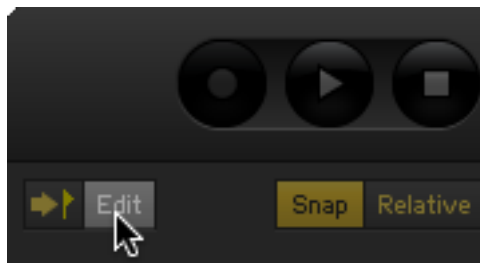
At the left, there are Track Headers that lists all the Tracks in the project and show how these Tracks relate to Racks and Plugins visible in the Gear Panel. On the top, there is the Timeline section where you can find the Loop and the Playhead.

The large center section of the Sequencing Panel is sometimes referred to as the Sequence or the Arrangement.

2 ways of displaying the Gear Panel:

- The Arrange mode
- The Edit mode

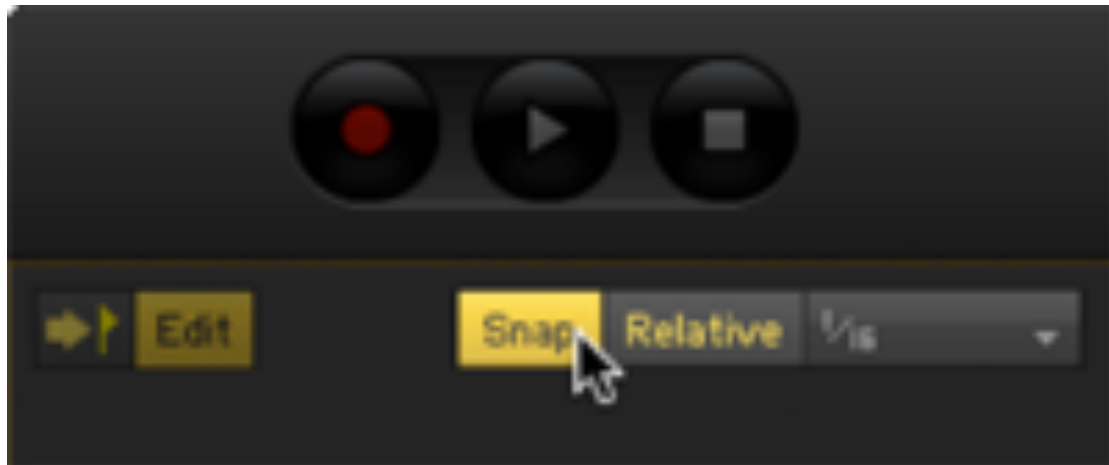
Press tab or click on the Edit button in the Timeline Header to toggle between Edit and Arrange mode.



Snap

The following Snap options are used to change the way you arrange and edit elements of the Sequence (i.e. Patterns, Notes and Automation Points) all along the horizontal axis.

Snap-to-grid



When enabled, the Snap function forces elements of the Sequence to stick to the current grid when:

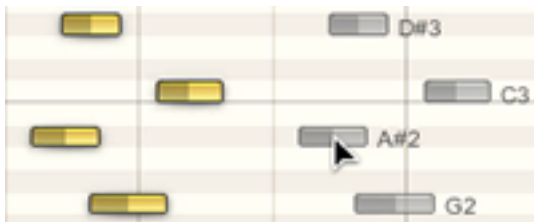
You create them with the Pen tool.

You move, resize and duplicate them with the Arrow Tool.

The Snap function also affects the way you interact with the Playhead, Loop and Caret as well as the way you import Audio / MIDI files.

Relative mode

When moving, resizing and duplicating elements of the Sequence with the Arrow tool, the Relative mode will keep their relative distance to the grid.



It is only relevant if Snap is enabled.

If the Relative mode is disabled while you're editing elements not snapped to the current grid, you'll see the mouse pointer turn into a red magnet, meaning that your action will override the element's relative distance to the grid.



Snap value

The Snap value can be set to either Adaptive mode or to a Fixed value (e.g. 1/4 note).



In Adaptive mode, the grid automatically adapts itself to the current zoom level.

When Snap is set to a Fixed value, the grid keeps the same spacing between vertical lines regardless of the current zoom level.

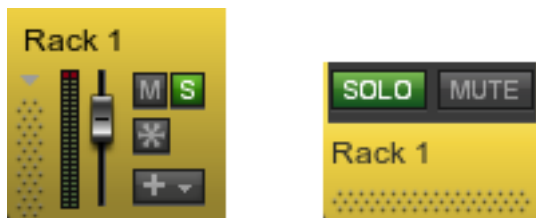
When looking at a Pattern in Edit mode, you can see how the Snap value affects the spacing between the grid's vertical lines.



