



# GAMMA WAVE SOURCE

## Effects

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The available effects are created using 8 bit mathematics, the result is a lo-fidelity and edgy sound. The effects are:

- LPF** - Digital low pass filter, mellows out tone
- HPF** - Digital high pass filter, removes lows for brighter tone
- Sharpen** - Similar to HPF, but more aggressive
- Bit Depth** - Reduces vertical fidelity of signal
- Bit Flip** - Collapses signal in on itself, adds harmonics
- Sample Rate** - Reduces horizontal fidelity of signal
- Sample Kill** - Kills samples at a rate set by Para knob.
- Sample Polarity** - Inverts the signal at a rate set by Para knob
- A+B** - Adds the OSC1 and OSC2 wave tables and outputs
- A-B** - Subtracts the OSC1 and OSC2 wave tables and outputs

Thank you for purchasing the WMD Gamma Wave Source. This dual VCO took ten months of development to produce a new palette of tonal colors. We know you will enjoy the WMD take on the VCO, to ensure satisfaction, please read the manual for proper operation.

### Organization

The Gamma Wave Source has a single 1V/Oct input, and two outputs. The relative pitch can be controlled per section by the respective knob. Each section's WaveTable can be controlled with its WT CV input and attenuation knob.

The effects section is controlled by the FX Select knob, pushing its button will change the column that is being altered. FX are disabled when there is no LED lit.

When routing effects for example, if AB|BA is selected, OSC1 runs through FX A and then B, OSC2 runs through FX B and then A. Four effects processors are active so that the oscillators will not interfere with eachother.

The effects are controlled per OSC channel by the FX Para knob. The key parameter for each effect can be altered by twisting this knob. This can be CV controlled with the Para CV input and attenuation knob. To activate CV control for the OSC channel, push the WT select knob and the CV LED will light.

### Routing

The routing section controls the effects selection of each OSC section. The left column is for OSC1, the right for OSC2. When no LED is lit, all FX are bypassed. When AB or BA is selected, the OSC section will run through both effects sections.

CycA and CycB cycle through the effects, the speed is controlled by the FX Para knob, the FX Parameter can be controlled with the CV input.

RndA and RndB select a random effect, the speed is set by the FX Para knob.

**IMPORTANT:** When cascading FX, the first FX setting is modified for cascading ONLY in the top routing setting (A|B). Its Para setting stays the same when you then change to a cascaded setting. This allows you to set the wave to taste, then modify it again with another effects section without losing your wave when going through a non cascaded section.

All effects have their key parameter controlled by the FX Para knob and/or the Para CV if active. Best way to become familiar with these effects and their sound is to play!

The effects expand the tonal possibilities of the wave tables to infinity. Control Para CV with an LFO, envelope generator or step sequencer for even more tonal colors.

### Installation & Calibration

The ribbon cable for power needs to be attached to the 10pin power header with the red stripe pointing to the "-12" marking. The 16 pin side of the cable needs to attach to the Doepfer rack with the red stripe pointing down.

The modules are calibrated at the factory, but may require slight adjustments to adapt to your MIDI-CV converter or CV keyboard and power supply. The steps below are for full calibration.

To enter calibration mode, push and hold the FX Select knob while powering on. "cA" will appear on the upper display. Monitor the audio on OSC1. Turn the FX Select knob CW until the top LED is lit.

Start with the lower Trim Pot fully CCW. Set input on 1V/Oct to C#0 (~.166V). Turn the lower Trim Pot until C#0 is heard and/or "01" is seen on the upper display. Turn just a little past the transition point.

Then set the CV source to B4 (~5V). Turn The upper trim pot until B4 is heard and/or the display reads "3B".

Check calibration by playing each note from C0 to B4, if any note is shaky, repeat adjustments until all notes play properly.

Turning the FX Select knob will show the input parameters for the module on the screen. In order going down: 1V/Oct, Pitch 1, Pitch 2, FX Para 1, FX Para 2, WT CV 1, WT CV 2, Para CV, **Fine Tune**.

Set The FX select knob CycA/CycB in Calibration Mode. Turn the FX Para 1 knob to fine tune the oscillator. Use a tuner or other reference and adjust FX Para 1 until set.

### Warranty

All WMD products are warranted against all manufacturer defects for 1 year from date of purchase. After which time, WMD will fix any problems but reserves the right to charge for labor, parts and shipping. Please contact WMD immediately if you believe your module is malfunctioning.

