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# Zrythm Documentation

*Release 0.4.056*

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Welcome to the Zrythm manual. Please follow the sections below to get started.



## GETTING STARTED

### 1.1 Overview

Zrythm is a highly automated Digital Audio Workstation (DAW) designed to be featureful and intuitive to use. Zrythm sets itself apart from other DAWs by allowing extensive automation via built-in LFOs and envelopes and intuitive MIDI or audio editing and arranging via clips.

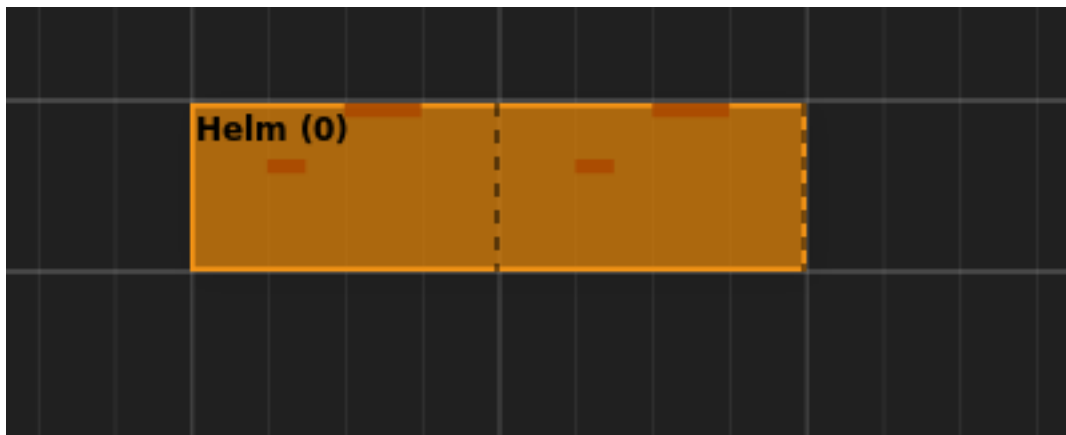
In the usual Composing -> Mixing -> Mastering workflow, Zrythm puts the most focus on the Composing part. It allows musicians to quickly lay down and process their musical ideas without taking too much time for unnecessary work.

### 1.2 Basic Concepts and Terminology

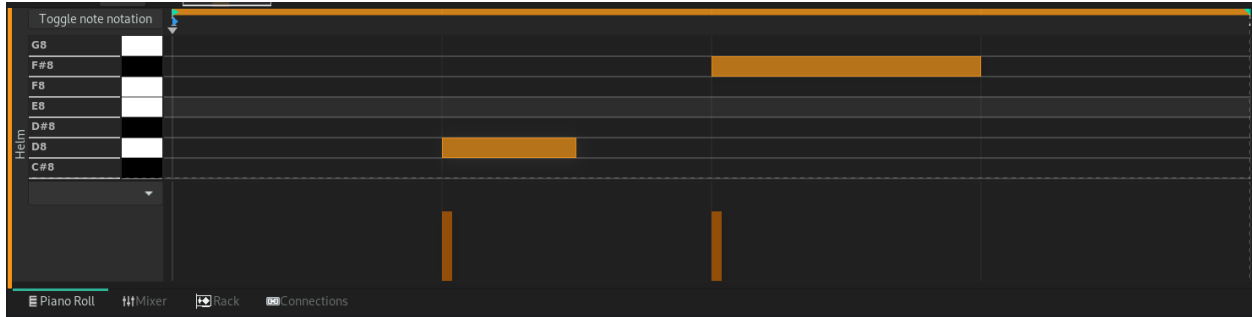
Here are a few terms you should be aware of when using Zrythm.

#### 1.2.1 Clips

Like Ableton and Bitwig, Zrythm is based on Clips. This is what a Clip looks like in the arranger.



Clips are edited in the Editor Panel. In this case, the clip is looped.



## 1.2.2 Timeline

The Timeline is where the song is arranged. Also known as Arranger.



## 1.2.3 Track

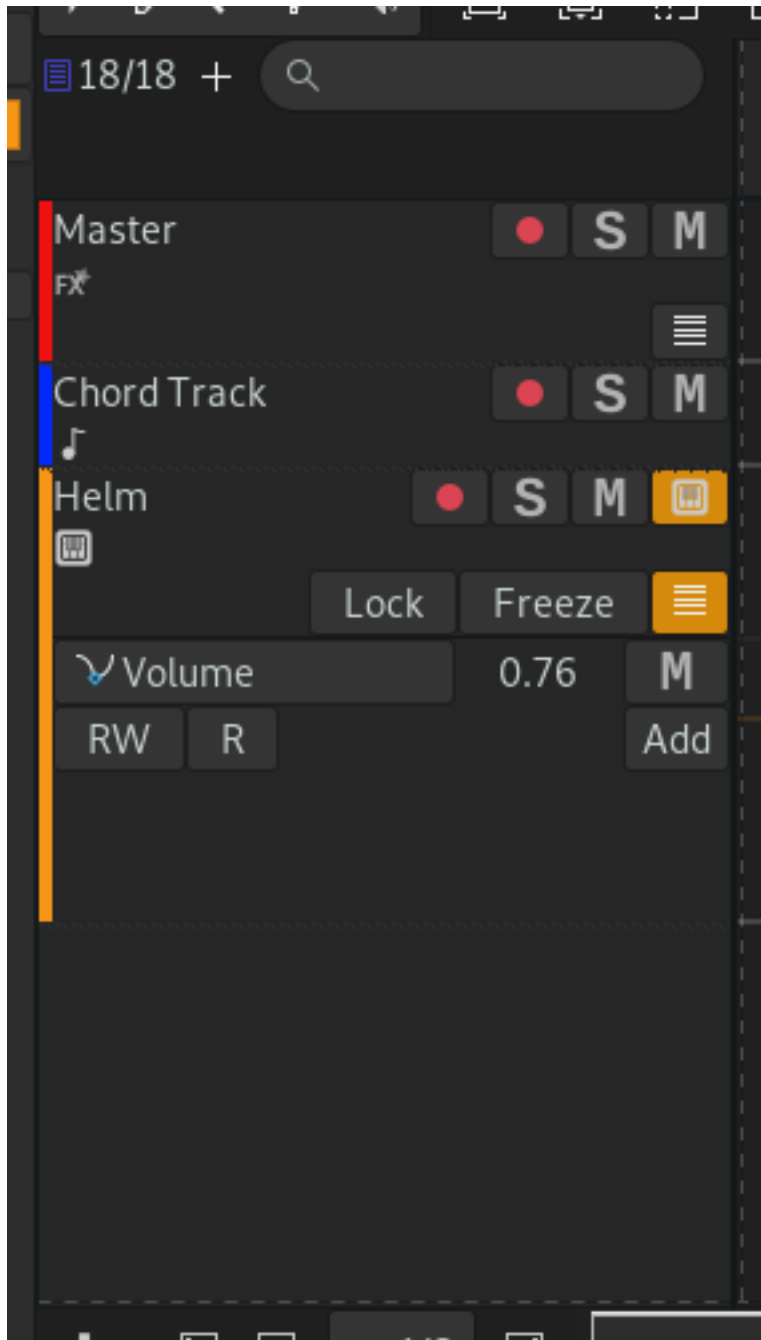
A Track is a single slot in the Timeline containing various Clips and Automation. It may contain various lanes, such as Automation Lanes.





