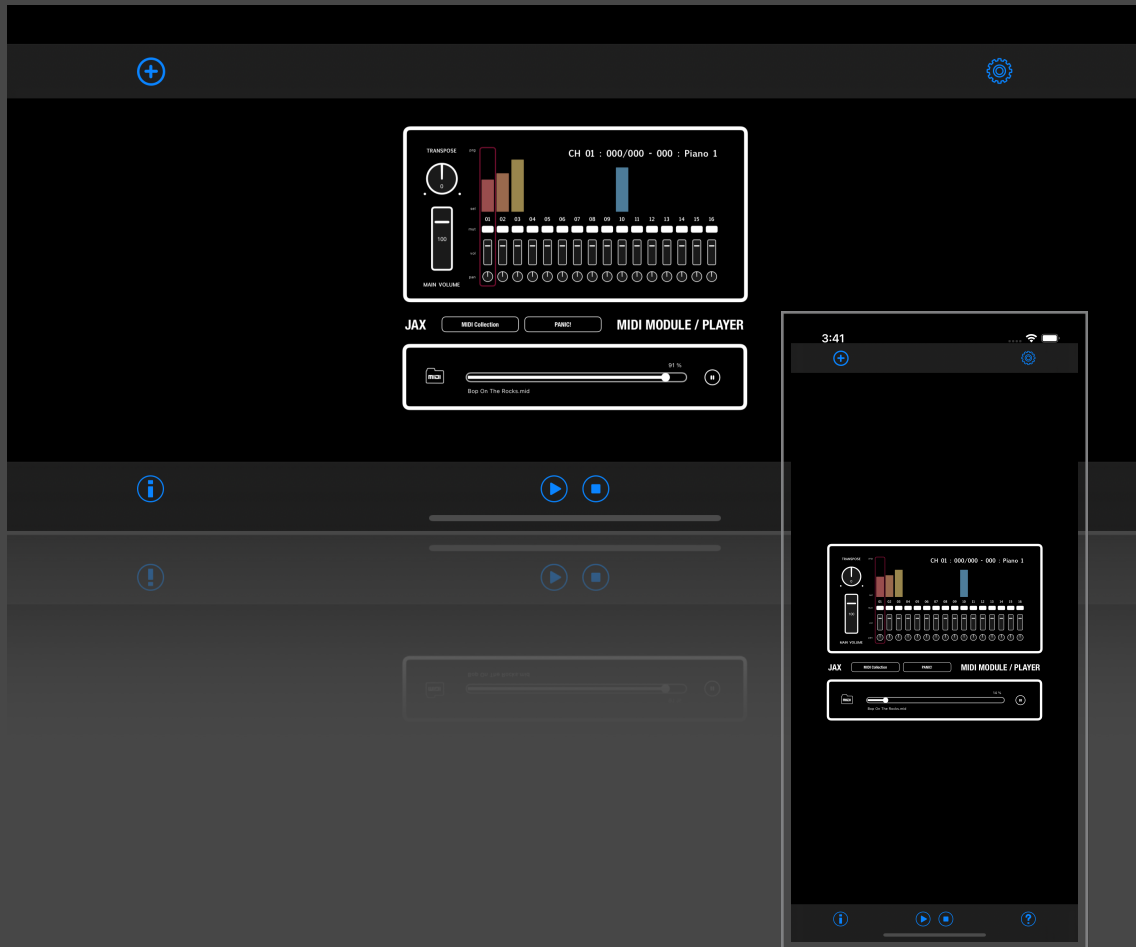




JAX MIDI MODULE & PLAYER MANUAL



JAX MIDI Module & Player (App)

JAX MIDI Module & Player is both, a General MIDI Standard (GM) **sound module** and a sample accurate **file player** for Standard MIDI File Format (SMF) files. It features Core MIDI connections and can be played in realtime with any connected MIDI controller on all 16 channels independently.