The Snap value is also used for quantizing.

Solo (Rack)

Enabling Solo on one or more Racks will mute all other Racks of the same "group" which are not soloed.



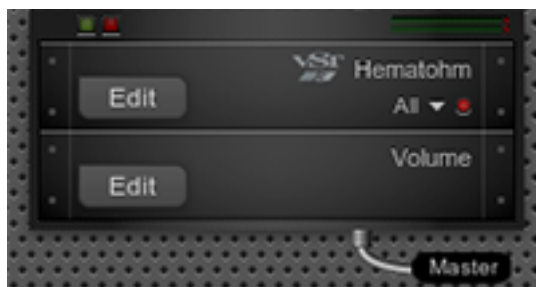
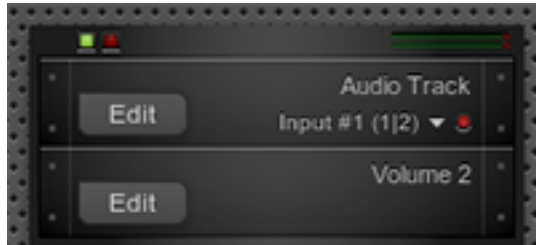
Ordinary Racks, Aux Racks, and the Master Rack are in 3 different "groups" (i.e. soloing an ordinary Rack will not mute Aux Racks).

On a given Rack, Solo has priority over Mute.

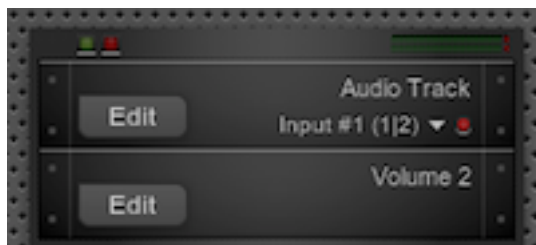
Like the Rack Mute button, the Solo button is not shared among users: a Project member can solo a Rack without affecting the work of other Project members.

Multiple Racks connected to one another

When enabling Solo on Racks that have their Pins connected by Cable connections, you have to solo each Rack manually to hear them all.



Here, the upper Rack with the Audio Track Plug-in will not be heard, as the Hematohm Rack is not soloed.



Conversely, the Hematohm Rack will emit no sound, albeit soloed, as the Audio Track Rack doesn't have its Solo activated.

Synchronization

The Synchronization issue

When using a VST Plugin in Ohm Studio, it is sometimes necessary to manually synchronize its actual "internal state" with the Ohm Studio server.

More precisely, this "internal state" must be synchronized with the Plugin's state as stored in the document of the Ohm Studio Project.

It is this document, stored on the Ohm Studio server, that makes it possible for multiple users to work on the same Project at the same time.

Why?

3 main reasons:

- The way Ohm Studio manages real-time collaboration.
- The VST 2 specification was not created with real-time collaboration in mind.
- Different VST Plugins can have different and sometimes unpredictable behaviors.

Manual Synchronization

Unfortunately, Ohm Studio cannot have one method, perfectly working with every VST Plugin available on the market, to automatically perform this synchronization.

Instead, there's a Manual Sync button for every VST Plugin at the top of its user interface.



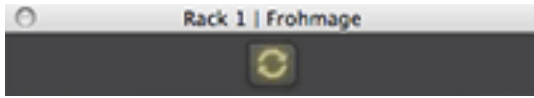
For example, if you change the preset of a VST instrument, you may have to manually synchronize it, for your action to be saved in the shared document and so that other Project members are notified in real-time.

When to synchronize manually?

You may encounter 3 different cases when modifying the state of a VST Plugin:

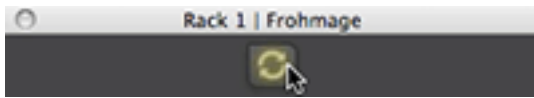
- Ohm Studio automatically and "silently" synchronizes with the Plugin. This usually happens when you change a VST Parameter on the Plugin user interface or in the Plugin Inspector.

- Ohm Studio automatically synchronizes with the Plugin and you see the Manual Sync button turn yellow for a short period of time.



This usually happens when you load a new VST preset (a.k.a. patch). Ohm Studio's built-in Plugins (e.g. Minimonsa) are synchronized this way.

- Ohm Studio cannot automatically synchronize with the Plugin and you have to do it manually by clicking on the Manual Sync button.



