

MachFive 3.1.4 Update Notes

OVERVIEW

This document provides information about new features and enhancements in MachFive version 3.1.4 that are not covered in the *MachFive User Guide*.

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ENHANCEMENTS IN 3.1.4

Version 3.1.4 introduces numerous enhancements.

- Improvements to keyswitching
- Multis now link to non-factory samples with a relative path (see below)
- Improved range in the Autowah effect

Relative paths for programs and multis

When you import a sample, MachFive simply refers to the original sample file on disk (rather than copying it or moving it). When you then save the sample as part of a program or multi, its location is stored *relative to* the location of the program or multi itself. Therefore, if you store the program or multi in a folder or directory that *encloses* the folder or directory containing the samples, you can move them together to a different location without breaking the connection between the saved program/multi and its samples.

On the other hand, you may need to relocate the samples and resave the program or multi under the following circumstances:

- If you move the program or multi, but not the samples
- If you move the samples, but not the program or multi

Generally speaking, if you've built a program or multi out of samples that are used only for that program/multi, store the samples in a folder or directory, and put that folder/directory in the same folder/directory as the program/multi itself. This will ensure that the connection between the samples and the program/multi never breaks.

ENHANCEMENTS IN 3.1.3

Version 3.1.3 introduces numerous enhancements.

- Enhanced scripting support
- Restored full support for Mac OS X 10.5.8
- More efficient memory usage
- Numerous compatibility and performance updates

ENHANCEMENTS IN 3.1.2

Version 3.1.2 introduces numerous enhancements.

- Enhanced scripting support
- Improved streaming with looped samples
- Minor user interface enhancements
- Improved handling of MachFive 1 presets
- Improved handling of keygroup velocity/key fades
- Better compatibility with MagicMouse and Trackpad
- Added Gain Matrix automation support
- Improved handling of tuning stored in samples
- Added minor enhancements to the wave editor
- Improved performance with layer rules
- Added support for the FLAC format

ENHANCEMENTS IN 3.1.1

Version 3.1.1 introduces several new features and enhancements discussed below.

IRCAM Stretch oscillator export

The save menu for the IRCAM Stretch oscillator has a new menu item called *Export with stretch/pitch applied* (Figure 1). This command lets you easily “bounce” (export) the oscillator waveform with the current IRCAM stretch settings applied. For example, if you wish to time-stretch some audio (to take full advantage of the IRCAM technology to achieve the highest possible quality) and then export the result to use in your DAW, this option makes it a one-step process.

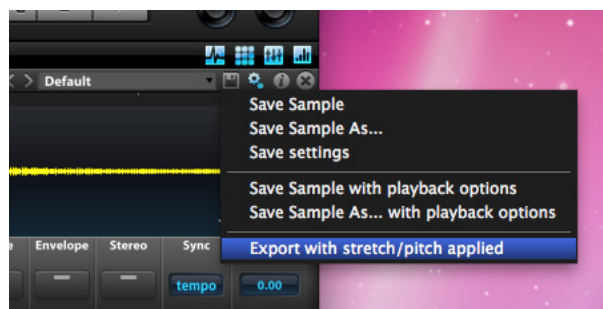


Figure 1: IRCAM Stretch oscillator save menu

MIDI unlearn now displays current CC assignment

If you right-click a parameter that has a MIDI controller (CC) assigned to it, the *MIDI Unlearn* menu item (Figure 2) now displays the current MIDI assignment.

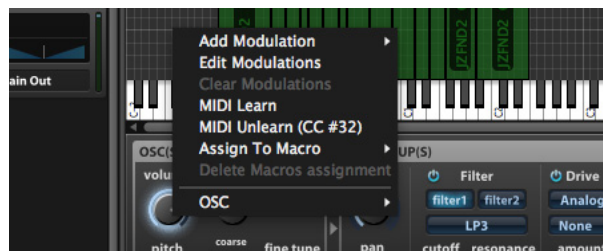


Figure 2: MIDI Unlearn

Numeric display of sample start/stop/loop points

When dragging sample oscillator markers (start, stop, and loop points), MachFive now displays the marker position numerically above the sample editor (Figure 3).