## 1.2.4 Tracklist

The Tracklist contains all of the Tracks in the project.



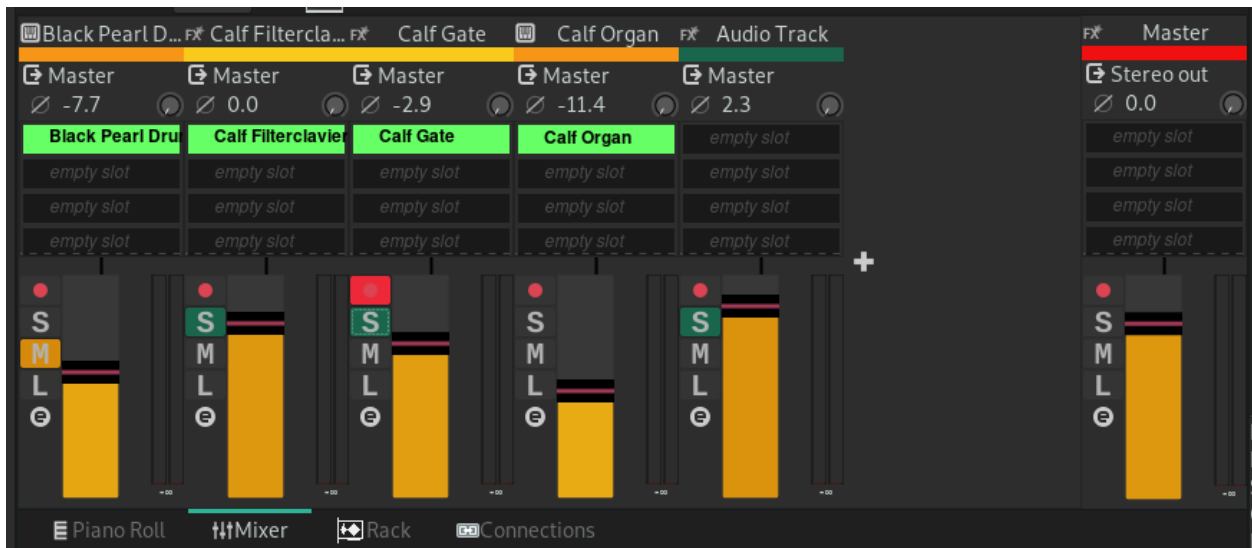
## 1.2.5 Channel

A Channel is a single slot in the Mixer. Most types of Tracks have a corresponding Channel.



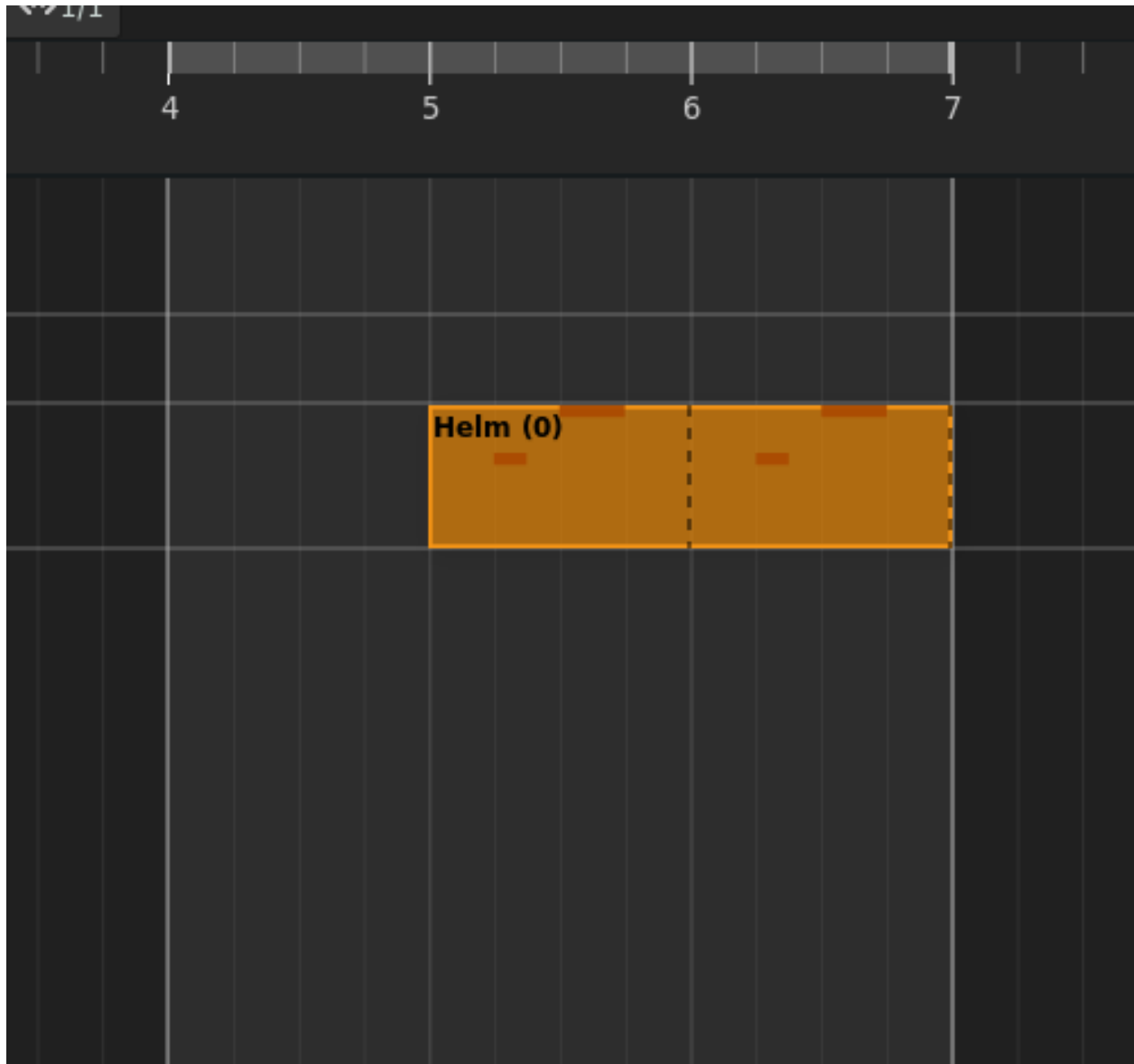
## 1.2.6 Mixer

The Mixer contains all of the Channels in the Project.



## 1.2.7 Range

A range is a selection of time between two positions.



## 1.3 Getting Plugins

Until Zrythm ships with its own bundled plugins, you must install some plugins like synthesizers and effects before you can make music.

Fortunately, there are many plugins to choose from. This guide will show you a few ways you can install plugins.

If you are on Debian/Ubuntu, we highly recommend checking out the [KXstudio repositories](#), since there are many plugins that can easily be installed via apt.

If you are on Arch GNU/Linux you're in luck, because you can just download the entire [pro-audio](#) or [lv2-plugins](#) groups, or you can just hand-pick the plugins you want from there.

If you are not sure where to start, please read on.

### 1.3.1 Recommended Plugin Bundles

[DISTRHO Ports](#) provides a good variety of synths and a few effects that can get you started for music making right away.

[ZAM Plugins](#) is an effects pack that contains all the basic effects like Delay, Reverb, Compression, EQ, Saturation, etc.

[LSP](#) has a lot of useful effects.

