



sumFX

modular multi-fx processor

USER MANUAL

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Section 1 - Global Settings

Section 1.1 - The basics



sumFX is packed with a bunch of easy to use tools. This section will sum them all up. All modules utilize over-sampling to combat aliasing and cramping. This currently cannot be disabled.

- 1. 8 Slot chain area** - This is your signal chain, in order of processing. Any of the 8 FX can be used in any of the 8 slots, in as many instances as you can fit in your chain.
- 2. Chain presets for groups of FX** - Chain presets are designed to recall your full FX chains, with modulations included.
- 3. Slot presets for individual FX** - Slot presets are designed to recall the settings of specific modules, in case you need a specific flavor, a specific chain or even just your favorite starting place.
- 4. Undo/Redo for quick A/B or Copy/Paste** - Undo and redo will remember any changes to the parameter tree, great for quickly fixing mistakes or experimenting past your usual settings. To use the copy function, first select a slot by clicking the top bar of the slot, where you see "Slot 1" for example. This area will also contain slot preset names. Next select the slot where you want to paste your settings, followed by the paste button.

5. **Input Match** - Quickly set the output signal to the same level as the input. This is very useful when adding or saturation with powerPhase (Utility) or gain to your signal with compression via syncDynamics (Dynamics).
6. **Reset Chain to start fresh** - Click Reset Chain to set all slots to an empty state and start fresh. While we urge you to be careful with this button, the undo button can revert any accidental resets.
7. **Post waveform view to see the sum of your FX** - Click the text Post to show or hide the processed signal's waveform. This is blue and shows you the result of your FX chain.
8. **Pre waveform to see your input signal and compare** - Click the text Pre to show or hide the dry signal's waveform.
9. **Visual aide for current FX** - On your left-hand side of the screen you'll see a small screen to the left of the waveform. This will turn on and off with your slots. This is for a quick visual representation of what you're doing with your signal to help reminder you where you are.
10. **Chain & Slot Dry/Wet controls** - Click the text "Chain Focus" to switch to "Slot Focus" and switch between a global chain dry/wet slider and slot dry/wet. Slide the bar to the left for dry and to the right for wet (or processed) signal.
11. **LFO Section with visual aide** - Each slot has two LFOs which can be assigned to almost any parameter. Click the text LFO Parameter 1 or LFO Parameter 2 to select your assignment and use the Rate, Depth, Direction, and Waveform to dial in the desired effect.
12. **Chain input levels** - Global control of the input signal of the chain.
13. **Chain output levels** - Global control of the output signal of the chain.

Section 2 - Chain Section

Section 2.1 - Getting started with custom chains



The chain section is very quick to use once you've gone over Section 1.1 (The basics). Click a slot name (or its slot preset name) to select a slot and reveal its parameters. Chains are saved and loaded with the button in the top center of the top screen.

Signal flows from left to right, so make sure to put your FX in the right order... or don't, sometimes that's more fun! Experiment. That's one of the beautiful things about a simple interface, you don't have to dig for settings.

Presets are saved as `.sumFXChain` files and stored normally in the location below. On iOS, these are stored in the sumFX app's files found in your iOS device's local files. These are able to be saved anywhere on Mac/PC, but we do not suggest using other locations on iOS.

Section 2.2 - Advanced chain settings

...there are none! Chains are simple. We do suggest trying some of the following orders for some interesting results.

EQ or compression first? Try both! If you EQ going into the compressor, you can control what signals are compressed more or less. Try going from EQ into compression, it's a really useful way to help control a really dynamic signal. Typically I like to suggest starting with light compression and using both the EQ and compressor, and fine tuning from there, but there is no *right way*.

If you go the other route, Compression into EQ, your compressor won't be affected by the EQ and its changes to your signal. Usually I like to do these types of chains one at a time. Sometimes you don't even need an EQ with the right compressor settings or vice versa, it all depends on the signal.

The same goes for reverb and delay. While personally, I prefer delay into reverb, since the delayed signal stays a bit clearer since not every repeat already has reverb onto it. There are occasions where I'll need a more ambient, less clear background, for say Lo-Fi tracks. This is usually best achieved the other way with reverb into delay. Each repeat will be a signal which already has delay on it.

Section 2.3 - Transferring Chain presets between devices

As mentioned in section 2.1, your chain presets are stored as `.sumFXChain` presets. To transfer these between devices, you must find the file on the device in question, then share (via Airdrop or Bluetooth) or transfer this file (via a physical connection to that device, a physical drive, or any cloud service like WeTransfer. A great free option. No, we are not affiliated with WeTransfer in any way.).