This also usually happens when you load a new VST preset / patch.

It is therefore unnecessary to click on the Manual Sync button if you don't change anything on a Plugin.

Use it to force Ohm Studio to remember the preset of a VST Plugin before you close its user interface window.

WARNING: Some VST Plugins, typically sampler instrument, can use very "heavy" presets which can take a long time to upload on the Ohm Studio server depending on your upload speed. It is better to wait a little while before you close the application after you perform a manual synchronisation.

Tempo

Tempo defines how fast your song is; it may change over the course of time.



It is expressed in Beat Per Minute (BPM), which is simply the number of beats there would be in a minute following a given pace.

By default, Project Tempo, or the initial tempo of the Project, is 120 BPM, a widespread standard by far.

You may change Tempo any time you want along the Timeline by creating a Tempo Automation Point on the Tempo Track.

Timeline

The Timeline area shows the Project's linear time line and is divided in bar, beat and 1/16th note segments.



It is used to display and control the Project's Playhead, Loop, and Tempo Track.

Click in the lower part of the Timeline to move the Playhead to the desired position.

Track

In Ohm Studio, a Track is a horizontal lane that holds Patterns, which control the Plugin the Track is associated to.



Unlike in other DAWs, a Track is not a channel strip of the Mixer (see Racks). A Track is always contained in a Plugin, which can have 0, 1 or more Tracks under its Plugin Header.

There are 2 types of Tracks:

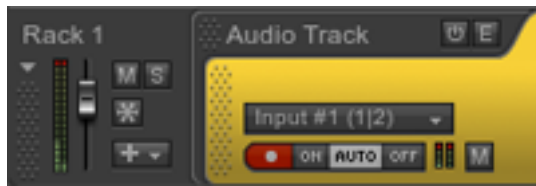
- Audio Tracks
- MIDI Tracks

In the Sequencing Panel, a Track Header is located below a Plugin Header, which itself is contained in a Rack Header.

A Rack Header must contain a least 1 Track Header (and its associated Plug-in Header). If you delete the last remaining Track contained in a Rack, Ohm Studio will automatically create a Track for the Volume Plugin.

Audio Tracks

Audio Tracks are used to playback and record audio.



They are associated to the Audio Track Plugin.

Likewise, Audio Patterns are associated to Audio Track.

MIDI Patterns may be found on Audio Tracks but will make no sound.

MIDI Tracks

A MIDI Track is used to playback and record MIDI events (e.g. Notes) and Plugin Parameters automations.



Each Instrument and Effect Plugin needs its own MIDI Tracks to play MIDI Patterns.

Track Header

Read “Header”

Transport Bar

The Transport Bar controls the sequencer transport functions such as Play and Stop.



It also displays information about the Playhead's current position.

Record

Click on the Record button or press R to enable Record.

At least 1 Track must be armed for recording in order to do so.

See how to record audio and how to record MIDI Notes.

Play and Pause

To start playback, click on the Play button or press `space`.

To pause playback, click on the Stop button or press `space`.

Stop

- 1st click: stops playback.
- 2nd click: puts the playhead back to the beginning of the Loop.
- 3rd click: puts the playhead back to beginning of the Project.

You can also press `return / enter` to stop playback.

Transport Display

- Measures — shows the Playhead's current position in a "Bar::Beat::1/16::Ticks" time format.
- Click — enables / disables Metronome during playback and recording.
- Tempo — shows the current Tempo
- Time Signature — shows the current time signature.

Volume Plugin

The Volume Plugin is an Effect Plugin present in every Rack at the end of its chain of inserted Plugins.



It gives each Rack a volume and panning control and therefore serves a mixing purpose.

Its graphical user interface is accessible in the Gear Panel's Mixer View and represents a channel strip of a traditional mixing console.

Pan

By default the upper part has a Left / Right - Balance control to adjust the position of the Rack's output in the stereo field. The Pan control can also be set to Mid / Side and Dual mode in the drop-down menu, offering a total of 4 different mode combination.



Volume

The bottom part has a fader to adjust the volume of the Rack and a standard volume indicator that displays a representation of the outgoing signal level. It also has a clipping indicator at the top of the level meter that lights up when the signal exceeds 0db during playback.



Both the pan and volume parameters values can be set manually by clicking on their respective text fields.

Double click on a knob/fader to set the parameter to its default value.

Right click on the Volume Plugin and select Add track for... to create a Track for that volume plug-in in the Sequencing Panel.

In Modular View

Click on the Plugin's Edit button in the Modular view to edit the Pan Law paramter value in the Plugin Inspector.