[OpenAV](#) has some nice plugins worth checking out.

You might also want to check out [X42 Plugins](#), which has A LOT of MIDI effect and meter plugins.

### 1.3.2 Synths

[Helm](#) is an excellent subtractive synth that should be on everyone's toolbox.

[ZynFusion](#), the alternative front-end to ZynAddSubFX is one of the most powerful synths in existence.

## 1.4 Additional Resources

### 1.4.1 PeerTube

Zrythm has a [PeerTube instance](#) open for all GNU/Linux audio users, regardless of their DAW of choice.

### 1.4.2 Forum

If this manual is not enough, feel free to post on the [official forums](#)

### 1.4.3 IRC/Matrix

We offer support on IRC at [#zrythm](#) on Freenode. Matrix users can use [#freenode\\_#zrythm:matrix.org](#).

### 1.4.4 Issue Tracker

The issue tracker can be found at <https://git.zrythm.org/zrythm/zrythm/issues>.

### 1.4.5 Source Code

Zrythm's source code can be found at <https://git.zrythm.org/zrythm/zrythm> or in the mirror repository at GNU Savannah.

## CONFIGURATION

### 2.1 System Requirements

#### 2.1.1 Minimum Requirements

We don't know yet. The oldest machine tested on was T400 and it was a bit laggy. If you have any experiences with older machines please let us know.

#### 2.1.2 Recommended Requirements

We recommend running a fairly modern machine.

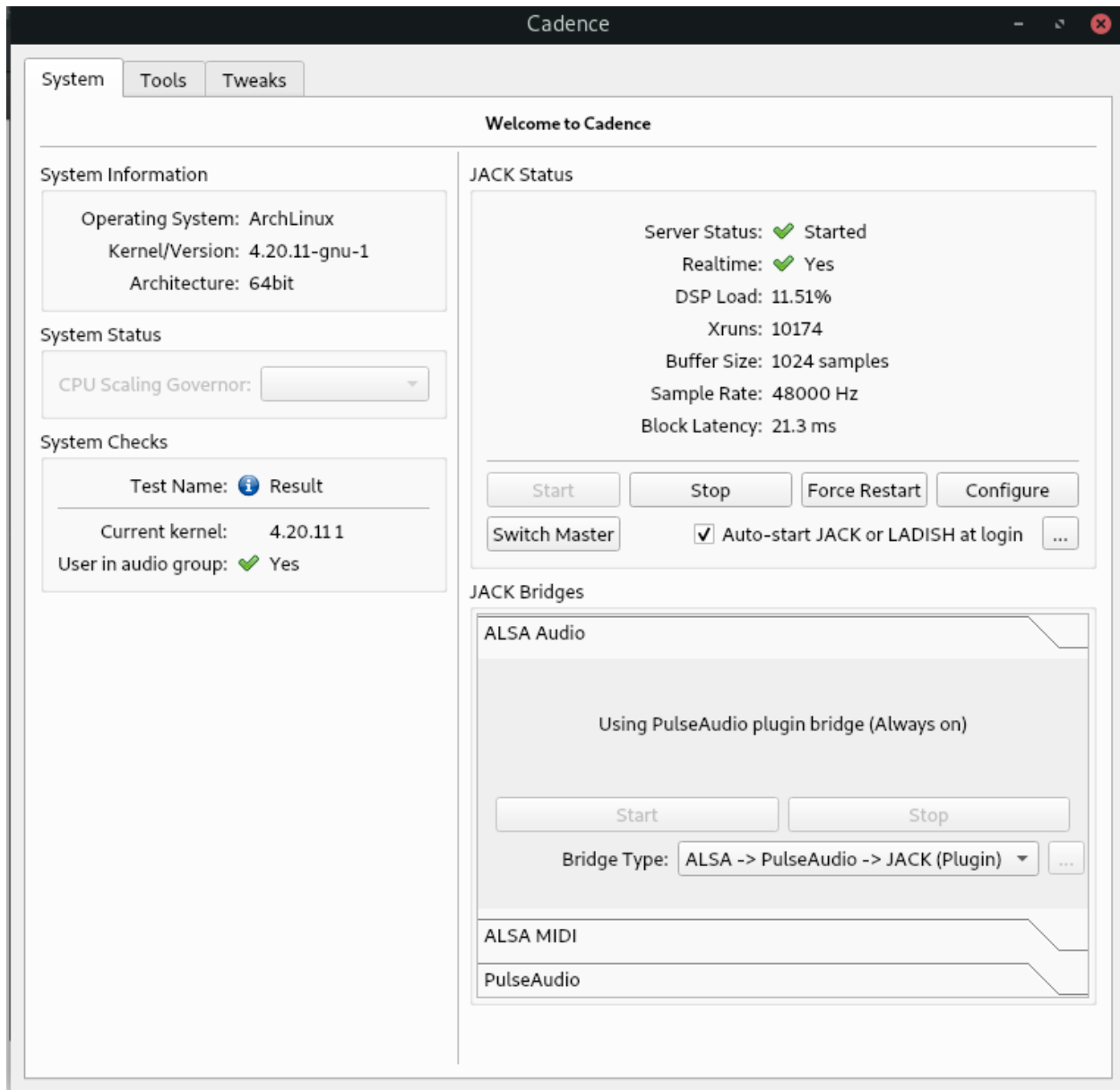
#### 2.1.3 Audio Interface

An Audio Interface is recommended as it offers low latency and better quality (especially if recording audio).