Figure 3: Sample marker numeric display

OSC path display

The modulation menu (Figure 4), which is accessed by right-clicking a parameter, now shows the OSC path and lets you copy the path to the clipboard.

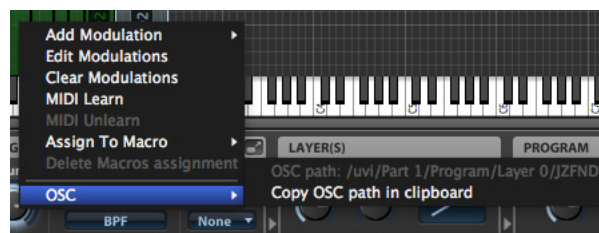


Figure 4: Modulation menu OSC path sub-menu

Version 3.1.1 provides the following enhancements:

- Key follow now follows portamento glide.
- Better script support
- Improved Ensemble 505 operation on Windows
- Improved import of external samples and their relative start/stop positions
- Improved surround operation when modulating volume

ENHANCEMENTS IN 3.1.0

Version 3.1.0 introduces several new features, two new effects processors, several new event processors (scripts), and other enhancements.

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Pre/post switch for keygroup effects

In the Tree Editor inspector for keygroups, enable the new *FX Post Gain* option (Figure 5) if you want effects, especially non-linear filters and drive effects, to follow the keygroup's envelope stages (or other keygroup gain controls).

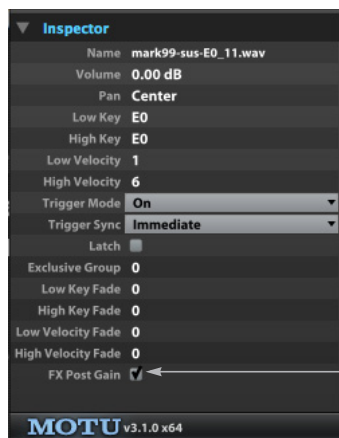


Figure 5: Keygroup inspector in the Tree Editor

Stretch oscillator legato mode

When you click an oscillator in the Tree Editor, the oscillator settings appear in the Inspector, as shown in Figure 6. In Version 3.1.0 a new *Legato* option has been added. When enabled, the Legato option allows you to play new notes while others are sustaining, and the new notes will play in sync with the held notes. In other words, when you play a new note while others are already playing, it doesn't start

playing at the beginning of the sample but instead starts at the position of the other voices, producing a smooth, legato effect.

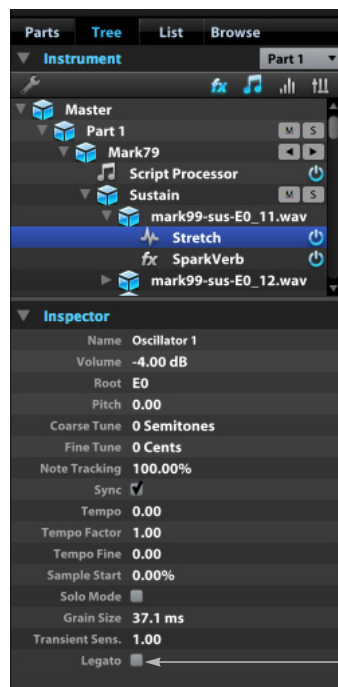


Figure 6: Oscillator inspector in the Tree Editor

Mono portamento 2 mode

In the Layer settings playing mode menu (Figure 7), the new Mono Portamento 2 setting produces glide between notes, even when they are played in a non-overlapping fashion. The regular Mono Portamento setting produces glide only when notes are played in an overlapped fashion.



Figure 7: The new 'Mono Portamento 2' playing mode in the Layer settings

SparkVerb

SparkVerb (Figure 8) is a complete synthetic reverb that focuses on sound quality and maximum control of essential parameters. It uses a feedback delay network with modulated delays and three-band control of the decay rate.

A unique and crucial feature is the explicit control of detune in cents, which can be used to produce stratospheric choruses, resonant unisons, and lush ambiences. An input diffusion stage helps increase short-term echo density, which can be especially useful when applied to rhythmic material.

Special care has been taken to make SparkVerb as efficient and versatile as possible. Intuitive controls allow you to quickly control the room size and shape.

