

Delta VCF controls and inputs

Frequency pot:
Sets the initial cutoff or center frequency of the filter.
Big knob = finer control

FM 1:
Exponential frequency modulation input with inverting and non inverting (bipolar) attenuator. 5V control range.

1V/OCT jack:
Exponential frequency control input. Tracks three to four octaves well. Not a VCO substitute.

BP / LP mode switch:
Select between Lowpass or Bandpass filter response

IN 1:
Audio input with X2 gain attenuator. Expects +/- 5V signals.

IN 2:
Audio input with X2 gain attenuator. Expects +/- 5V signals. Normalled to IN 1 jack.

Out jack:
VCF output
Signal can (and will) exceed +/- 5V depending on input gains and Resonance control settings.



Resonance pot:
Sets the VCF resonance level. Filter will start oscillating when pot is at 4 o'clock and higher. The output waveform when oscillating is a high level sine wave with clipped tops and bottoms.

FM 2:
VCF frequency modulation with attenuator and response switch. EXP = exponential control LIN AC = AC coupled linear The output of the VCA is normalled to the input of FM 2. This results in voltage controlled depth of modulation. A wide range of effects are possible with this setup.

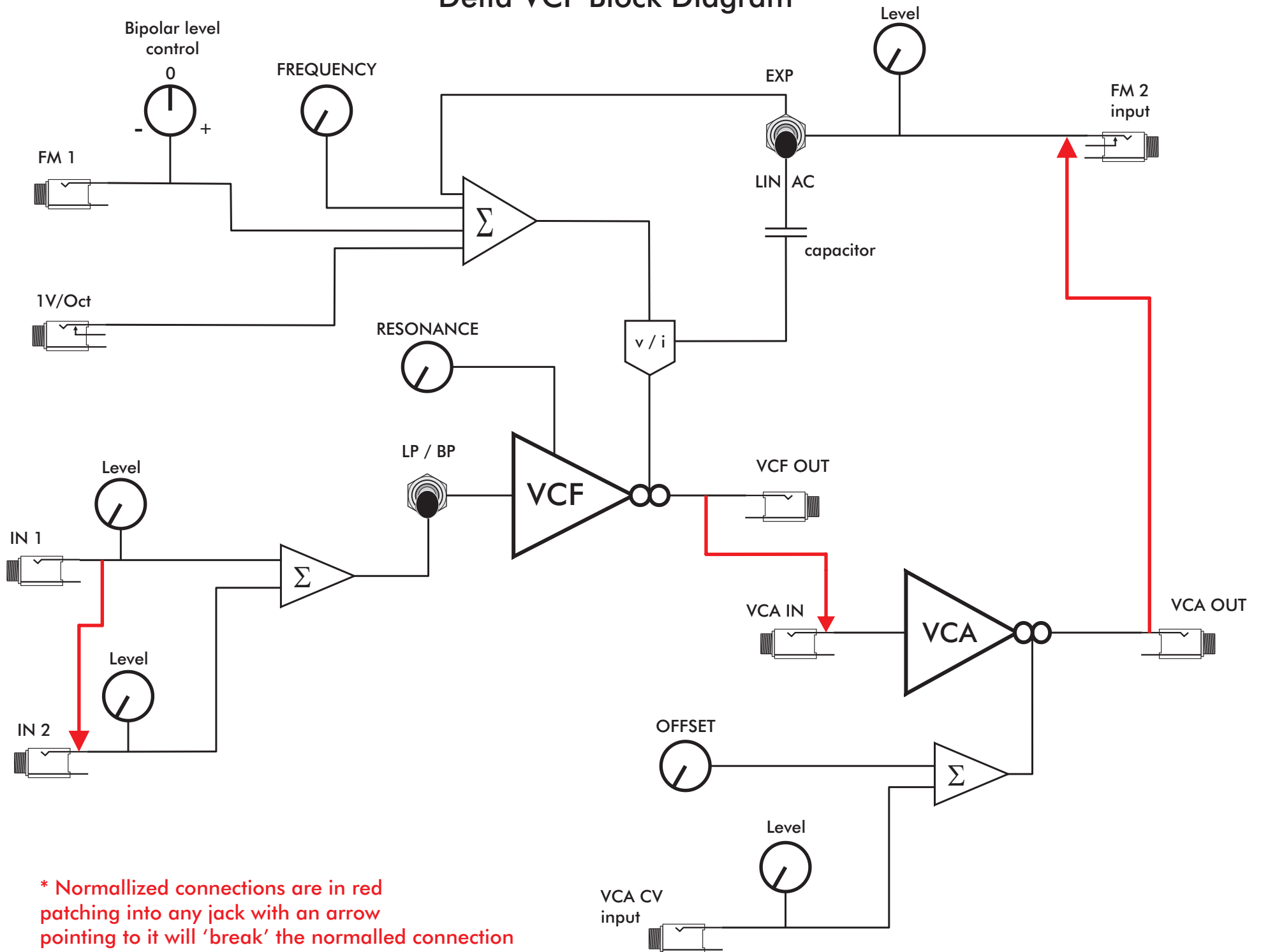
OFFSET pot:
Adds a 0-5V offset control voltage to the VCA. Full CW = unity gain Full CCW = off The CV and OFFSET pots work together to control the level of the VCA output.

