


What's New in MetaSynth 5

This document describes the new features added in MetaSynth 5. If you are a user of MetaSynth 4, we recommend reading both this chapter and [Notes for MS 4 Users](#) which details some important ways in which MetaSynth 5 differs from version 4. MetaSynth 5 replaces both MetaSynth 4 Pro and non-Pro.

General Features

- ❑ **MetaSynth 5 is universal binary, multi-threaded and fully Leopard-compatible.**
- ❑ **Recording available in both Sample Editor and Montage Room.**
- ❑ **32-bit floating point sound buffers and 64-bit floating point math for all audio operations.**
- ❑ **Full support for .caf and .wav files.** MetaSynth 5 can read and write .aif, .sd2, .caf and .wav files in all rooms.
- ❑ **Add output device selection to Preferences.** MetaSynth no longer uses the default output device chosen in Audio MIDI Setup. MetaSynth now allows the selection of any available output device.
- ❑ **Files can be saved at up to 32-bit resolution.**
- ❑ **Much longer sounds can be loaded and created than previously.**

Sample Editor


- ❑ **New Slide Selection Samples tool** . Click and drag on the tool's icon to move the sample within the selection. This tool is very useful for correcting small rhythmical errors and for moving syllables and words in voice tracks.
- ❑ **New Swap Left/Right command.** This command, found in the **Edit** popup menu, swaps the left and right channels of the loaded sound.
- ❑ **Record to the sample editor.** It is now possible to record to the Sample Editor.
- ❑ **Longer sounds can be loaded than previously.** MetaSynth 5 dynamically allocates buffers when sounds are loaded which allows for the loading of much longer sounds than was previously possible.
- ❑ **Direct loading of mp3 format files.** MetaSynth can now read mp3 files. It cannot, however, save in mp3 format. Loaded mp3 files can be saved in .aif, .caf, .sd2 and .wav formats.

Effects Room

- ❑ **Render to disk.** The new render to disk command (found in the Effects Room's File popup menu) allows the creation of sounds longer than can be loaded into memory and removes the previous six minute maximum duration for sounds that result from duration lengthening. **Shortcut:** hold down the option key when clicking on the Render Effect icon. MetaSynth will try to load the sound back into memory when rendering is complete. This command essentially removes limitations on the maximum duration that can be achieved when applying duration-lengthening effects such as Grain and Pitch & Time.
- ❑ **Convolution.** The Crossfade effect now has a convolution parameter that performs convolution of the Sample Editor sound and the Auxiliary sound.

- ❑ **Improved Graphic EQ crossfades.** Improved the behavior when applying Graphic EQ to a selection when the Auto Crossfade setting (in the Preferences dialog) is greater than 10 ms. This change allows you to seamlessly apply the Graphic EQ to a selection.

Image Synth/Image Filter

- ❑ **11 new instrument modes and many new instrument capabilities added.** (See the Instruments section below.) Several new exciting capabilities were added to the MultiWaves and Granular Synth instruments. These are available in the Sequencer Room as well.
- ❑ **Change tuning during playback.** It is now possible to changing the tuning map (custom tuning) during playback.
- ❑ **New Drawing Tools.** 14 new Quartz-based graphics tools have been added to the brush palette. These tools are especially helpful when constructing filters and percussive sounds. **Note:** the line tool is not anti-aliased in Dot brush mode (which allows the drawing of stair step patterns). In all other cases, the Quartz-based tools create anti-aliased output.
- ❑ **New Remap Colors mode.** The Remap Colors dialog now has two modes allowing remapping by color or brightness. The documentation for Remap Colors has been updated.
- ❑ **Support for importing most image types.** The Open Picture File command can now import most image files that can be opened by QuickTime. Previously, only PICT format files were directly supported.
- ❑ **Remove the 16 kHz limit for notes.** MetaSynth will now render notes whose pitch is higher than 16 kHz.
- ❑ **Render to disk command/2X oversampling.** The **Render To Disk** command (found in the File popup menu) uses 2X oversampling to render the preset to disk before trying to load the rendered sound into memory. Use this command when either oversampling is desired or when you are rendering a sound too long to be loaded into the available memory. **Shortcut:** Option-click the Synthesize Current Pict button.
- ❑ **Batch Render command.** This command (found in the File popup) renders all of the presets in the open preset library. Press and hold the Escape key to abort a batch render.
- ❑ **Fit Tempo command.** Fit Tempo has been added to the Edit popup menu. **Shortcut:** 'F'. This command performs the same function as the Tempo and Duration dialog's 'Fit to Current Sample' button.
- ❑ **New Play Selection button**  The Play Selection button previews the selection. **Shortcut:** command-spacebar
- ❑ **New scales added to Fit To Scale.** Some useful new scales were added to the Fit To Scale popup and a few seldom-used scales were removed.
- ❑ **Automatic retriggering.** When switching between presets during playback (with the [and] or (and) keys) MetaSynth will retrigger playback in cases where playback would have stopped (such as when picture widths change).

Instruments

- ❑ **11 new multiwaves instrument modes.** Several new synthesis modes were added to the MultiWaves

instrument. The new modes are especially useful for techno and hard-techno but are also useful for all types of electronic music.. See the **New Instruments Guide** for information about the powerful new instrument modes.