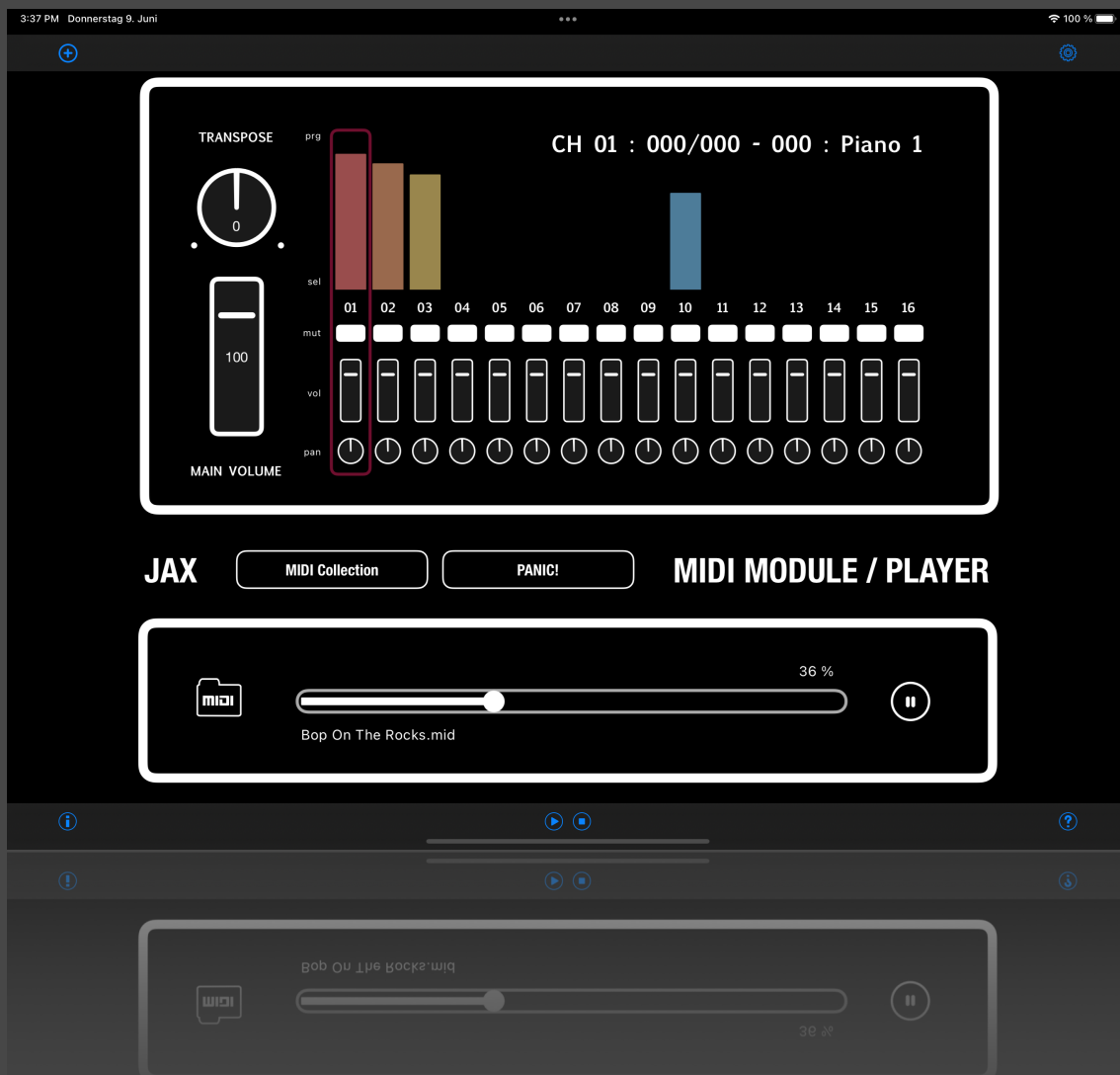
The integrated player can load and play back Standard MIDI Format (SMF) files in format 0 and 1.

It comes as standalone app and as an embedded AudioUnit (AUv3) for usage with supporting audio unit host applications.

JAX MIDI Module & Player (AudioUnit)

JAX MIDI Module & Player AudioUnit is at first an integrated environment for loading and playing complete standard MIDI Files inside Audio Unit hosts, mainly such, that have no inbuilt MIDI sequencing capabilities. It requires hosts, which can for instance route the MIDI streams to multi-timbre synthesizers or (per channel) to any other synthesizer and MIDI enabled effects, also external connected MIDI equipment and so on.

But it also integrates a fully compatible multichannel MIDI synthesizer, which can play on 16 different MIDI channels with different timbres and drum maps (on channel 10).



JAX MIDI Module & Player AudioUnit is NOT synchronized to the hosts tempo and transport controls, because SMFs usually define their own internal tempo maps.

MIDI Data Is Silent

Although, JAX MIDI Module & Player comes with an integrated GM Synthesizer, it also will output the MIDI data stream for usage with other (external) units and devices. You can switch off the internal sound by adjusting the main volume slider to zero.

We configured MIDI Player unit as “music device” like a synthesizer for instance, because of the fact that some hosts do not support MIDI effects at all and our sequencer is based on a sample accurate audio clock (the audio stream), requiring a consistent flow of real sample buffers. The MIDI data is generated inside the audio kernel, not based on any timers or other threads, therefore the sequencer and its output is perfectly sample accurate.