Section 3 - Slot Section



Section 3.1 - Choosing the perfect FX for your slots

To select an FX you can tap the Empty text, or an existing FX name (as you can see in the example below). A menu will appear with the following options. These can be used in any and all slots in as many instances as you can fit.

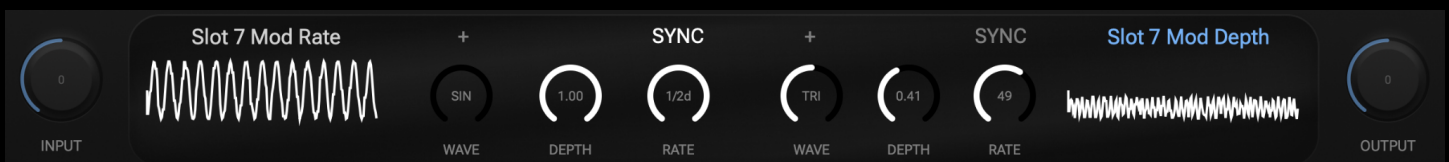
- syncDynamics (Dynamics) - 4 Mode Dynamic Processor (Compressor, Limiter, Expander, Gate)
- stereoFilter (Filter) - Stereo filter module with over 8 Modes available (LPF12, HPF12, BPF12, LPF24, HPF24, BPF24, Notch, Formant)
- Equator (Equalizer, EQ) - Complete parametric equalizer module.
- variMod (Modulation) - 4 Mode Modulation FX Processor (Chorus, Flanger, Vibrato, Phaser, Tremolo, Auto-pan)
- frostVerb (Reverb) - Stereo algorithmic reverb for any kind of ambience.
- bucketDelay (Delay) - Stereo digital delay with linked or individual channel control.
- variPitch (Pitch) - 3 Mode Pitch FX Processor (Doubler, Harmonizer, Full Control).
- powerPhase (Utility) - Multimode Saturation and powerful gain, pan, and phase utility.

Section 3.2 - Advanced slot control

Section 3.3 - Transferring Chain presets between devices

As mentioned in section 2.1, your chain presets are stored as *.sumFXSlot* presets. To transfer these between devices, you must find the file on the device in question, then share (via Airdrop or Bluetooth) or transfer this file (via a physical connection to that device, a physical drive, or any cloud service like WeTransfer. A great free option. No, we are not affiliated with WeTransfer in any way.).

Section 4 - LFO Section



Section 4.1 - Assigning LFO modulation to your parameters

Once you've loaded an FX into a slot, the LFO Parameter 1 text (or the area you see in the screenshot here just above the waveform display), the LFO parameter list will populate. If you're not familiar, an LFO (Low Frequency Oscillator) is similar to the oscillators you find in a synthesizer. They essentially do the same thing, but as the name says they are low in frequency by nature, and they don't generate audible signals.

Why use them? To adjust your controls over time, allowing for sounds you normally couldn't do with just moving knobs via the mouse, and also preventing any FX from ever sounding stale. In short, opening a LOT of new sonic possibilities.

The LFO section is at the bottom of the screen and has a bunch of controls described in detail below.

Controls

- **Parameter Selection Box** - Click the parameter's name or place holder to open the menu and see all available parameters. If no parameter is selected this will be empty. *Not all controls can be learned.*
- **Wave Control** - Select between Sine, Square, Triangle, Sawtooth, or Random waves.
- **Direction** - The direction in which the LFO goes. Switch between a forward (or positive) oscillation (+), or the signal going from the current selected point to the depth point (or the point on the selected parameter knobs where the depth knob is pointing). Backward (-) or negative oscillation, where the signal starts where the current parameter's knob is set and then goes back as far as the depth knob is set. Finally there is bipolar (+/-) oscillation, where the signal goes from the current knob position to a point above, then below the current value depending on the depth knob.
- **Depth** - How far the oscillator's value goes from the current knob position. This goes from 0.0 or 0% to 1.0 or 100% depth.
- **Rate** - How fast the oscillator goes (from 0.0Hz - 100Hz) when out of sync.
- **Sync** - Sync the LFO to the BPM's value, giving you values from 1/64 notes to 4 Bars.

Section 4.2 - Advanced LFO modulation tips

When setting up your LFO, you might want to try these suggestions.