- ❑ **Ability to swap samples during playback.** You can now load new samples into Sampler instruments during playback.
- ❑ **Ability to swap instruments during playback.** You can now change the instrument during playback -- you can even switch instrument types during playback.
- ❑ **New Grain Synth (Granular Synth) modes.** A mode popup has been added to the Granular Synth that introduces new grain shapes and options that increase the range of this already powerful synth.
- ❑ **Sampler/MultiSampler attack mode filters.** Samplers and multisamplers now support attack mode (envelope) filters.
- ❑ **Sampler/MultiSampler new sample start time options.** Two new sample start time options: randomized offset and global time. **Randomized Offset** modulates the sample start time by a constant offset + a random value ranging from $\pm 1/8$ the sample length). EX50.presets 66 to 68 demonstrate this option. **Global time.** The sample start time is a function of the modulo of the global time and the chosen offset value. This is great for samples that change over time and preserves the sample evolution over the course of the preset. Offset amplitude should usually be close to 100% (but below 100% unless the sample is looped)
- ❑ **Envelope control of many MultiWave Synth parameters.** MultiWaveSynths now provide envelope control for many of their parameters which makes many new dynamic sounds possible. Listen to the EX50.presets and MWS soundfx.presets for many examples.
- ❑ **Fine-tuning parameter implemented for the wavetable synth.**
- ❑ **WaveTable editor updated.** An Edit popup menu and several new tools have been added to the wavetable editor.
- ❑ **Several new instrument effects.** See **Montage Room** section for notes on the new effects.
- ❑ **Allow instruments to have an attack of 0 ms.**
- ❑ **Many new attack mode filters.** The attack mode filters provide filter envelopes for the notes played by the instrument.
- ❑ **Live switching between presets with different instrument types.** It is now possible to switch between presets with different instrument types when the presets have the same dimensions. In previous versions, MetaSynth could not switch between different instruments types when live-switching presets. Live-switching of presets happens when you use the [and] keys to move through presets while they play.
- ❑ **MultiWaveSynth Anti-aliasing.** The multiwave synths use much-improved (and more CPU-intensive) anti-aliasing. The wavetables are pre-filtered rather than used directly to remove aliasing artifacts.
- ❑ **Velocity mapping.** The MultiWaveSynth now allows velocity to be mapped to a parameter in addition to volume.
- ❑ **Many more improvements.** See the **New Instruments Guide** for a complete list of new features.

Image Filter

- ❑ **Improve behavior when opening different preset libraries in the Image Synth and Image Filter Rooms.**

- ❑ **Improve behavior when using different libraries for the Select Preset and Apply Filter libraries.**
- ❑ **Improve cross-fade with surrounding audio when applying image filter to a selection.** When the auto-crossfade setting (in Preferences) is greater than 10 ms, the filtered sound is crossfaded with the surrounding sound.

Spectrum Synth

- ❑ **Pitch-range selection.** When using the selection tool (and when command-dragging), it is possible to select a pitch-range. This enables you to apply most (but not all) of the important transforms (the volume/velocity tool, the various filtering tools) to the selected region. Some processes (such as velocity ramps) are not confined to the selected pitch range.
- ❑ **Time Blur command.** This command has been added to the Edit popup and can be useful for smoothing out the transition between events.
- ❑ **Pitch Blur command.** This command has been added to the Edit popup.
- ❑ **Amplitude Color Table.** The Spectrum Synth has a new color table toggle that switches between the “classic” monochrome color table and multicolor palette that makes it easier to see low amplitude harmonics that may be too dim to see with the monochrome color table.

Montage Room

- ❑ **24 Tracks.** The Montage Room now provides 24 tracks.
- ❑ **New Apply Current Effect command.** This command, found in the Edit popup menu, applies the Effects Room’s current effect to the sound file associated with the selected event(s). This command can
- ❑ **New track effects.** Several new track effects are available and a new filter parameter has been added to the old Distortion and Filter & Feedback effects. The choice of filter & center frequency can dramatically change the color of the effect. The new effects are: PingPong Echo, Reverb, Vox Enhancer, WS Distortion & EQ, and Parametric EQ. The reverb is a nice lightweight reverb. It is a less CPU-intensive reverb than the one found in the Effects Room since it uses fewer delay lines. The Vox Enhancer effect combines distortion, a coloring high-pass filter, and echo with feedback. It is useful for adding additional life/warmth/vibrancy to sounds. When the first delay is set to more than 50 ms and the feedback is set high, the result is a pleasing stereo chorus effect. WS distortion & EQ. Distortion using wave shaping. The “distortion freq” parameter controls the wave shaping signal frequency. The 4-band EQ is post-distortion. Set “drive” to zero for only EQ & feedback. This effect includes a stereo delay line and feedback parameter to control the delay’s decay time. 8 band parametric EQ. This EQ uses either a bank of bandpass filters or a bank of peak filters. The bands’ center frequencies are spaced at octaves relative to the base frequency parameter. So at 110 Hz, there are peaks at 110 220 440 880 1760 3520 7040 14080
- ❑ **VTrack/Montage Room communication.** Several features were added so that VTrack and the Montage Room play back in synch. This makes it practical to score video and video scenes with MetaSynth. (You can use this feature to synchronize playback of any QuickTime movie with the Montage Room.) See detailed notes below.
- ❑ **New mechanism added for resetting path of missing sounds.** When the sound that corresponds to an

event cannot be found, the event will be outlined with a red frame. Double-clicking the event invokes an Open Sound dialog with a display of the name of the missing sound.