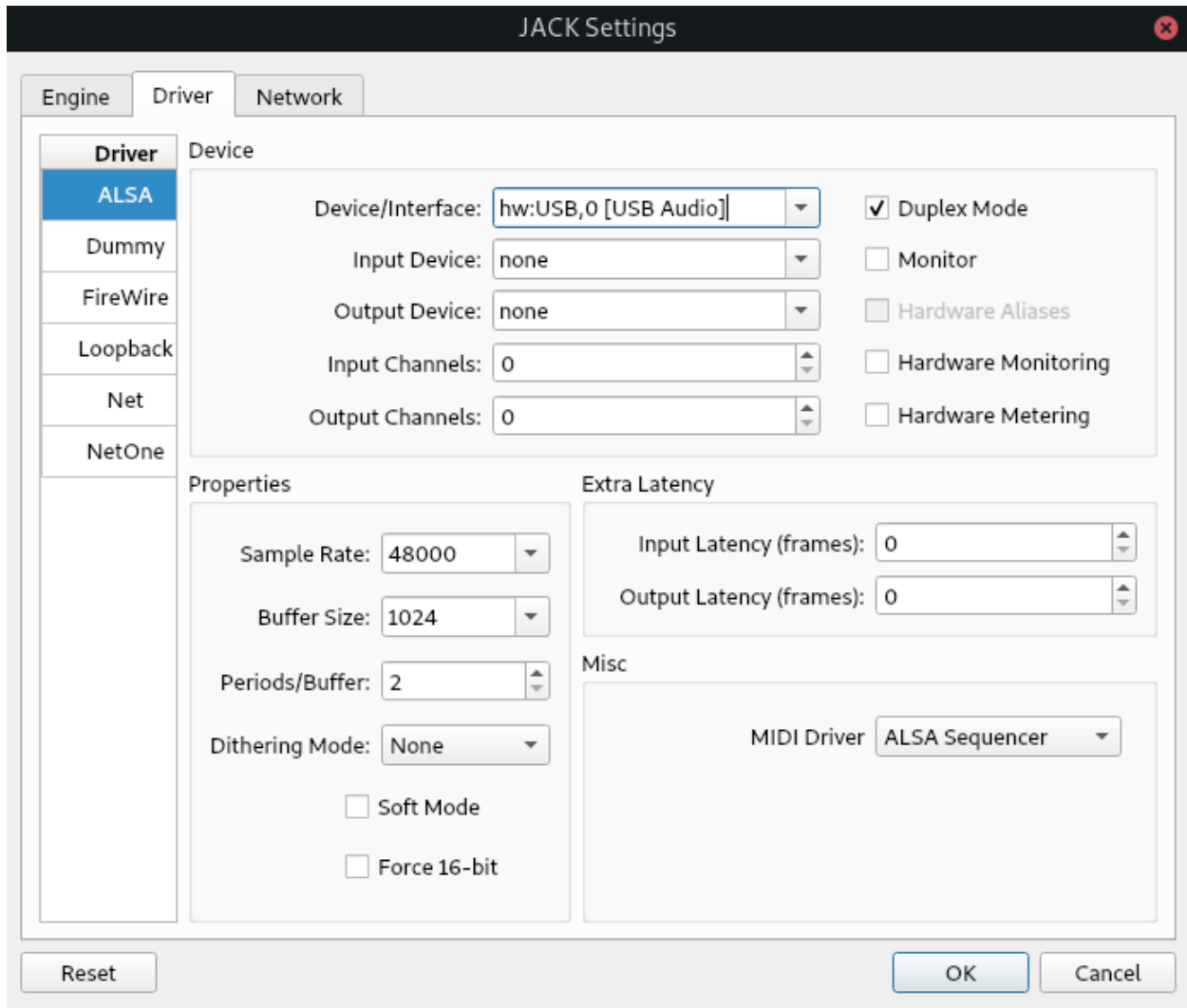
#### 2.1.4 JACK

JACK needs to be set up and configured before running Zrythm. We recommend using [Cadence](#), as it makes the process very easy.

- Open Cadence



- Click Configure and select your Audio Interface



## 2.2 Installation

### 2.2.1 GNU/Linux

#### Official Builds

You can install the latest version of Zrythm for your distro [here](#)

You will be presented with the following

## zrythm from [home:alextee](#) project

### Select Your Operating System



This is the recommended way to install the latest version.

#### KX Studios

Thanks to falktx, Zrythm is also available in the [KX Studio repos](#) for Debian users

#### AUR

For Arch GNU/Linux users, Zrythm is also available in the AUR under [zrythm](#) and [zrythm-git](#)

#### Manual Installation

The usual GNU toolchain procedure applies:

```
./autogen.sh
./configure
make -j4
sudo make install
```

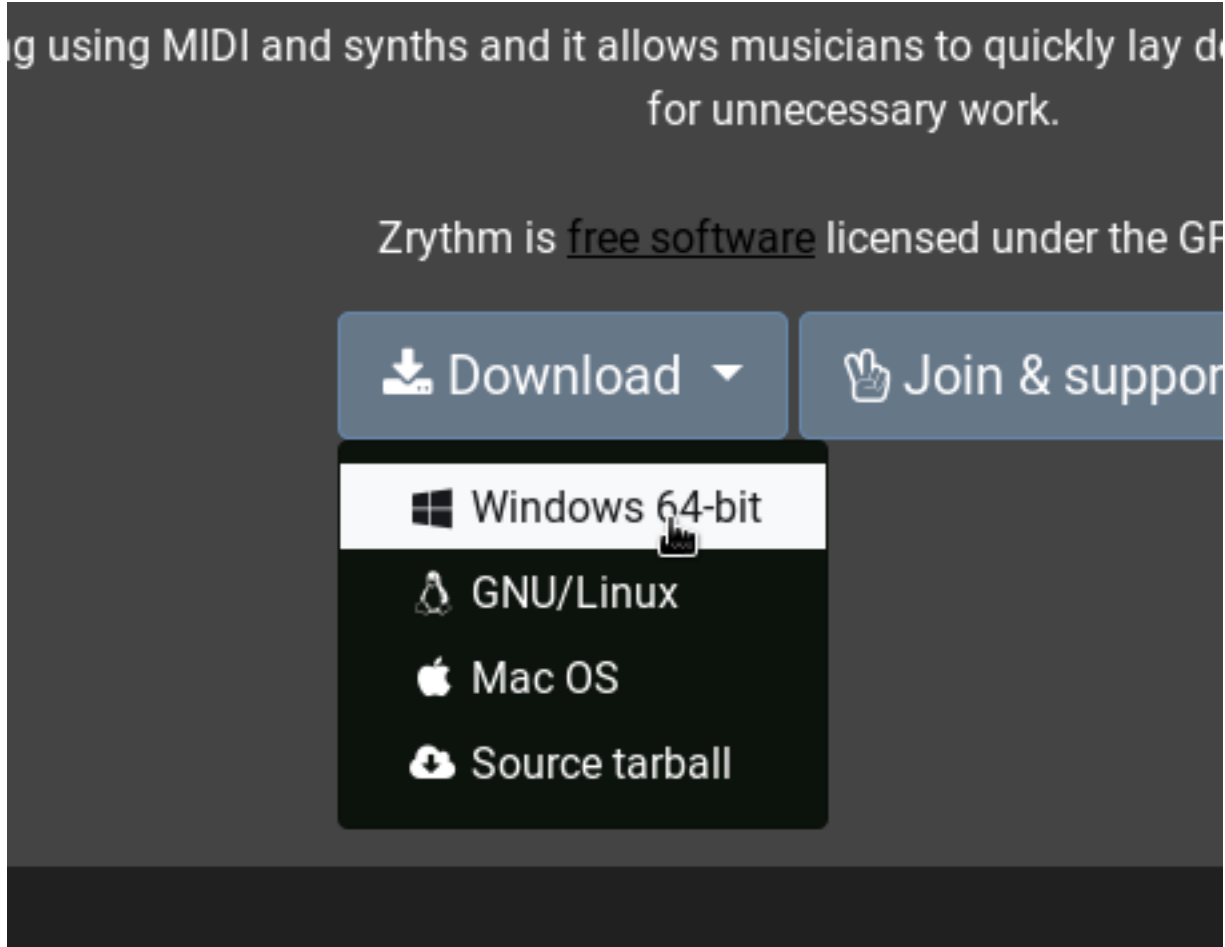
Type `./configure --help` for available options. We recommend using `--enable-qt5` `--enable-ffmpeg` to get the most functionality.

#### 2.2.2 FreeBSD

It appears that a kind person has packaged Zrythm at [FreshPorts](#).