Presets

SparkVerb provides dozens of useful presets. Use them as is, or use them as a good starting point for your own creations.

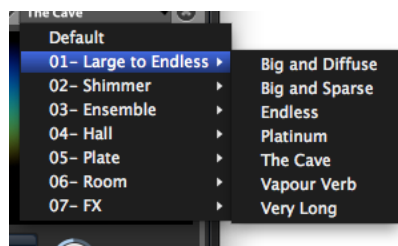


Figure 9: SparkVerb presets

Room geometry

Use the *Room Size*, *Shape*, *Density*, and *Decay Time* controls to adjust the overall characteristics of the space. *Density* controls the number of delays in the feedback delay network.

Bass controls

Use the *Bass Decay* multiplier and *Bass Xover* (crossover) controls to manage the presence of the low end. The *Decay Low-Cut* button changes the bass decay shelving filter to a highpass filter and disables the Bass Decay multiplier.

Hi-frequency controls

Use the *Hi Decay* multiplier and *Hi Xover* (crossover) controls to manage the high frequency content. The *Decay Hi-Cut* button changes the high decay shelving filter to a highpass filter and disables the Hi Decay multiplier.

Freeze

The *Freeze* button holds the reverb in its current state with infinite decay.

Diffusion

Use the *Diffusion On/Off* button to enable or disable diffusion. Depth and start time controls let you control the density and timing. Diffusion can be especially useful for rhythmic material.

Modulation

The modulation controls at the bottom of the panel can have a dramatic affect on the overall sound of SparkVerb.

Modulation (depth) is adjusted in cents (one one-hundredth of a semitone) and fractions of one cent, with a wide range from zero to 20 cents. The *Mode* setting lets you specify the overall color of the sound. The *Mod Rate* setting multiplies the rate of all delay line modulators.

Output

Use *Mix* and *Width* to shape the final output of the effect. *Rolloff* controls the cutoff frequency of a lowpass filter on the final reverb output.

Ensemble 505

Ensemble 505 is deeply inspired by the ensemble circuit found on the Roland Paraphonic RS-505. Through examination of circuit schematics and measurements taken on a working unit, the specific behavior of the BBD delay



Figure 8: MachFive 3.1.0's new SparkVerb.

lines, modulator shapes, and signal path found in the original have all been faithfully reproduced. The result is a very smooth and “analogish” ensemble effect that can be used with a wide variety of sounds, from raw synth waveforms to voices, choirs and even drum loops.

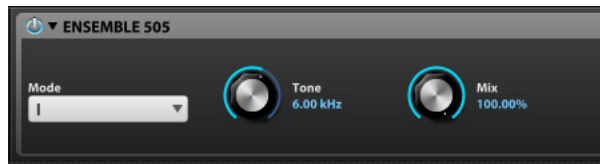


Figure 10: Ensemble 505

Mode

Three options (I, II or III) in the *Mode* menu allow you to choose from the most subtle to the most obvious effect.

Tone

Tone controls the overall tone of the output using different filter combinations.

Mix

Adjust the mix from dry to wet. The original RS-505 is fixed on 100% wet.

New event processors

MachFive 3.1.0 introduces several new event processors.

StepLine

StepLine is a standard electronic bass line editor with 16 steps. Each step includes a velocity bar, pitch offset (specified in semi-tones), and link (to the previous step). The *Resolution* menu determines the length of each step. Gate determines the duration of each step. Groove applies swing. Press *Record* mode to play in a bass line, one step at a time, from your MIDI controller, using the Skip button to skip steps when desired. Or generate entirely new basslines with one click using the *Random* button. Create and transpose bass lines quickly using this simple yet powerful processor.

Shepard

Shepard reproduces the classic endless rising/dropping pitch effect made famous by Roger Shepard and Jean-Claude Risset. Now you can use it with any instrument.

Strum

Strum enforces a minimum time between notes in order to make chords sound more natural.

Tonal Harmonizer

Tonal Harmonizer harmonizes each note of a scale with a chord belonging to the same scale. A chord voicing editor allows you to select which scale degree and octave to play.

Several dozen chord voicings (closed, cluster, open, quartal, etc.) are provided to explore the different kinds of textures that can be produced with the same chord.