If you've never used an LFO before, first get a feel for how it works. Load a Filter module and use any LPF or HPF options. Set one of your LFO Parameters to "Filter 1 Cutoff" and make sure

both Filters are Linked (Tap Link). Now, turn the Cutoff all the way down. Now that you hear the effect of the Filter, turn Depth up to 1.0 and Rate to anywhere over .1. From here you should see the effect on screen (Note some DAWs require playback for this). Next, go to the Resonance knob on the filter and turn this up. The effect should be VERY present by this point. From here, pick a new control and experiment!

Once you're familiar, try making a custom Tremolo. It's a great exercise to get your bearings and see what to try. To accomplish this, load synDynamics and select the Gate mode. Adjust Threshold to where it won't engage (0dB or above). Next, assign the Makeupgain to your LFO 1 or LFO 2 parameter and you now have a Tremolo with custom depth, wave, and movement control.

Next, go a bit more in depth, try a Formant Filter option with a higher Resonance and Gain. Assign the Filter 1 Cutoff once again to the LFO and notice the voice like qualities given to your signal. For an even deeper effect, unlink the Filters and use the second LFO to control the Filter 2 Cutoff, this time with a different Formant mode.

Try these other controls for some interesting sounds:

- bucketDelay Pan controls for moving delays outside the normal ping pong
- variPitch Pitch control for warble sounds with LoFi signals
- Use white noise and a Filter with an LFO on the Cutoff for a Floyd(esque) inspired Pad/Helicopter

Section 5 - The Modules

Section 5.1 - syncDynamics (Dynamics)

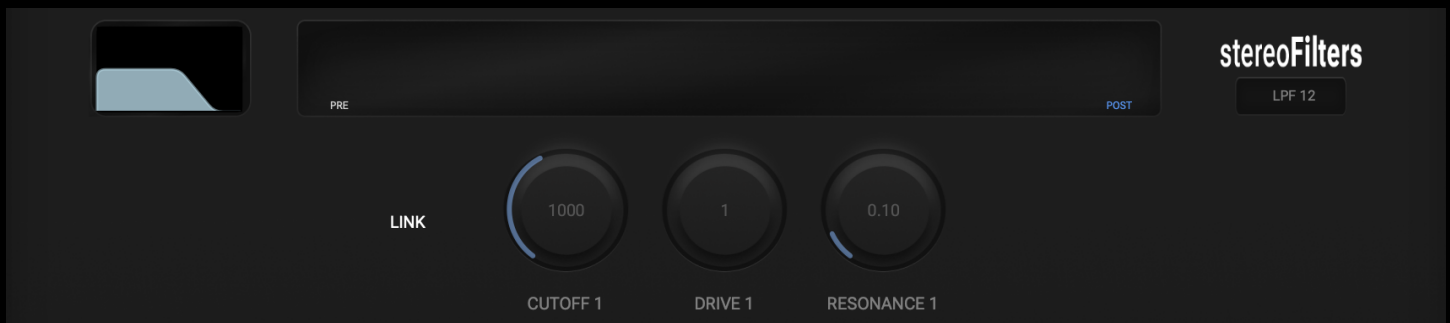


syncDynamics Multimode dynamic FX with BPM sync attack/release (Noise Gate, Expander, Compressor, Limiter).

Controls:

- Attack - Speed at which dynamic effect begins to take effect.
- Release - Speed at which dynamic effect stops affecting the signal.
- Threshold - Level which activates the dynamic effect.
- Ratio - How much gain reduction is applied.
- Makeup - Additional gain to boost your processed signal.

Section 5.2 - stereoFilter (Filter)



stereoFilter Stereo filter with link or individual channel controls (LPF12, HPF12, BPF12, LPF24, HPF24, BPF24, Notch, Formant)

Controls:

- Cutoff 1 / 2 - Frequency filter begins to effect.
- Drive 1 / 2 - Analog drive for LPF and HPF options. Digital gain for all other modes.
- Resonance 1 / 2 - Control of how sharp or narrow the peak response of the filter will react around the cutoff frequency.
- Link - When engaged, both filters will listen to filter 1 controls. When off, you have control of both filters. Filters are currently only offered in parallel (Left/Right).

Section 5.3 - EQuator (Equalizer, EQ)



EQuator Full high quality EQ module (3 Parametric Bands, High/Low Shelf, HPF/LPF) with L/R or link control.

