I2C8 MIDI Plug-In Documentation

Introduction

This document contains the user manual and typical usage examples of the I2C8 plug-in. Videos demonstrating specific software functionalities can be found at **https://www.youtube.com/recompose**.

The plug-in is delivered as a VST 2/Audio Unit plug-in (for macOS) and as a VST 2 plug-in (for Microsoft Windows). On macOS, the plug-in binary is universal (for 32-bit and 64-bit host environments). On Windows, the 32-bit and the 64-bit versions are provided as two DLL files.

On macOS, some host environments (most notably Apple Logic Pro) require Audio Unit plug-ins, whereas others only accept VST plug-ins (e.g. Steinberg Cubase). Many environments on macOS can work with both plug-in formats. Since the I2C8 plug-in is implemented as a MIDI plug-in, some further restrictions apply: In Apple Logic Pro, use the Audio Unit plug-in. In all other hosts, use the VST plug-in.

On Windows, VST is the commonly accepted plug-in standard. This protocol is supported by all major DAW hosts.

Installation

I2C8 comes with an installer for Windows and macOS. Unzip the installation package, locate and open the executable, then follow the on-screen instructions to complete the installation process.

The installation process copies the files by default into a standard plug-in directory. You may change the default directory during the installation process to manually copy the files to the respective directories (e.g. if you use a custom library to save VST/AU plug-ins).

macOS

To install the plug-in binary, unzip the installation package and copy the **macOS/I2C8.component** to **/Users/xxxx/Library/Audio/Plug-Ins/Components** and **macOS/I2C8.vst** to **/Users/xxxx/Library/Audio/Plug-Ins/VST**, respectively.
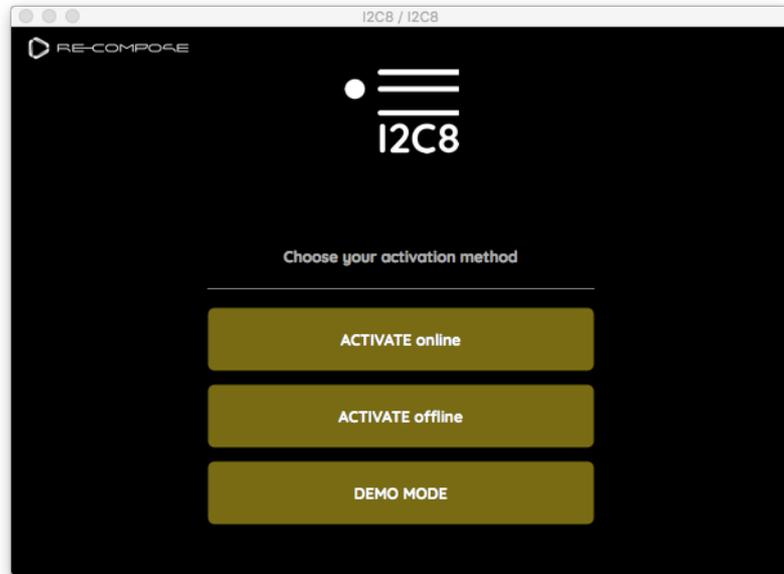
Windows

Unzip the installation package and copy the plug-in DLL (either from Win32/ or x64/, depending on whether your preferred host works in 32-bit or 64-bit mode) to the VST plug-in directory. Check the settings of your DAW host and its manual on how to set the path to the plug-in directory. These are the default locations for the installation of the I2C8 MIDI plug-in on Windows:

Format	Path	Extension
VST 3	C:\Program Files\Common Files\VST3 32-bit VST3 plug-ins on 64-bit Windows: C:\Program Files (x86)\Common Files\VST3	.vst3
VST 2	C:\Program Files\Common Files\Steinberg\VST2 32-bit plug-ins on 64-bit Windows: C:\Program Files (x86)\Steinberg\VstPlugins	.dll