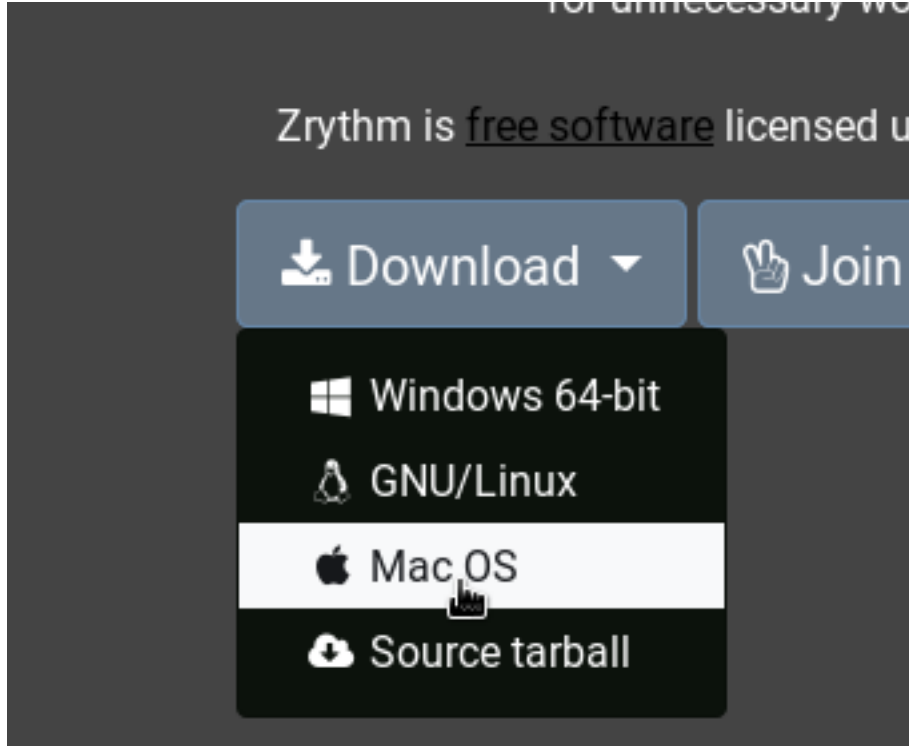


### 2.2.3 Windows



Use the installer from the [main website](#). Note that while it may run, it is not fully functional yet on Windows. Report any bugs at the [Issue Tracker](#).

## 2.2.4 MacOS



Use the installer from the [main website](#). Note that while it may run, it is not yet fully functional on MacOS.

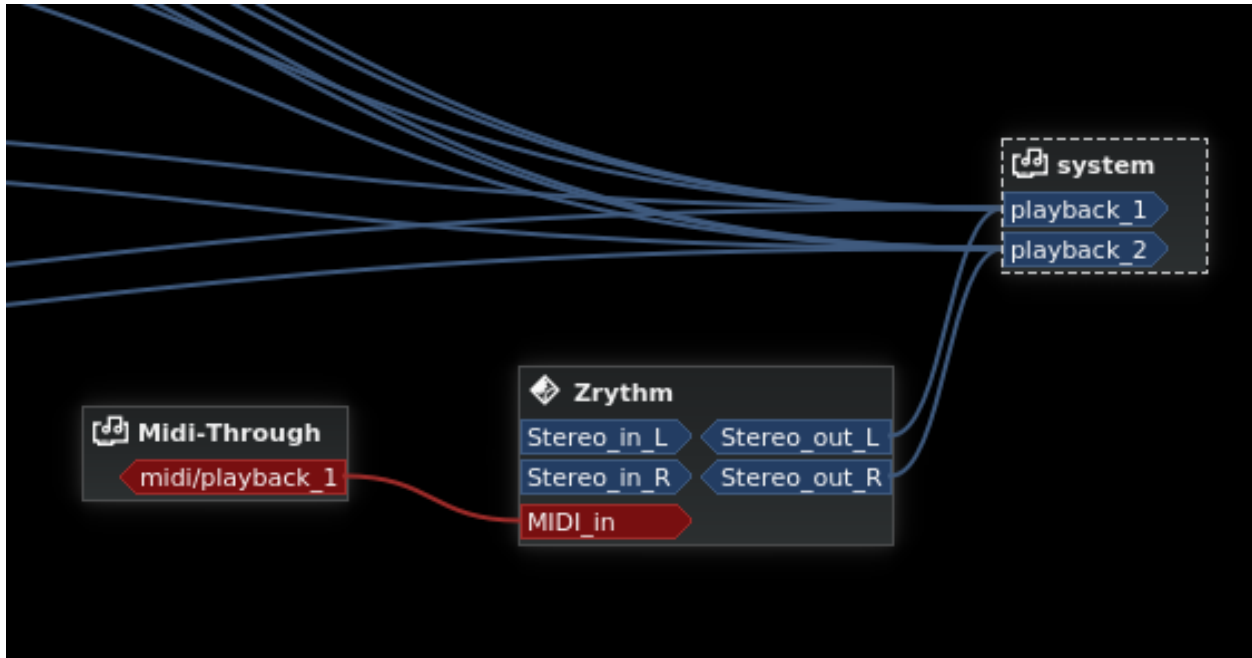
If you find any bugs please [report them](#).

## 2.3 Device Setup

### 2.3.1 Connecting MIDI and Audio Devices

Zrythm exposes ports to JACK. Devices can be attached there. Note that for MIDI, devices need to be bridged using `a2jmidid`.

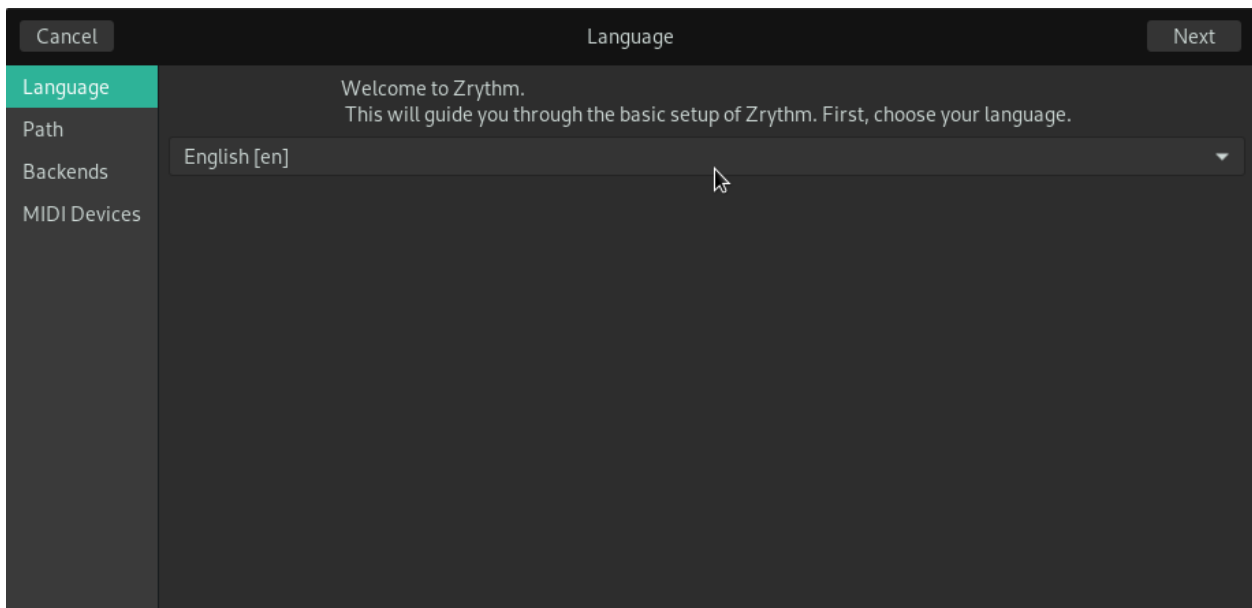
An example configuration looks like this (in Catia inside Cadence)



## 2.4 First Run Wizard

When you first run Zrythm, it will display a wizard that lets you configure the basic settings that Zrythm will use. These include MIDI devices, the default Zrythm path, interface language and audio/MIDI backends.