Controls:

- High Pass Hz: Filters out low-frequency sounds below a specific cutoff point.
- Lowshelf Hz: Adjusts bass frequencies.
- LowShelf dB: Controls the strength of the bass adjustment.
- Low Freq: Filters out higher frequencies.
- Low Q: Controls the width of the filtered frequencies.
- Low Gain: Adjusts the strength of the bass adjustment.
- Mid Freq: Sets the center frequency for adjusting midrange sounds.
- Mid Q: Controls the width of the filtered midrange frequencies.
- Mid Gain: Adjusts the strength of the midrange adjustment.
- High Freq: Filters out lower frequencies above a specific cutoff point.
- High Q: Controls the width of the filtered higher frequencies.
- High Gain: Adjusts the strength of the higher frequency adjustment.
- Highshelf Hz: Adjusts higher frequencies.
- Highshelf dB: Controls the strength of the higher frequency adjustment.
- Lowpass Hz: Filters out higher frequencies, allowing lower frequencies to pass through.

Section 5.4 - variMod (Modulation)



variMod Multimode modulation FX with stereo offset (Chorus, Flanger, Vibrato, Phaser, Tremolo, Auto Pan)

Controls:

- Rate: Adjusts the speed or frequency of the modulation effect.
- Mix: Controls the balance between the original signal and the modulated signal.
- Depth: Determines the intensity or strength of the modulation effect.
- Feedback: Controls the amount of the modulated signal that is fed back into the modulation process for Phaser and Flanger modes.
- Volume: Adjusts the lowest level of the Tremolo mode.
- Pan: Sets the starting position of the signal in the stereo field.

- Offset: Shifts the right signal to create a wider stereo image.

Section 5.5 - frostVerb (Reverb)

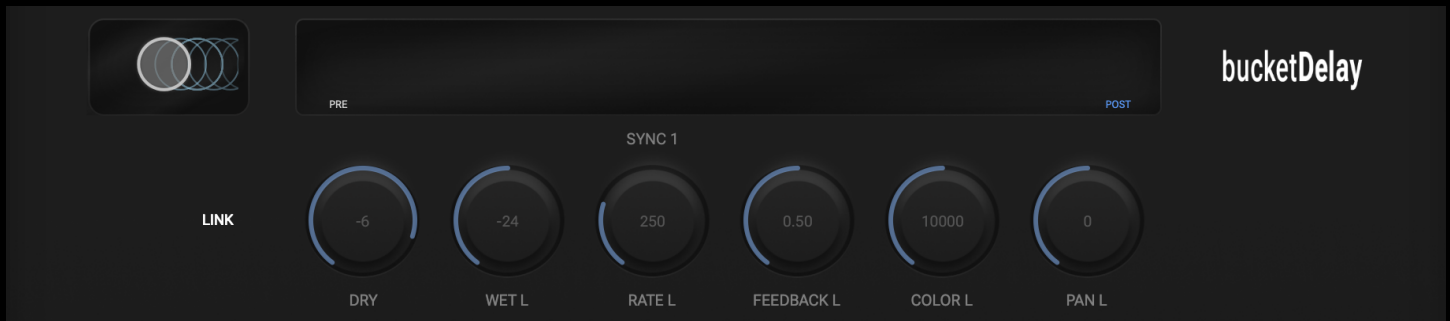


frostReverb Stereo Algorithmic Reverb with freeze control.

Controls:

- Dry: Adjusts the level of the original, unprocessed audio signal.
- Wet: Controls the level of the reverberated signal.
- Width: Adjusts the stereo width or spatial spread of the reverb effect.
- Size: Controls the perceived size or length of the reverberation.
- Damp: Adjusts the rate at which high frequencies decay in the reverb tail.
- Color: Controls the filter cutoff for the full signal, this adjusts tonal character or timbre of the reverberation and dry signal. To affect just the reverb use the slot dry/wet.
- Freeze: When engaged the signal will loop infinitely into the reverb!

Section 5.6 - bucketDelay (Delay)



bucketDelay Stereo Digital Delay with individual channel control.

Controls:

- Dry: Adjusts the level of the original, unprocessed audio signal.
- Wet L / R: Controls the level of the delayed signal in the left and right channels respectively.
- Rate L / R: Adjusts the delay time or speed for the left and right channels independently.

- Feedback L / R: Controls the amount of delayed signal that is fed back into the delay effect for the left and right channels respectively.
- Color L / R: Adjusts the tonal character or timbre of the delayed signal in the left and right channels respectively.
- Pan L / R: Sets the position of the delayed signal in the stereo field for the left and right channels respectively.
- Link: Synchronizes or links the settings of the left and right channels together.
- Sync 1 / 2: Allows you to synchronize the delay time to a specific musical division or tempo, such as 1/4 note or 1/8 note.

