

Panther – ES79 Serge Ring Modulator

This module is a variation on the 1973 Classic Serge R6 Ring Modulator.

Features include the following:-

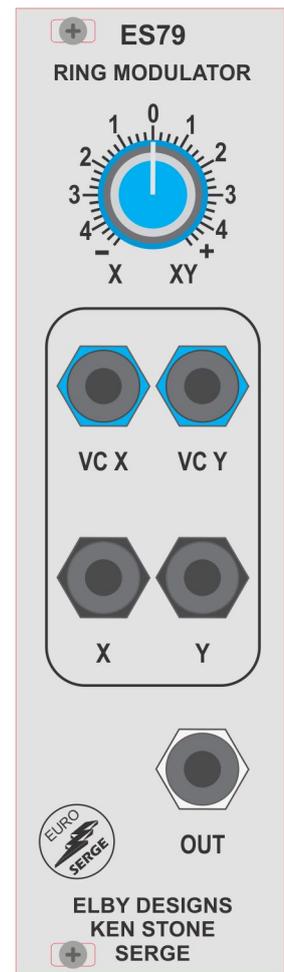
- A VERY CLEAN SOUND down to very low signal levels (unlike conventional modulators where distortion increases at low levels) .
- 80dB of CARRIER SIGNAL REJECTION.
- INAUDIBLE NOISE OUTPUT .
- NO SQUELCH CIRCUIT IS REQUIRED due to the low noise characteristics, therefore annoying signal dropouts and "pumping" effects are totally absent.
- INTERNAL WAVESHAPING OF CARRIER to add to modulation effects

The sum total of these design improvements is a Ring Modulator capable of treating the most subtle acoustical signals, without the colouration typically associated with even the best previously available ring modulators .

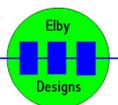
The versatility of the Serge Ring Modulator is enhanced by the added feature of voltage and manual control of the entire spectrum of modulation possible : from zero modulation (i .e . the original, un-treated input signal) through amplitude modulation to full ring modulation. This allows many shadings of effect, manual or automatic with voltage controls . The ability to control the Carrier level manually and through voltage control allows the output to be level controlled, as well.

Through the use of an internal signal processor for the Carrier, additional effects can be produced by waveform modification of the carrier signal . When the module is set to full Ring Modulation from the lower knob or voltage control, the output signal contains the sum and difference frequencies of the Signal Input and the Carrier Input . If both signals are pure sine waves (only one frequency component), the output will be a composite signal consisting two frequency components : the sum and the difference frequency of the Signal and Carrier . If the Carrier level is increased beyond the mid-position, then the carrier waveform will become slightly rounded, and new frequency components will be produced .

Each of these new components will also modulate with the Signal input to produce a sum and difference frequency, and the output signal will become richer in harmonics. This effect. is unique to the Serge Ring Modulator, and allows another dimension in timbral modification .



Power Consumption	+12V @ 10mA, -12V @ 10ma
Module Width	7HP
Module Depth	47mm



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