Virtual Pitch

Given a chord played on the keyboard, Virtual Pitch computes the strength of each note as a virtual root for the chord and plays this note an octave below the lowest note of the chord. This technique can be useful as a musicological tool. It is also a good way to make (dissonant) chords sound more full.

Mod Wheel Glissando

Mod Wheel Glissando lets you hold chords on a MIDI keyboard (or other controller) and strum back and forth using a modwheel.

Program Change Switcher

When playing MachFive from a MIDI controller, Program Change Switcher lets you use MIDI program change messages sent from your controller to change which MachFive part you are playing on the fly. For example, you could have a piano sound loaded into part 1, organ in part 2, and strings in part 3. If you assign the parts to MIDI channels 1, 2 and 3 respectively, you can use MIDI program change messages #0, 1 and 2 to switch among the three sounds on the fly. Three controls are provided, as explained below.

Incoming: specifies the MIDI channel that the processor will listen to. Choose zero (0) for omni mode (all channels).

Destination: shows the current MIDI channel that the processor is sending to. If you send program changes, you'll see this knob change to reflect them.

Offset: lets you add to (or subtract from) the destination MIDI channel. For example, if the destination channel is 1, but the offset is +2, the resulting destination MIDI channel will be 3. This could be used, for example, if your MIDI controller has eight program change buttons (that send program change messages 0 through 7), but you'd like use them to access channels 9-16 in MachFive's part list.

Additional 3.1.0 enhancements

Version 3.1.0 also provides the following enhancements:

- Improved importing of EXS-24, Akai and Giga format samples
- Improved legato retriggering for step envelopes, LFOs and multi-envelopes where all voices have the same envelope (similar to non retrigger) but the first note always retriggers (for predictable results)

- Improvements to MIDI Select when selecting keygroups with non-stacked oscillators
- Improved support for event processors (scripts)
- Reduced streaming memory consumption
- Improved multi-point envelope display
- Addressed an issue with unison mode for layers

ENHANCEMENTS IN 3.0.3

Version 3.0.3 provides the following enhancements:

- Right-click the word *Search* in the browser to cause MachFive to re-index all currently indexed sound libraries.

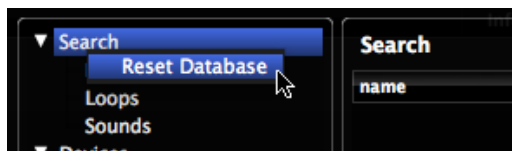


Figure 11: Reset Database

- Many minor enhancements

ENHANCEMENTS IN 3.0.2

Version 3.0.3 also includes these version 3.0.2 enhancements:

- Support for 64-bit VST operation on Mac OS X
- Enhanced IRCAM time-stretching algorithms with improved preservation of transients to produce even better overall results
- New *Refresh* feature in the Devices list (see below)
- New support for looping in the Stretch oscillator

In addition, version 3.0.3 provides these enhancements:

- Improved handling of Acid loops
- Enhanced script support
- Improved importing of GigaSampler library material
- Enhancements that will reduce the possibility of stuck notes occurring
- Many other minor enhancements

Refresh devices

When running MachFive under Mac OS X, you can now right-click on the word *Devices* in MachFive's browser source list (the left-most column) to access the *Refresh foreign disc* command (Figure 12). Doing so mounts any supported sampler discs that have been inserted into the computer, so that they appear in the Devices list.

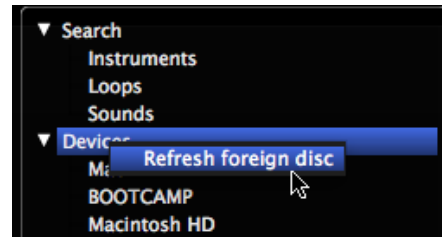


Figure 12: Refresh

QUESTIONS OR SUGGESTIONS?

If you have any questions about this update, or any suggestions for future versions, please do not hesitate to contact MOTU Technical Support as follows:

- Tech support hotline: +1 (617) 576-3066 (9 a.m. – 6 p.m. Eastern)
- Online tech support: www.motu.com/support
- 24-hour online tech support database with search engine: www.motu.com

Thank you for using MachFive 3!

Sincerely,

—The MachFive Development Team