Note: Should you apply changes to the default installation path for plug-ins during the installation process, make sure to take note of it so you can locate the plug-in later. When you move a plug-in to a new path, remember to update your VST host application with the new installation path.
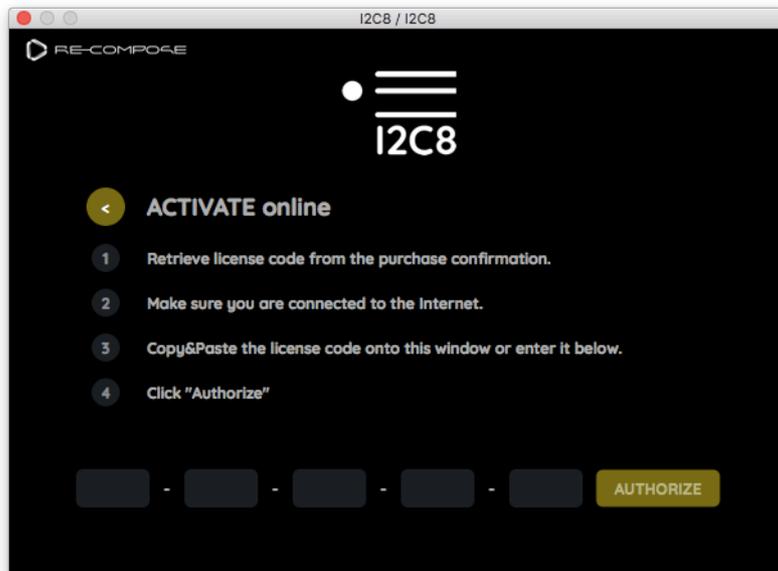
Unlocking

I2C8 supports both online and offline activation. Further, a demo mode is included in the software.
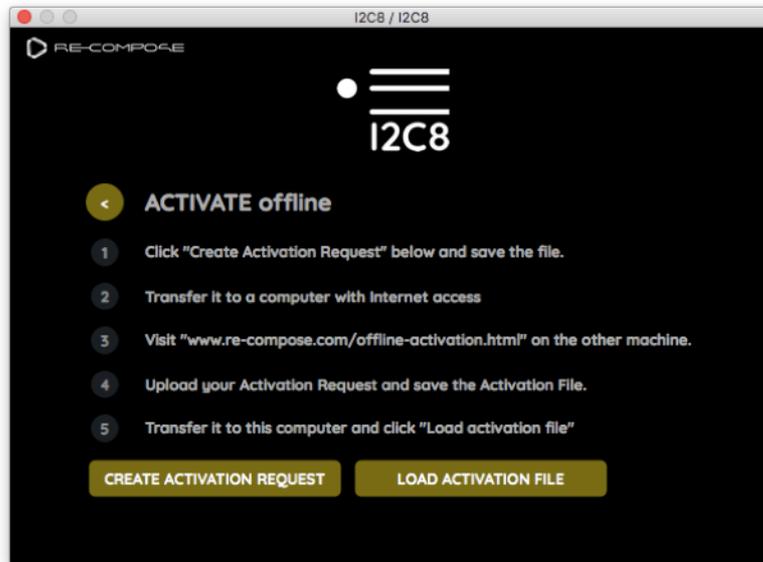

Online Activation

After starting the plug-in for the first time, click on "Activate Online" on the welcome screen. This will display the online activation screen.

Copy and paste your serial code into the application window or enter it manually in the blank fields.

Offline Activation

Click on "Activate Offline" on the welcome screen. This will display the offline activation screen.

Click on the button "Create Activation Request", then save the file to a portable drive (e.g. a USB flash drive) and transfer it to a computer connected to the Internet. On that computer, open the page **http://www.re-compose.com/offline-activation.html**, enter your serial code, and upload the "Activation Request File" followed by "Submit". Save the "Activation File" to your portable device, transfer it back to the original computer, and import it by clicking on "Load Activation File".

Deactivate

If you wish to deactivate the plug-in on one or all of your computers, please contact the Re-Compose Support at **support@re-compose.com**.

Demo Mode

On the welcome screen, click on "Demo Mode" to test I2C8. Saving and exporting are disabled.

Tutorial

Usage of MIDI plug-ins in Digital Audio Workstations

I2C8 is a MIDI plug-in, a software tool that can generate or process MIDI data. Various formats of MIDI plug-ins are available, including MFX, VST, VST Module Architecture, and OPT.

With the exception of Apple Logic (for its use of the AU format), usage of I2C8 in other hosts follows a similar logic: Two MIDI tracks need to be created, with the track that I2C8 is assigned to feeding the generated chords (notes) into the other track (instrument).