Section 5.7 - variPitch (Pitch)



variPitch Stereo Pitch Shifter with 3X Modes (Doublor, Harmonizer, Full Control)

Controls:

- Dry: Adjusts the level of the original, unprocessed audio signal.
- Wet L / R: Controls the level of the pitch-shifted signal in the left and right channels respectively.
- Pitch L / R: Adjusts the pitch or tuning of the audio signal in the left and right channels independently.
- msDelay: Sets the delay time in milliseconds for the pitch-shifted signal.
- Fade L / R: Controls the fade-in and fade-out time for the pitch-shifted signal in the left and right channels respectively.
- Window L / R: Adjusts the window size or duration for the pitch-shifting algorithm in the left and right channels respectively.

Section 5.8 - powerPhase (Utility)



powerPhase Multimode Saturation (Hard Clip, Tahn, Asymptotic, Bit Crusher, Power Tube, Preamp Tube, Transistor, Dead Battery, Cassette), Utility Gain In/Out, Mono Maker, Channel msDelay, & Phase inverter.

Controls:

- Mono: Mixes the audio signal to mono, collapsing the stereo image.
- Phase Invert (∅): Inverts the phase of the audio signal.
- Pan: Sets the position of the audio signal in the stereo field.
- msDelay: Sets the delay time in milliseconds for the audio signal.
- Input: Adjusts the input level or gain of the audio signal.
- Output: Adjusts the output level or gain of the audio signal.
- Saturation (On/Off): Enables or disables saturation, which adds harmonic distortion to the audio signal. This includes the Distortion and Bitcrusher modes.
- Crush: Applies a bitcrusher effect, reducing the bit depth of the audio signal.
- Downsample: Applies a downsampling effect, reducing the sample rate of the audio signal.

Section 6 - Troubleshooting

Section 6.1 - I can't launch stand-alone.

Try deleting the file below and launching without your audio interface connected. This will reset the app to its default state.

Section 6.2 - I can't hear signal.

If you're using stand-alone, make sure to unmute your signal with the option in the upper right on initial launch. Next, click the cog wheel to enter setting and select your device. *If your device is selected and no audio is heard, in this case re-select your audio device and it's settings, then close the menu to see if this helps.*

Check your meters and make sure you see signals on screen. If you don't make sure an FX is inserted and powered on via the power button at the bottom of the slot.

Next, try using the Global and Chain Dry/Wet sliders to see if it's a result of your chosen settings.

Finally, if you are in a DAW, bypass sumFX and see if the signal is still gone, if so, it might be related to your DAW settings and maybe sumFX isn't the cause.

Section 6.3 - I can't find sumFX in my DAW.

Depending on your DAW, plug-ins can be *looked for* in different locations. By default, we put your plug-ins at the locations below. Make sure these appear in their folder, then open your DAW and make sure this folder is added to your Plug-in folder options. *These steps vary per-DAW, but it's always covered in the DAW user manual.*

Mac:

Mac HD -> Library -> Audio -> Plug-ins -> VST3

Mac HD -> Library -> Audio -> Plug-ins -> Components

Windows:

System Drive (C:/) -> Program Files -> Common Files -> VST 3

**iOS AUv3 are not able to be managed by users in this way.*

If you've checked this and everything appears to be selected and available, try resetting the DAWs plug-in list, by rescanning for plug-ins or deleting their plug-in cache. This is most handy for Logic Pro X and Ableton Live. Below are links to their support FAQs on how to do this.

<https://support.apple.com/en-us/HT201199>

<https://help.ableton.com/hc/en-us/articles/209070609-How-to-reset-Live->

From here, if you still don't see your plug-ins contact our team with the support link at the bottom of this manual.

If you see your plug-in Black Listed, try resetting this list, but report this to our team asap to ensure we check it out.

Section 6.4 - My system is running out of space, where do I find my presets to back up?

Presets are stored in the locations below. On iOS, these files must exist in this area to load properly. If you do not use Presets, you can delete them without repercussion, the app does not require them to operate normally.

Section 7 - Thank you!

Wait, this wasn't in the T.O.C?! How do I get here....

Just kidding, but wow you made it all the way down here? Excellent work reading the manual.

On behalf of all Technical Support Agents, Product Testers, Product Managers, and Developers, THANK YOU for actually reading the manual for assistance as we're sure it was not easy to bit the bullet and ask for help. We appreciate you took the time and really put in the work.

As always. We appreciate all our user support. This manual was a blast to write and we'd love to hear your feedback. 🙌

Support Email: contact@oscaudio.com

Your OSC Audio Team