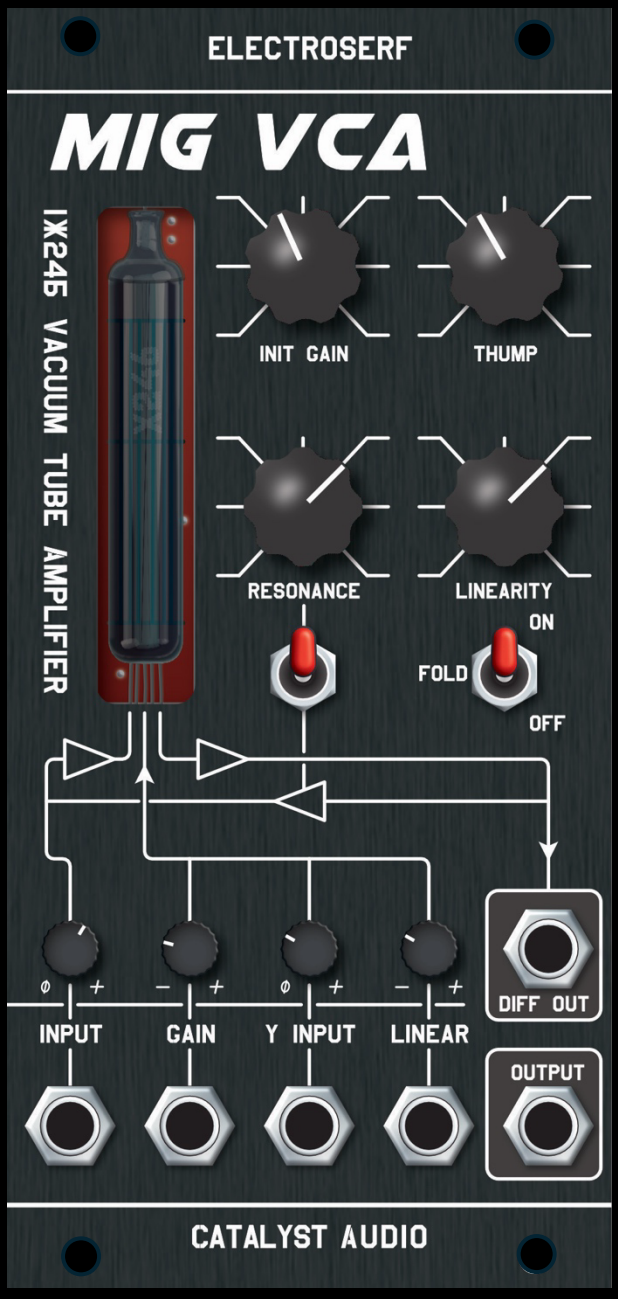
CATALYST AUDIO / ELECTROSERF

MIG VCA

VACUUM TUBE AMPLIFIER

Mig VCA Manual V1.0 6.10.26



[01 DESCRIPTION]

The Catalyst Audio / Electroserf Mig VCA is fully analog voltage controlled amplifier built around the 1J24b subminiature vacuum tube. It can perform all the functions of a typical VCA with the addition of extra controls and character that are only available from vacuum tubes.

[02 SPECIFICATIONS]

HP	12
POWER DRAW (+RAIL)	24 mA
POWER DRAW (-RAIL)	37 mA
MODULE DEPTH	approx. 25mm

[03 MAIN CONTROLS]

>> INIT GAIN

The Initial Gain controls the amplification level of the tube.

>> THUMP

The output of a tube always has a significant DC voltage component to the signal. The thump pot controls a very simple dc blocking filter that can help smooth out any “thumps” introduced by this offset. (Or you can leave it fully off if you like the additional percussive element).

>> RESONANCE

Feeds some of the VCA output back into the vacuum tube to introduce additional nonlinearity and distortion to the signal.

>> LINEARITY

Controls the biasing of the tube. CCW under biases the tube overemphasizing high frequency content and altering the waveshape. Turning the pot CW will increase the bias to the tube and provide a properly biased linear(ish) output at around the 12:00 position. Pushing the pot past this will overbias the tube and begin to smooth and saturate the output signal.

>> RESONANCE SWITCH

Controls the frequency of the resonance.

>> FOLD SWITCH

Adds a simple amplitude controlled folding stage to the output.

[04 CV INPUTS]

The Mig VCF features 1 Audio signal input and 3 individual CV inputs.

>> INPUT

This is the main input for the signal to run through the VCA. The input is AC coupled and will not process CV signals.

>> GAIN INPUT

CV input for controlling the Gain parameter. The Gain pot sets the initial gain level and the cv attenuverter (just above the cv input jack) determines if cv is either added (clockwise) or subtracted (counterclockwise) from the initial pot setting.

>> Y INPUT

Audio input for controlling amplitude modulation. This is an additional input for controlling the vacuum tube amplification level. The Y input can be used along with the main input to create amplitude modulated effects and pseudo ringmod style sounds.

>> LINEAR INPUT

CV input for controlling the Linearity parameter. The Linearity pot sets the initial linearity level and the cv attenuverter (just above the cv input jack) determines if cv is either added (clockwise) or subtracted (counterclockwise) from the initial pot setting.

[05 OUTPUTS]

The Mig VCA features two individual outputs.

>> DIFF OUTPUT

This output takes the signal at the VCA’s main output and subtracts it from the input signal (pre tube) to give you an additional output that is literally the “difference” that the VCA is making.

>> MAIN OUTPUT

The VCA’s main output

[06 ADDITIONAL INFORMATION]

The tubes usually have a small threshold voltage before they will start to amplify. Depending on the tube in your particular unit, the gain parameter might not need to be set at full CCW to make the VCA silent. Setting the initial gain pot slightly higher will also increase the amount of gain available from the gain CV input.