In the following, find a detailed description of the track assignment for Ableton Live and Logic Pro X. For other DAWs, please refer to their respective documentation of how to set up MIDI plug-ins.

Track assignment in Ableton Live

In order to use the plug-in in Ableton Live the following steps have to be taken:

1. Create a MIDI track. It is referred to as *Track 1* (or *generator track*).
2. Place the I2C8 plug-in onto Track 1.
3. Create a second MIDI track containing a software instrument. It is referred to as *Track 2* (or *instrument track*).
4. For Track 2, set *MIDI From → Input Channel* to Track 1 ("I2C8").
5. Set the *Monitor* option of Track 2 to "In".

Note: While Ableton Live supports both the Audio Unit (AU) and VST formats, AU is only reserved for audio plug-ins in Live. This results in the AU component of the I2C8 MIDI plug-in not appearing in Live when placing it into Live's AU plug-in directory.

Please make sure to use the VST component of the I2C8 MIDI plug-in when working with Live.

Track assignment in Logic Pro X

In Logic Pro, setup is considerably easier, since Logic natively supports MIDI effect plug-ins. Simply create a MIDI track and select **ReCompose → ChordGenerator AudioUnit plug-in** from the **MIDI FX** selector.

You are all set!

## Structure of the user interface

The I2C8 user interface shows

A. Chord symbol areas for building chord patterns
B. Simplified piano roll display of the generated MIDI sequence. Chords from the piano roll can also be directly dragged into the timeline of the host sequencer.
C. Chord boxes which determine the variants in a chord sequence. The variation of a single chord alters the entire chord sequence.
D. Setting how chords should be played back by the plug-in, either by a regular time grid or triggered by external MIDI events
E. Key selection (currently, major and natural minor are supported).
F. "Off-Key" selector that allows the generation algorithm to select out-of-key chords with a specific probability.
G. Pitch control that defines the average register of the generated chord sequences.
H. Drag-to-host functionality to drag generated sequences directly into your DAW.
I. Settings of the number of chord notes playing (1 - 3).
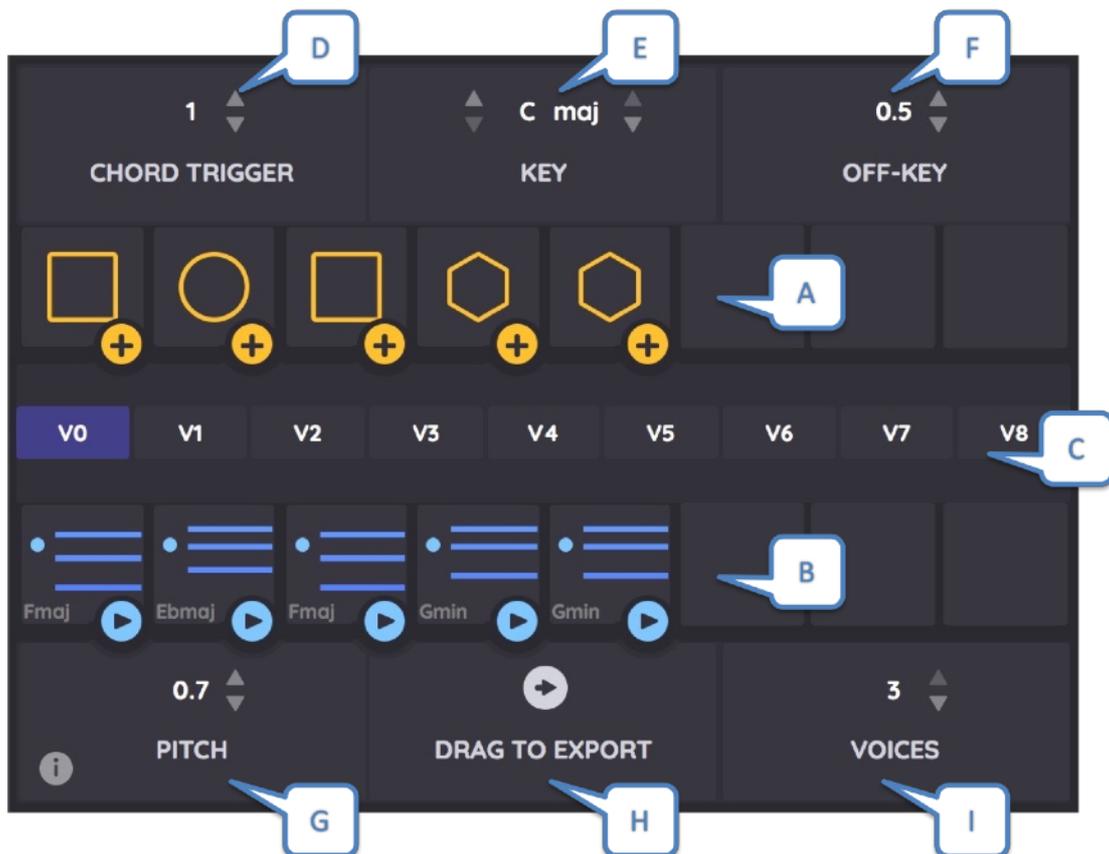
Clicking on a chord symbol (A.) or a chord box (C.) will display alternative elements to choose from.