- ❑ **Display muted tracks with faded colors for clarity.**
- ❑ **Shift-key-volume change for global volume change.** Hold down the shift key when moving a volume fader to change the relative volume of all tracks. Use this to raise or lower the volume of all tracks. Each track's volume will be changed relative to the change made to the slider. (For example, if the slider's value is increased 20%, the volume of all track sliders will be increased 20%.)
- ❑ **Default montage.** The MetaSynth folder now contains MetaSynth.mont which acts as the default montage. The default montage we provide acts as a nice demonstration of the Montage Room. You can edit it or replace it with your own. The default montage uses the MetaSynth.presets library.
- ❑ **New multipoint envelopes.**
- ❑ **Stereo recording enabled.** Both mono and stereo recording are now possible in the Montage Room. Choose **Record Input Setup** from the File popup menu to turn on stereo recording.
- ❑ **Allow selection of audio device input channel for recording.** You can choose which input channel of a multi-channel audio interface to use when recording. To select the input channel you would like to use, choose **Record Input Setup** from the File popup menu.
- ❑ **Montage no longer pre-mixes tracks to disk when recording.**
- ❑ **Send sounds, spectrum sequences and sequences to the current montage.**

VTrack/Montage Communication

MetaSynth can now communicate with VTrack 2.6 or later. This feature is great when using MetaSynth to score a film. Note that you can load any QuickTime movie into VTrack if you want synchronized playback of MetaSynth and a QuickTime movie.

When VTrack is open, setting the insertion point in a montage will cause VTrack to display the corresponding image in its preview. For this to be useful, you may need to re-position VTrack's preview area by option-clicking the preview area's edge and dragging.

When VTrack is open, clicking Play in the MetaSynth Montage Room will cause VTrack to playback its montage in a floating mini-preview.

TIP! *If you are composing music for a film scene, you can create a QuickTime movie that corresponds to the scene and load it into VTrack. You can also create clips from a larger movie in VTrack itself. It can be very convenient to create a small VTrack project for each scene that you will be scoring. Be sure to set the VTrack project's frame rate to that of the source video so that frame counts in VTrack will be accurate.*

Miscellaneous Improvements and Changes

- ❑ Numerous optimizations and performance tweaks.
- ❑ Improved color/black-and-white conversions.
- ❑ Render popup. Option-clicking on the render icon, pops up the Render Options menu. The available

commands vary by room. In all rooms, Render to Memory, Render to Disk and Render to Disk As appear. In the Image Synth, Oversampled Render to Disk is an option. In the Image Synth, Image Filter, and Effects Rooms, Preview to Disk appears as an option.

- ❑ Improved Reso Sweep effect quality (Montage and Instruments Effect).
- ❑ Improved multisampler and sampler auto pitch mapping. A number of changes were made so that MetaSynth is much better at identifying the pitch name when building sampler and multisampler instruments.
- ❑ Many new shortcut keys. Many shortcut keys were added and some were changed for consistency across rooms.
- ❑ Montage Room no longer requires that you render items when (or before) they are inserted in the montage. When you press play, any unrendered items will be rendered.
- ❑ Montage Room now requires that sequences and spectrum sequences be located in the montage's folder. It is still possible to use sound files from outside the montage folder, but it is recommended that sound files be copied to the montage's folder. The new Send Sequence to Montage, Save Sound to Montage and Move Sound to Montage commands in the File menu have been provided for improved management of montage resources.
- ❑ Saving a sequence saves its instrument to its folder. This ensures that a sequence's instrument can be found.
- ❑ Append flt when processed preference. This new preference determines whether MetaSynth adds _flt to a sound name when applying an effect or Image Filter to it.
- ❑ Montage Effect and Instrument Effects can now be saved to disk so that favorite settings can be easily saved and reloaded.
- ❑ Scale files created with UNIX line endings now work correctly.
- ❑ Image Filter gain is slightly lower than in version 4. A gain setting of 100 is about 4 db quieter than in version 4.
- ❑ LR no longer added when saving AIF files

Removed Features

The following features of MetaSynth 4 have been removed, mostly due to redundancy.

- ❑ Open IS Presets removed from Montage file popup. This command was removed since its functionality is no longer supported. The Montage Room automatically uses the preset library found in a project's montage folder and no longer supports multiple preset libraries per project.
- ❑ Support for MetaSynth 2.x files dropped.
- ❑ Support for dual mono (split stereo) files dropped.
- ❑ Mix 50% command removed. Edit->Mix 50% has been removed since it is redundant with functionality available via CrossFade in the Effects Room and in the Montage Room.