### 2.4.1 Language Selection



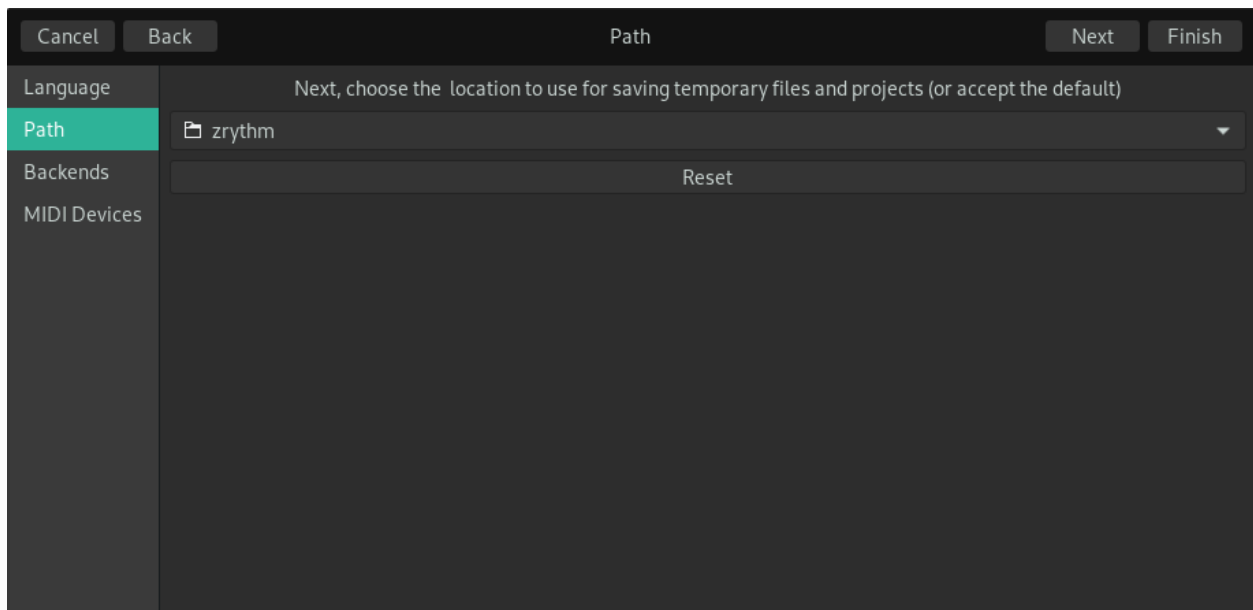
Zrythm lets you choose the language of the interface. The interface is already translated in multiple languages, so choose the language you are most comfortable in.

**Note:** You must have a locale for the language you want to use enabled.

This is usually not a problem since you are probably already using the correct locale for your language. In case a locale cannot be found, you will see this message telling you the steps to enable it.

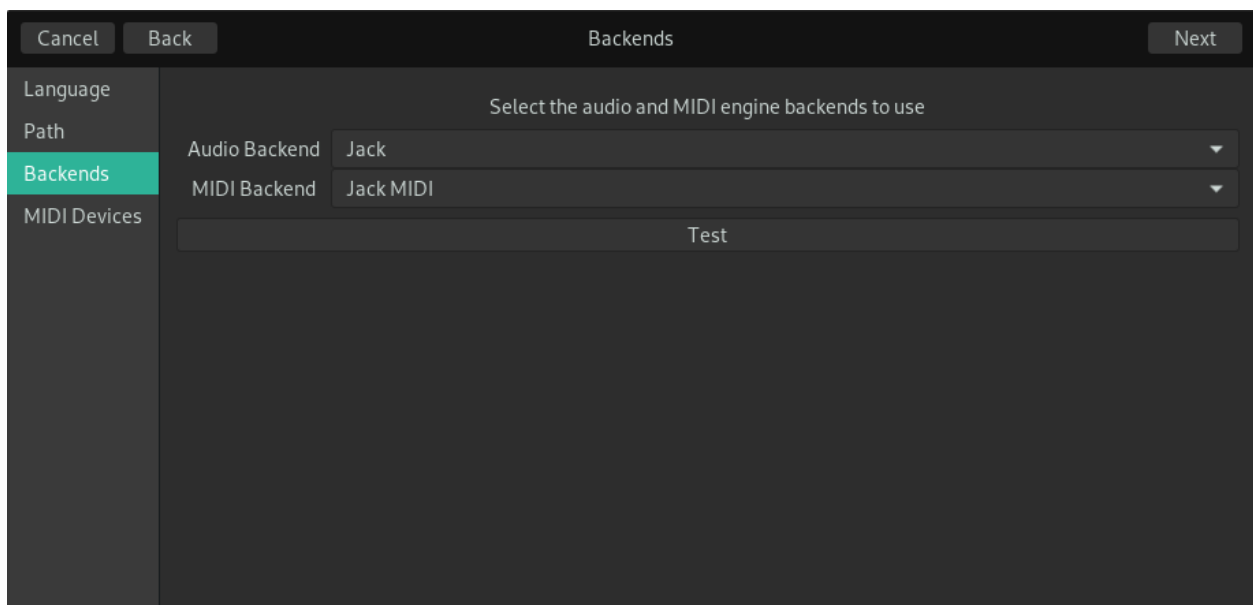
---

## 2.4.2 Path



This is the path where Zrythm will use to save projects, temporary files, exported audio, etc. The default is “zrythm” in the user’s directory.

## 2.4.3 Audio/MIDI Backends



Zrythm supports multiple audio and MIDI backend engines. JACK is the recommended one for both, but it takes some time to set up if this is your first time using it. If you don't want to use JACK for some reason you can select other backends such as PortAudio.

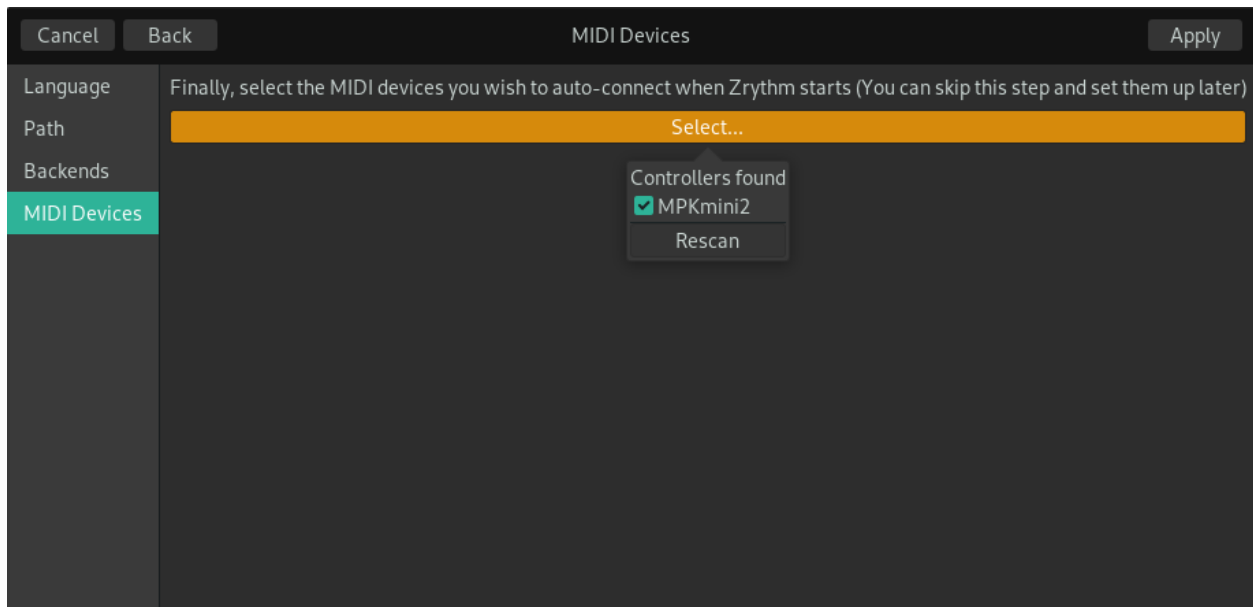
Click Test to try connecting to the backend to see if it is functional.

