



synthesis technology
MOTM analog modular synthesizers

MOTM-1800 Looping ADSR EG Frac Rack Edition

Controls

ATTACK: 480 μ s to 28sec Attack time
DECAY: 1ms to 20sec Decay time
SUSTAIN: 0 to +5V Sustain level
RELEASE: 1ms to 28sec Release time
Mode switch: sets module mode
LED: varies brightness with output voltage level
MANUAL GATE: press this to start an envelope

Jacks

GATE: positive gate (+2.5V threshold) input
TRIGGER: retriggers the Attack/Decay portion
OUT +: 0 to +5V envelope out
OUT -: 0 to -5V envelope out



Connecting power to the module

The power cable is compatible with Blacet, PAiA and other Frac Rack power supplies. The module requires +15VDC at 25ma. The power cord has a red wire (-15V), 2 black wires (ground) and a white wire (+15V). Be absolutely sure the white wire is on the +15V pin (it is clearly marked on the pc board) and the red wire is on the -15V pin (near the ribbon cable). **Note:** the color scheme of this power cord may not correspond to the colors used by other manufacturers.

Using the MOTM-1800

The module generates a traditional ADSR envelope at the 2 output jacks. When GATE goes high (exceeds +2.5V), the Attack/Decay portion completes to the Sustain level. The envelope stays at the Sustain level until the GATE signal goes low, then it Releases to 0V. The TRIGGER signal is optional: if your MIDI-CV controller can output a Trigger pulse (1ms-10ms nominal width), the envelope will re-Attack/Decay when a Trigger pulse is present. Pressing the red Manual Gate pushbutton will also start the ADSR cycle.

The MOTM-1800 has 2 other modes: Looping and Burst. In the Loop mode, the module acts like a LFO: the ADS cycle repeats forever. Note that the Release control has no effect in the Looping mode. For maximum output voltage swing in this mode, set Sustain to the '0' tick. The fastest the Loop will run is when Attack and Decay are both 0 and Sustain is at 0 (Looping will stop if Sustain is set over the '6' tick). This will be about 620Hz. If Looping does not begin when you flip the switch, press and release the Manual Gate.

In Burst mode, the envelope will Loop as long as Gate is high. When Gate goes low, the looping stops and the envelope does a Release at the rate set by the Release control. You can also Burst with the Manual Gate pushbutton.