CurvOmatic FT501 Resonant LP/HP Filter Set + “Bax” ToneTipper EQ

Specs and Operating Characteristics:

Low Pass Filter
- filter slope 9dB/octave at zero resonance
- filter cutoff sweep range 160 Hz to 22kHz
- resonant peaking from 0 to +12dB

Hi Pass Filter
- filter slope 12dB/octave at zero resonance
- filter cutoff sweep range 22 Hz to 2700Hz
- resonant peaking from +3 to +15dB

“Bax” Tone Tipper EQualization Curves: see CURVES

Rear Connectors: Line input and Line output on card edge (xlr i/o on standard “500” racks)

Input Impedance
- nominal 11,000 Ohms Balanced

Max Input Level:
- +28dBu

Output Impedance:
- nominal 130 Ohms Balanced

Output Clip Level:
- +25dBm

Power Consumption:
- 75mA @ ±15Vdc 2.25 Watts

The CurvOmatic module is a versatile set of high and low pass variable resonance sweep filters combined with a very sweet sounding version of Peter J. Baxandall’s classic 1950 tone control circuit. Used in combination these sections provide a surprising amount of tone carving and shaping capability that is unlike anything you can get from standard equalizers and cutoff filters. Each section (lo pass, hi pass and tone tipper) has a switch that bypasses or removes that section. There is a “hard” bypass “BYP” that passes the module input directly to the output.

The wide sweep ranges for the hi and lo pass filters overlap from 160Hz to 2,700Hz. The resonance controls vary from 3dB to 15dB of peak in the Hi Pass filter (at cutoff) and 0dB to 12dB of peak in the Low Pass filter (at cutoff). The ToneTipper EQ is a non-shelving tone control which is very organic and natural sounding. The curves are smooth and continuous across the entire spectrum, as opposed to a shelving type control that ramps up to a plateau or down to a valley at one end of the spectrum or the other.

The CurvOmatic is transformer-balanced in and out. The output is capable of driving loads as low as 300 Ohms, while the input can take very high levels without overloading. Internal operating level is very low, allowing for max boost without clipping.

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Front Panel Features and Controls - top down:

Lo Pass Filter Resonance pot: provides continuous control over resonance from none (fully anti-clockwise) to 12dB of peaking at cutoff (fully clockwise).

Lo Pass Filter section in/out toggle switch: bypasses or inserts the filter into the signal path.

Lo Pass Filter Frequency sweep pot: sets the filter cutoff anywhere from 160Hz (fully anti-clockwise) to 22kHz (fully clockwise). With resonance turned fully anti-clockwise (no resonance) the filter slope is 12dB /per octave. With resonance added, the cutoff slope above the resonant peak becomes steeper as resonance is increased.

Hi Pass Filter Resonance pot: provides continuous control over resonance from 3dB (fully anti-clockwise) to 15dB of peaking at cutoff (fully clockwise).

Hi Pass Filter section in/out toggle switch: bypasses or inserts the filter into the signal path.

Hi Pass Filter Frequency sweep pot: sets the filter cutoff anywhere from 22Hz (fully anti-clockwise) to 2700Hz (fully clockwise). With resonance turned fully anti-clockwise the filter slope is 12dB /per octave. With resonance added, the cutoff slope below the resonant peak becomes steeper as resonance is increased.

Tone Tipper in/out toggle switch: activates the tip equalization control.

Tone Tipper control, when active, is roughly flat in it’s center 12 O’Clock position... meaning that as soon as this control is active it is doing something... and as it’s turned clockwise from center it will tip high frequencies up while tipping low frequencies down. Conversely, as the tip control is turned anti-clockwise from center will tip low frequencies up while tipping high frequencies down. This done in a smooth organic sounding curve... see the CURVES

All five rotary controls are continuously adjustable for fine tuning.

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