---

**Note:** JACK MIDI requires a JACK server to be running, which means you probably want to use it with the JACK audio backend.

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## 2.4.4 MIDI Devices



These are the discovered devices that will be auto-connected and ready to use every time you run Zrythm. Click "Rescan" to scan for devices again.

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**Tip:** All of the settings mentioned here are also available in the preferences (Ctrl+Shift+P or File->Preferences), so don't worry if you selected the wrong settings.

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## 2.5 Preferences

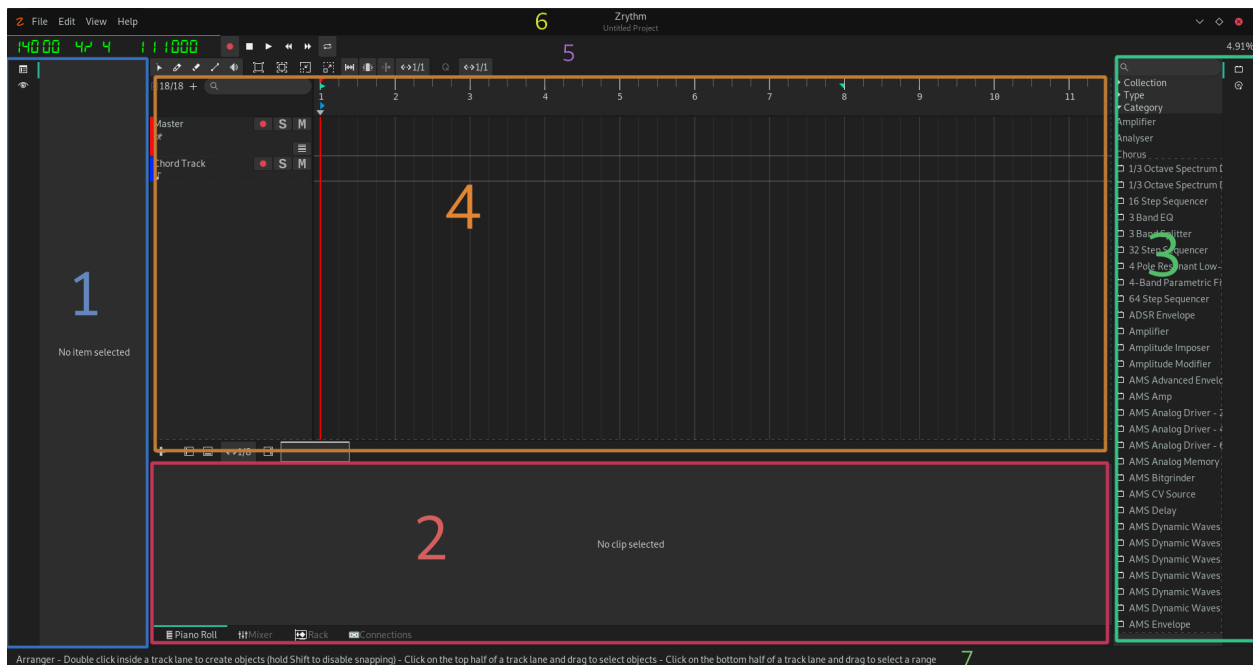
### 2.5.1 Audio



## ZRYTHM'S INTERFACE

### 3.1 Zrythm Interface Overview

Zrythm's interface is split into various sub-modules:



**Inspector Panel (1)** The inspector panel contains the inspector, which is used to view and change parameters of the currently selected objects.

**Editor Panel (2)** The editor panel contains various views that are useful in composing and mixing, such as the Clip Editor and the Mixer.

**Browser Panel (3)** The browser panel contains the browser, and is used to find plugins and/or audio and MIDI files to drag and drop into the project.

**Arranger Panel (4)** This is where the action happens. The main panel mainly consists of the Timeline Arranger and the Project's Tracks on the left side.

**Toolbar (5)** There are two main toolbars containing global controls such as BPM and Transport.

**Title Bar (6)** The Title Bar contains menus with options for various operations.

**Status Bar (7)** The Status Bar is a helpful bar in the bottom of the program that shows tips based on the currently hovered-over item.

## **3.2 Main Menu**

### **3.2.1 File**

### **3.2.2 Edit**

### **3.2.3 View**

### **3.2.4 Help**

## **3.3 Status Bar**

## **3.4 Transport Bar**

## **3.5 Timeline Minimap**

## **3.6 Toolbox**

## **3.7 Controls**

### **3.7.1 Zoom Controls**

### **3.7.2 Grid Controls**

## **3.8 Ruler**

## **3.9 Editors**

### **3.9.1 Tracklist**

### **3.9.2 Timeline**

### **3.9.3 Piano Roll**

### **MIDI Arranger**



MIDI Modifier Editor

## **3.10 Mixer**

### **3.11 Channels**

#### **3.11.1 Channel Overview**

#### **3.11.2 Plugin Strip**

#### **3.11.3 Controls**

#### **3.11.4 Fader**

#### **3.11.5 Meters**

### **3.12 Monitor**



**PROJECTS**

## 4.1 Project Info

## 4.2 Tracks

### 4.2.1 Track Overview

Tracks contain regions and automation that is used to make up the song.

### 4.2.2 Track Types

The following track types exist:

**Instrument Track** track containing MIDI regions and automation

**Audio Track** track containing audio regions, cross-fades, fades and automation

**Bus Track** a track corresponding to a mixer bus. bus tracks only contain automation

**Master Track** the Master track is a special type of bus track that controls the master fader and contains additional automation options.

### 4.2.3 Adding Tracks

#### Blank Tracks

To add an empty track, right click on empty space in the Tracklist and select the type of track you want to add.

#### Creating Tracks From Plugins

Plugins can be clicked and dragged from the Plugin Browser and dropped into empty space in the Tracklist or Mixer to instantiate them. If the plugin is an Instrument plugin, an Instrument Track will be created. If the plugin is an effect, a Bus Track will be created.

#### Creating Audio Tracks From Audio Files

Likewise, to create an Audio Track from an audio file (WAV, FLAC, etc.), you can drag an audio file from the File Browser into empty space in the Tracklist or Mixer. This will create an Audio Track containing a single Audio Clip at the current Playhead position.

#### 4.2.4 Reordering Tracks

#### 4.2.5 Track Context Menu

### 4.3 Importing and Exporting

#### 4.3.1 Importing/Exporting Audio

#### 4.3.2 Importing/Exporting MIDI

### 4.4 Project Management and Compatibility

For at least the time being, Zrythm follows a rolling release model and project file structure is subject to change at each new release. No compatibility will be maintained between version changes in order to give more time to feature development and fixes.