Definition of a pattern

After loading the plug-in, you will see a pre-defined sequence consisting of one element. Clicking on the button **+** generates a new chord to the sequence.
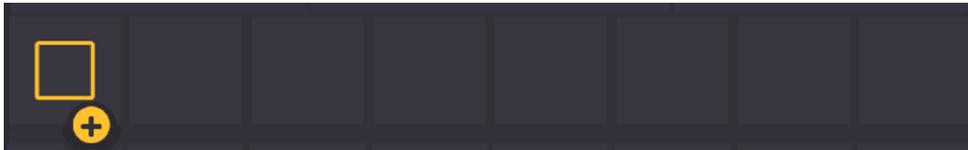
Clicking on a pattern symbol opens the symbol selector.
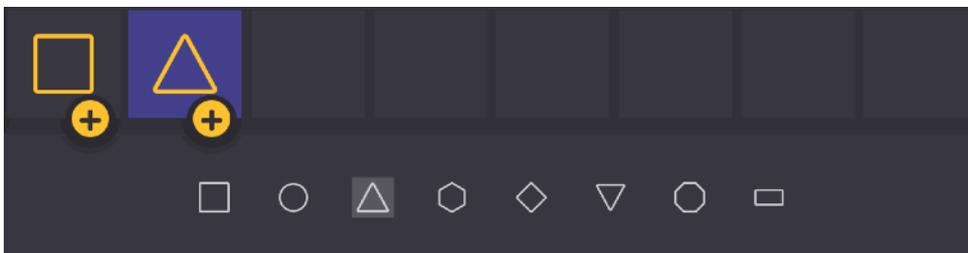
Chord generation

The basic principle behind symbol sequences is that identical symbols stand for the exact same chords, while varying symbols are transformed to different chords generated by an underlying statistical model for musically logical chord progressions.

Whenever a pattern symbol is added or changed, the chord generation algorithm

1. immediately generates a chord for this position;
2. generates a set of eight **variants in the sequence of chords** for the current pattern of symbols (alternative chord sequences).

Chords can be arbitrarily modified by clicking on a chord and then manually changing the chord symbols. Whenever the user specifies a chord, the corresponding pattern element is replaced by a **lock** symbol. By clicking on the unlock button, the pattern element returns to its previous state.
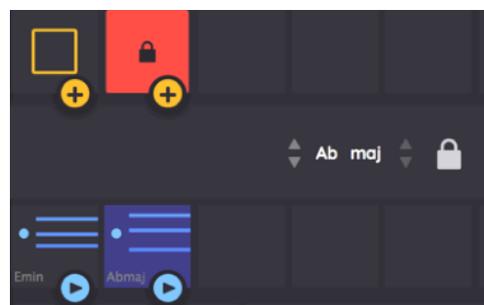
Chord Preview

Preview of chords is possible by clicking on the blue Play button for any of the generated chords.

Sequence playback

Playback of the generated sequence is as simple as starting the host sequencer. The chord sequence is played back in a loop, and the current loop position is displayed by yellow and blue frames around the pattern and chord symbols, respectively.


Parameter control during playback is possible. During looped playback, parameter changes take effect at the start of the next loop iteration. If the chord trigger is set to "MIDI", parameter changes are effective when the next MIDI message is received (see section "Chord trigger").

