

# **The ANKLANG Manual**

**The Anklang Project** <[anklang.testbit.eu](http://anklang.testbit.eu)>

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## **Abstract**

Manual about usage, installation, and scripting of the Anklang digital synthesizer and music creation software.

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# 1 The ANKLANG Manual

This is the Anklang manual, Anklang is a music synthesis and composition program, released as Free Software under the [MPL-2.0](#).

The manual is structured into sections covering tutorial material, Howto descriptions, Man pages, file formats and conventions, development details with related considerations and an API reference.

It is written in Markdown and contributions are welcome, e.g. as pull requests or via the [Anklang issue tracker](#).

## 2 Program Installation

### 2.1 Download and Startup

Anklang can be downloaded as binary package for GNU/Linux from its Github release page:

<https://github.com/tim-janik/anklang/releases/>

To test bleeding edge versions, "Nightly" builds are also available, but mileage may vary with these. In particular stability or file format compatibility can be affected in the nightly versions.

The Debian package (.deb) can be installed with tools like `gnome-software` or via the command line:

```
# Install Anklang system wide
sudo apt install Downloads/anklang_[VERSION]_amd64.deb
# Start via system PATH
anklang
```

The AppImage package can be executed without an installation step. Once downloaded, it needs permissions for execution and can be run right away. This is done for instance as follow:

- Once downloaded, open `~/Downloads/` for instance via web browser → 'Show in Folder'
- Right click on the AppImage to open the file manager context menu
- Select 'Permission' → 'Execute' → [x] Allow executing file as program
- After that, the AppImage can be started directly from the file manager

Of course, the same can also be done via the command line:

```
# Enable execution of the AppImage
chmod +x ~/Downloads/anklang-[VERSION]-x64.AppImage
# Run Anklang via self contained AppImage
~/Downloads/anklang-[VERSION]-x64.AppImage
```

### 2.2 Driver Setup

Once Anklang is started, drivers and other settings can be adjusted in the Preferences. The 'File Menu' in the upper left includes an item to open the 'Preferences' dialog.

Depending on the system, a number of PCM and MIDI devices can be selected here. The "PulseAudio Sound Server" or "Automatic driver selection" should work on most systems out of the box. On systems with Jackd installed, the Jackd sound server needs to be running first:

```
# Suspend PulseAudio and run Jackd instead
# -r avoids realtime mode which requires special rights
# -d also uses the Jackd ALSA backend
pasuspender -- jackd -r -d alsa
```

The Jackd server should be running now, so in Anklang the "JACK Audio Device" can be selected. To verify Anklang does indeed use Jackd, the setup can be inspected as follows:

```
# List active Jack ports
jack_lsp
# The list should include 'AnklangSynthEngine'

# Start GUI to control Jackd
qjackctl
# Click on the "Graph" button to show connections
# The graph should include 'AnklangSynthEngine'
```

## 3 Using Anklang

Anklang can display and allows editing of MIDI notes, events and tracks.

### 3.1 Clip-List

The Clip-List allows to start playback of individual clips.

### 3.2 Piano-Roll

The piano-roll editor displays notes in a grid where the vertical axis denotes the pitch and the horizontal axis the time line. It is modeled after a [classic piano-roll](#). Several tools can be selected via a drop down menu or hotkeys which aid with creation, selection and modification of musical events. The cursor keys can be used to move selected notes, in combination with modifier keys the keys can also change note duration or note focus. A context menu is available with mouse button 3, which provides extended functionality.

#### 3.2.1 Select Tool

Crosshair The Select Tool allows selection of single notes or groups of notes. Modifier keys can be used to modify the selection behavior.

#### 3.2.2 Horizontal Select

#### 3.2.3 Paint Tool

Pen With the note Paint Tool, notes can be placed everywhere in the grid by clicking mouse button 1 and possibly keeping it held during drags.

#### 3.2.4 Move Tool

Pen With the note Move Tool, selected notes can be moved clicking mouse button 1 and keeping it held during drags. A copy will be made instead of moving the selected notes if the ctrl key is pressed during drag.

##### 3.2.4.1 Resizing Notes

H-Resize When the Paint Tool is selected, the right edge of a note can be dragged to make notes shorter or longer in duration.

#### 3.2.5 Erase Tool

Eraser The Erase Tool allows deletion of all notes selected during a mouse button 1 drag. The deletion can be aborted by the Escape key.

## 4 Manual Pages

### 4.1 ANKLANG(1)

#### NAME

anklang - Music composition and modular synthesis application

#### SYNOPSIS

**anklang** [*OPTIONS*] [*FILES...*]

#### DESCRIPTION

**Anklang** is a digital audio synthesis application for live creation and composition of music and other audio material. It is released as free software under the MPL-2.0.

Anklang comes with synthesis devices which can be arranged in tracks and controlled via MIDI input devices or pre-programmed clips which contain MIDI notes.

The Anklang sound engine is a dedicated process which is controlled by a user interface based on web technologies that can be run in a special process (like electron) or modern browsers like **firefox**(1) or **google-chrome**(1).

#### OPTIONS

Anklang supports short and long options which start with two dashes ('-').

-- Stop argument processing, treat remaining arguments as files.

**-h, --help**

Show a help message about command line usage.

**--fatal-warnings**

Abort on warnings and failing assertions, useful for test modes.

**--check**

Execute internal tests and benchmarks.

**--disable-randomization**

Enable deterministic random numbers for test modes.

**-v, --version**

Print information about the program version.

#### SEE ALSO

[Anklang Website](#)

## 5 Anklang Scripting

The functionality of Anklang can be extended by user provided scripts. The scripts are written in Javascript and run as part of the User Interface threads.

Scripts can extend editing functionality or implement new controllers. The exact functions provided by a script are registered at script startup time.

### 5.1 Reference for ui/host.js

### 5.2 WorkerClip

Ase::Clip proxy

### 5.3 WorkerHost

Global host instance for scripts.

#### 5.3.1 WorkerHost class

**class WorkerHost**

...

**piano\_roll\_clip ()**

Create handle for the currently selected clip.

**script\_name ()**

Retrieve the file name of the current user script.

**script\_uuid ()**

Retrieve the UUID set via [use\\_api\(\)](#).

**api\_level ()**

Retrieve numeric API level supported by this runtime.

**use\_api (api\_level, script\_uuid)**

Request use of API level api\_level and provide UUID for controllers.

**register (category, label, fun, blurb, params)**

Register a script function.