

PSP eFeMerizer

PSP eFeMerizer (Frequency Modulation Engine) is a modular frequency modulator consisting of four operators. Each operator is independently configurable, resulting in unprecedented sound design flexibility.



General jacks and controls

Transpose - sets up the overall transposition for all operands in reference to the provided Pitch CV for each of them. The Transpose can be set to operate in quantized semitones (Q mode of the switch) or smoothly (S mode of the switch).

Bend (monophonic jack) - controls the overall pitch bend. The range of the pitch bend is adjustable with the trim pot underneath the jack.

GATE SYNC 1..4 (polyphonic jack) - engages each operators' synchronization for a given polyphonic SYNC CV. Attaching a proper gate signal to this jack is necessary for proper operation of operators' wave scopes.

Operators' jacks and controls

ON button - enables or disables the given operator.

Pitch (polyphonic CV Jack) - controls the pitch of the operator. The trim pot underneath sets the scaling of the pitch CV. When this jack is not connected the operator works with the constant frequency set up by the Freq-Shift knob.

Freq-Div - sets the frequency ratio between the provided pitch and the operator. For example, a ratio of 1:2 indicates that the frequency of the operator is an octave higher than the provided pitch. The switch underneath the knob switches between preset integer dividers and multipliers (Q) and smooth set values (S).

Freq-Shift - sets up the frequency shift in reference to the pitch of the operator. Freq-Shift directly controls the frequency of the operator when the Pitch jack is disconnected and the operator can be used as an LFO source.

Waveform (knob and buttons) - select the type of the operator's waveform. There are 63 waveforms of various types to choose from. The basic sinusoidal waveform is repeated as W1 of the W1 to W8 group.

Waveform Display - shows the single cycle of a select waveform (not applicable to random signals and noise). The display is off when the operator is disabled.

Bias trim pot - controls the amount of bias for the operator. This can be a useful tool to fine-tune the timbre of complex modulated waveforms or to adjust the DC of the resulting waveform.

Phase trim pot - adjusts the initial phase of the operator's waveform.

FM (polyphonic jack) - together with the trimpot underneath controls the amount of frequency modulation of the operator. Keep in mind that we use the term 'frequency modulation' here similarly to other synthesisers' designers. The technique used under the hood in most FM synthesisers is actually phase modulation. To achieve frequency modulation directly, the input of the pitch jack should be modulated which in general make sense only in instances with low frequency modulation.

Operator's Output Display - display the operator's output waveform before all output CV and trim pots.

Operator Description Box - contains a user's text describing the operator for example Carrier1, Modulator2.

CV 1 (polyphonic input) - together with the trimpot underneath controls the amount of the signal on the Out 1 waveform output.

Out 1 (polyphonic output) - is the first waveform output of the operator controlled by the trimpot underneath and CV 1 control voltage.

CV 2 (monophonic input) - together with the trimpot underneath controls the amount of

the signal on the Out 2 waveform output.

Out 2 (polyphonic output) - is the first waveform output of the operator controlled by the trimpot underneath and CV 2 control voltage.

If you have any questions about any of our modules, please visit our website <http://www.PSPAudioware.com> where you can find the latest product information, free software updates, online support forum and answers to the most frequently asked questions. You can also contact us by e-mail: support@PSPAudioware.com. We will gladly answer all of your questions.

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