Sequence variant exploration

By clicking on one of the chord boxes, the currently generated chord sequence will immediately be replaced by a new variant. Whenever the pattern definition is changed, a new set of variants is generated and the default variant V0 is selected automatically.

This functionality also works during live playback. If the chord trigger mode is set to a regular grid (see next section), the sequences will not change immediately. The plug-in will wait for the next loop onset to switch to the new sequence. If the chord trigger mode is set to "MIDI", the sequence variant will change immediately.
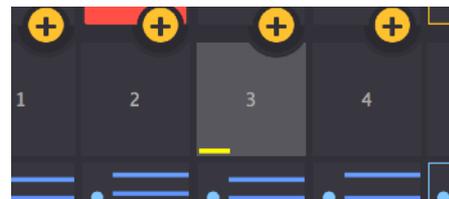
Chord trigger (Duration)

There are two ways to trigger chords: (1) Automatic loop playback and (2) manual MIDI triggering (through computer keyboard, an external MIDI keyboard, or triggering a MIDI sequence in the DAW). Setting the chord trigger selector to one of the values 1/32, 1/16, 1/8, 1/4, 1/2, 3/4, 1 whole beat, 2 beats, or 4 beats triggers the chords from the sequence based on the respective time grid, repeated in a loop. Setting the chord trigger selector to "MIDI" maps each MIDI note from the range C2, D2, E2, F2, G2, A2, B2, C3 to a chord and plays it from the respective "Note On" to the corresponding "Note Off". MIDI velocity is taken into account.

Key selection

Musical key can be selected from a combination of the root note and the mode, major or natural minor. Only keys with one accidental per note are supported (sharp or flat), which is the reason why for some root notes only major/only minor is available from the selection box.

Off-Key

The off-key value determines the probability of out-of-key chords appearing in the resulting chord sequence. Setting this parameter to 0 forces the algorithm to generate only in-key chords whenever possible, i.e. if less than seven different chords are specified in a pattern sequence. On the other extreme end of the scale, off-key value 1 forces the algorithm to generate **exclusively** out-of-key chords.

It is recommended to play around with this parameter and level it off to a useful intermediate value for musically interesting results.

Pitch

The pitch parameter determines the average pitch of a generated chord sequence. Note that it does not simply transpose the voice leading of the chords, but it tries to find a sequence of chord inversions that will form a smooth sequence and stay within a specified pitch range.

The pitch parameter is also reflected in the piano roll visualization, where it is shown as a blue dot relative to the lines symbolizing chord notes.

Drag to Export

Generated chord sequences can be exported to any DAW/sequencer that supports drag and drop of MIDI files. Simply click on the export symbol and drag it to the host.

Single chords can equally be exported via drag and drop. Drag the respective chord box onto the host or directly into the file system.

Note that this functionality can also be used to export MIDI files directly to the file system, if needed.

Voices

The voices setting determines the number of chord notes in the generated chord sequence. A setting of 2 or 3 is recommended for rich, gradually changing harmonic sequences, while a setting of value 1 can be used to isolate single chord notes.

Preset handling

All parameters of the I2C8 plug-in can be captured as presets. Preset data is automatically saved in DAW sessions. This functionality can also be used to export presets for the import into other sessions.

The plug-in supports copy and paste functionality. When the plug-in window is in the foreground, copy and paste key shortcuts (Ctrl+C/V on Windows, ⌘+C/V on macOS) can be used to copy the current plug-in state to other instances of the plug-in.

Creative ideas

In the following, four potentially interesting practical applications of the plug-in are described.

Feeding a chord progression into an arpeggiator

Instead of directly using the output of the I2C8 plug-in as the input for a software instrument, an arpeggiator can be used to generate rhythmically interesting patterns. For example, this approach can be used to generate bass lines or melodic patterns that can be a starting point for compositions.

Layering different harmonic sequences

By opening several plug-in instances with the same pattern structure and layering the output, very unusual, highly polyphonic progressions can be created.

Using different values for craziness, pitch, and number of voices, sequences of varying degrees of tension can be created.

Generation of polyrhythmic patterns

Changing the event duration and pattern structure in two or more plug-in instances will generate polyrhythmic loops.

Generating progressions from given chords

By specifically positioning a subset of chords in between locked chords, the plug-in can be used to find interesting progressions between two or more chords. In the example below, a progression from Cmaj to Emaj with four in-between chords has been generated.