It may be possible to open projects from previous versions if there was no change in the project file structure, but this is not guaranteed, so if you would like to open a project made using a previous version please install that version of Zrythm.

---

**Hint:** Each project file will contain the version of Zrythm it was made with

---

## 5.1 Audio Tracks

Audio tracks contain audio regions.

## 5.2 Audio Regions

Audio regions each contain 1 piece of audio, corresponding to a file or a recording. Any changes to the audio regions are not permanent (they do not affect the source file/recording) and are only saved to disk as separate copies when the project is saved.

## 5.3 Audio Processing

### 5.3.1 Applying Effects



## 6.1 Instrument Tracks

Instrument tracks, or MIDI tracks, are tracks whose main plugin is an instrument (like a synth) and they contain MIDI regions.

## 6.2 MIDI Clips

MIDI Clips are Clips that contain MIDI notes.

## 6.3 MIDI Transformations

### 6.3.1 Transpose

## 6.4 Freezing Instruments

If DSP usage is high and you have performance issues, or if you just want to save CPU power, instrument tracks can be frozen (temporarily converted to audio), which dramatically lowers their CPU usage.

Instruments can be frozen by clicking the Freeze button in instrument tracks.





**PLAYBACK**

**7.1 Controlling Playback**

**7.2 Loop Points**

**7.3 Markers**



**RECORDING**

**8.1 Recording MIDI**

**8.2 Recording Audio**

**8.3 Punch Recording Modes**



## **9.1 Editing Basics**

### **9.1.1 Creating Regions**

Regions are created by double clicking and dragging.

### **9.1.2 Moving Regions**

Selected regions can be moved by clicking and dragging.

### **9.1.3 Region Editing Operations**

### **9.1.4 Region Context Menu**

### **9.1.5 Creating MIDI Notes**

MIDI notes are created by double-clicking and dragging.

### **9.1.6 Moving MIDI Notes**

### **9.1.7 MIDI Note Editing Operations**

### **9.1.8 MIDI Note Context Menu**

### **9.1.9 MIDI Modifiers**

## **9.2 Making Selections**

### **9.2.1 Selecting Tracks**

### **9.2.2 Selecting Regions**

### **9.2.3 Selecting MIDI Notes**

### **9.2.4 Selecting Automation**

## **9.3 Editing Selections**

### **9.3.1 Editing Tracks**

### **9.3.2 Editing Regions**

### **9.3.3 Editing MIDI Notes**

### **9.3.4 Editing Automation**

## **9.4 Fades and Cross-Fades**

## ARRANGING

### 10.1 Tempo

The tempo can be set between 40 and 360 BPM by clicking and dragging the tempo meter. The meter on the left is for changing the decimals, for example to set it to 127.56

### 10.2 Transport

The transport is used to show and edit the current playhead position. It uses a notation of Bars.Beats.Sixteenth-notes.Ticks. There are 240 ticks per sixteenth note.

### 10.3 Time Signature

The time signature is split into the following

**beats per bar** (the top number) this indicates the number of beats that should be in a bar. It can be set from 1 to 16.

**beat unit** (the bottom number) this indicates the beat unit to be used. It can be set to 2, 4, 8 or 16.





## 11.1 Meters

Meters display the current RMS peaks at the end of the channel's processing.

## 11.2 Routing

### 11.2.1 Routing Overview

### 11.2.2 Ports

### 11.2.3 Buses

### 11.2.4 Insert Effects

### 11.2.5 Send Effects

## 11.3 Groups

## 11.4 Sidechaining

## 11.5 Panning

Channels can be panned Left to Right by dragging the Pan slider. Zrythm supports Linear Pan, Square Root Pan and Sine Law Pan, with a Pan Law of -6dB, -3dB, or 0dB.

These settings are configurable through the Preferences window. The default is Sine Law with -3dB. If you don't understand what these mean, it's best to leave them to their default values.

## 11.6 Mixdown

The *File -> Export As* dialog can be used to export the mixdown or song. The mixdown can be the loop range or the range between the song start and end markers.



**CONTROL SURFACES**



## CONTRIBUTING

### 13.1 Writing Code

Please see the [Contribution Guide](#).

### 13.2 Designing

If you would like to help design Zrythm itself, the Zrythm website, or this documentation, feel free to reach us out in the [chatrooms](#).

Zrythm itself is fully CSS-themable, and the overall UI structure can easily be edited in Glade without touching any code.

### 13.3 Testing

You can fetch the latest master branch from <https://git.zrythm.org/zrythm/zrythm> and start testing the latest features. You can report any bugs, ideas and impressions by creating an issue there.

If you are on Arch Linux or Debian, the latest master branch can easily be installed via the zrythm-git package on AUR or by installing an auto-generated .deb file. More information at [Installation Instructions](#).

Manual installation instructions can be found [here](#).

### 13.4 Translating

Zrythm has a Weblate instance for easy web-based translation. To start translating, first visit the [Zrythm project page](#). You should see the following screen.

Zrythm
translated 15%

Components
Languages
Info
Search
Glossaries
Insights ▾
Tools ▾
Share ▾

Component ▾	Translated ▾	Words ▾
<b>Manual - Getting Started</b> 🍏	<div style="width: 1.4%; height: 10px; background-color: #6c757d;"></div> 1.4%	<div style="width: 0.2%; height: 10px; background-color: #6c757d;"></div> 0.2%
<b>Zrythm</b> 🍏	<div style="width: 24.4%; height: 10px; background-color: #28a745; border: 1px solid #dc3545;"></div> 24.4%	<div style="width: 21.9%; height: 10px; background-color: #28a745; border: 1px solid #dc3545;"></div> 21.9%
<b>website</b> 🍏	<div style="width: 6.3%; height: 10px; background-color: #28a745; border: 1px solid #dc3545;"></div> 6.3%	<div style="width: 0.8%; height: 10px; background-color: #6c757d;"></div> 0.8%

■ Approved
 ■ Good
 ■ Failing checks
 ■ Needs editing

⏪ ⏴ 1 / 1 ⏵ ⏩

The Zrythm translation project contains the following components:

**Zrythm** The actual Zrythm program

**website** The Zrythm website (<https://www.zrythm.org>)

**Manual - \*** Sections of this manual

Click on the project you wish to work on, and then select a language in the screen that follows. For more information on using Weblate, please see the [official documentation](#) of Weblate.

## 13.5 Editing Documentation

This documentation can be edited via <https://git.zrythm.org/zrythm/zrythm-docs>

## 13.6 Donating

Donations are very welcome and vital to keep the project running smoothly. They can be made through:

**PayPal** direct donation to the lead developer

**Liberapay** libre recurring donations platform run by a French non-profit

**Bitcoin** anonymous cryptocurrency donation (coming soon)

## 14.1 Shortcut Keys

## 14.2 Menu Actions

## 14.3 Files and Directories

When Zrythm is installed, it installs the following files by default:

**/bin/zrythm** Zrythm executable

**/usr/share/fonts/Segment7Standard** Segment 7 font used in meters

**/usr/share/glib-2.0/schemas/org.zrythm.gschema.xml** Settings schema

## 14.4 Troubleshooting

The app icon is missing Run *sudo touch /usr/share/icons/hicolor* and *sudo gtk-update-icon-cache*