VCA CV:
Input and attenuator for the VCA control signal. If OFFSET pot is turned full CCW, then 0V = off 5V = unity gain

VCA IN jack:
input to the VCA. Signal can be audio or CV. Normalled to VCF OUT jack.

VCA OUT jack:
VCA output signal

Delta VCF Block Diagram



* Normalized connections are in red patching into any jack with an arrow pointing to it will 'break' the normalled connection

Delta VCF pcb v2 2009 - Trimmer and headers

All trimmers have been correctly set before the module left my hands.
It is unlikely you will need to adjust these any time soon but
over time some of these may need to be adjusted.

4 pin MTA156 power header
Use with MOTM or Blacet type PSU

6 pin MTA100 power header
Use with Synthesizers.com PSU

VCA Control Voltage Rejection Trim:

Dummy patch the VCA IN jack or turn IN 1 and IN 2 levels controls full CCW. Apply square or pulse wave to VCA CV input and turn CV attenuator full up CW. Crank the levels on your mixer or soundcard. Adjust trimmer for least amount of tick. Now don't forget to turn your levels back down to normal listening levels!

1V/OCT Trim:

Adjusts the tracking of the VCF.
Turn Resonance full up until VCF oscillates.
Adjust Frequency control for a mid tone.
Patch keyboard CV to 1V/OCT jack.
Adjust for best tracking.
3 to 4 octaves is about the maximum tracking range so don't knock yourself out here.

CV 1 Header:

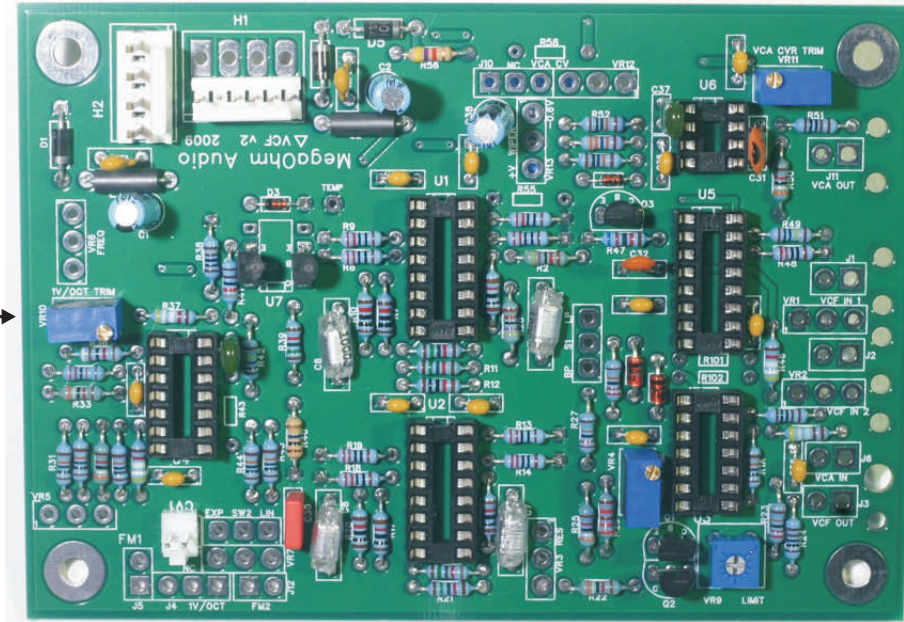
If you use a distribution scheme for you Key CV and Gate signal (or any distributed signal) you can use this header to normal a CV signal to the 1V/OCT jack. Patching into the 1V/OCT jack will 'break' this normalised connection.
Pin 1 = signal
Pin 2 = ground

Resonance Trim:

Sets the point at which oscillation starts.
Set Resonance pot to 4 o'clock.
Set Frequency pot to 2 o'clock
Mode switch = LP
Turn trimmer CW until oscillation occurs.

Output Limiter Trim:

Sets the maximum level the output can swing.
Turn Resonance up until VCF is oscillating. Observe with a scope and turn trimmer for desired peak limit level. Ranges from +/- 6V to no limiting (output will 'ride the rails' - approx +/- 13V with Limit trim turned off).



Delta VCF

Power: +15V, 0V, -15V

MOTM / Blacet power header

or

Synthesizers.com power header

Power consumption: average = +32mA / -32mA *

Panel dimensions: 4.25" x 8.75"

PCB bracket extends 5" behind panel.

*Current consumption can / will vary depending on module settings and also what modules it is patched to.

Always rate your PSU conservatively.

Good practice is to keep the PSU load at or under 60-65% of it's maximum load.

Example: 1Amp PSU - once the load gets up to 650mA think about adding an additional power supply to your system.

Email me if you have any questions:

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