Make MIDI Audible

JAX MIDI Module & Player Unit is the perfect companion for playing complete MIDI files in realtime and/or forwarding MIDI messages to other apps and possibly externally connected music equipment.

Multi-timbre synthesizers, which can play on 16 channels simultaneously are unfortunately very seldom today, but we believe that it is only a matter of time and understanding, quasi **the return of traditional and efficient music production techniques**, already available for decades on any hardware music production environments like tone expanders and arranger workstations.

With the host you should be able to alternatively route the MIDI stream to anything you want, given the fact that the host correctly handles MIDI routing at all and consequently uses audio clock synchronised mechanisms to forward the generated MIDI Messages.

File System Integration

We adopted the complete iOS files app functionality, providing comfortable MIDI file management with this. You may load MIDI files from anywhere (including iOS registered clouds and file providers) into the app or Audio Unit at runtime.

Note: MIDI Player Unit can not edit or modify MIDI file events in any way and the tempo track of the loaded files will be performed as programmed by the file creator, so the host tempo is completely ignored for playback.

There is technically no possibility to dictate a host a tempo change from within an audio unit, so please do not ask for such, as it is impossible to do. Either the host provides direct import of MIDI files (and thus the coded tempo information) itself or has other effective mechanisms of tracking the tempo in realtime.

MIDI Files, Tracks and Channels

JAX MIDI Module & Player can load MIDI files in format 0 and 1 and will always map all found tracks and events to the 16 available MIDI channels internally. It is not a track based sequencer, but a consequently **channel based sequencer**.

With the user interface most important events of the loaded MIDI file can be visualised based on the current MIDI stream and also filtered and temporary modified.

If you change MIDI parameters with the user interface, these changes will become overridden as soon an appropriate MIDI controller is triggered by the loaded MIDI file or an external MIDI controller.

Sample Accurate Timing

The timing of the internal sequencer is driven by the audio clock and therefore sample accurate. Although, we do not know how some hosts are handling MIDI forwarding and output internally, so we cannot say something about the resulting timing stability of these host applications. Outgoing MIDI events are dependent of the transmission speed and responsibility of the used hardware MIDI ports and this is managed by the host applications and the OS, never by an Audio Unit itself.



Parameters and Controls

Main App

The main (standalone) app can be used for realtime playing or connections to external MIDI players and has the following controls:

Configuration Button : This button will open a configuration dialog for Core MIDI inputs and outputs, currently available on the system.

Info Button : This button will connect to the product site on the internet.

Help Button : This button will open the embedded PDF manual (this document).

Audio Engine Start/Stop : These controls will start and stop the audio engine, where the audio unit is connected to.

AudioUnit

The embedded AudioUnit can be used with any supporting AUv3 host and has the following controls:

Transpose Knob : This knob will transpose MIDI playback up or down 12 semitones for all transposable tracks.

Main Volume Slider : The global volume of the 16 channel synthesizer engine can be adjusted with this slider.

Mute Switches 1-16 : MIDI Channels 1 to 16 can be muted individually. This control is temporary.

Volume Sliders 1-16 : The Volume can be adjusted for each of the 16 MIDI channels individually. With MIDI file playback or external MIDI controllers these sliders may adjust automatically according to the current controller state.

Pan Knobs 1-16 : Panorama position can be adjusted for each of the MIDI channels individually. With MIDI file playback or external MIDI controllers these knobs may adjust automatically according to the current controller state.

Channel Selector : Selecting a control for any of the 16 MIDI channels will move the channel selector frame. The label for the program is changed, if the channel selector moves according to which program on each channel is currently selected. This will also change when a MIDI file is loaded (MIDI program change command).

Label Program Selector : Clicking on the program name for a selected channel will open the patch dialog for selecting a new program for the channel. The available programs depend on the currently loaded sound bank. This selection is temporary and can be overridden by MIDI files or external MIDI controllers.

Button MIDI Collection : This button opens a special factory file dialog, where a MIDI file can be selected from our selection for instant playback.

Button Panic : This button will reset all controllers to an initial state. Doing this while a MIDI file is currently playing, will reset all patches, volumes, pans and so on.

Button MIDI Folder : This button opens the OS file selector for importing files for playback. Supported are all format 0 and format 1 SMF files with the extension *.mid.

Progress Bar & Label : Shows the current progress and allows adjustment of the song position.

Button Start/Stop : Starts or stops the currently playing MIDI file.

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