



## ALM025 / MCF

### TECHNICAL SPECIFICATIONS

Power: +12V 35ma / -12V 35ma  
Size: 6HP  
Depth: 38mm

### Module Installation

With your modular synth powered **off** connect the 10 pin end of the supplied standard eurorack power connector cable to the 10 pin power connector on the rear of the module.

The red stripe on the cable should be orientated to match the text 'RED' marked on the rear of the module near the power connector (this is -12V). Connect the other 16 pin end of the cable to your eurorack bus board (Refer to your bus board documentation for the correct orientation).

You are now safe to power up your modular synth. If the module fails to power up check you have the power cable correctly orientated and have carefully read this manual.

# MCF

The 'MCF' is a compact classic analog 3 pole state variable filter featuring Low, High and Notch (or Band Pass) outputs. Direct and voltage control is provided for both filter cut off and resonance. A one volt per octave input is provided for additional control, when combined with high resonance settings, it allows the filter to function as a basic sine wave oscillator.

Partners well with the MCO to add a more smooth analog feel and cross modulation possibilities.

### V/OCT INPUT

Additional cut off frequency control input. Use for traditional key follow / pitch control when self oscillating or an additional modulation input. Tracks at roughly 2 full octaves then begins to drift.

### FREQ INPUT AND ATTENUATOR

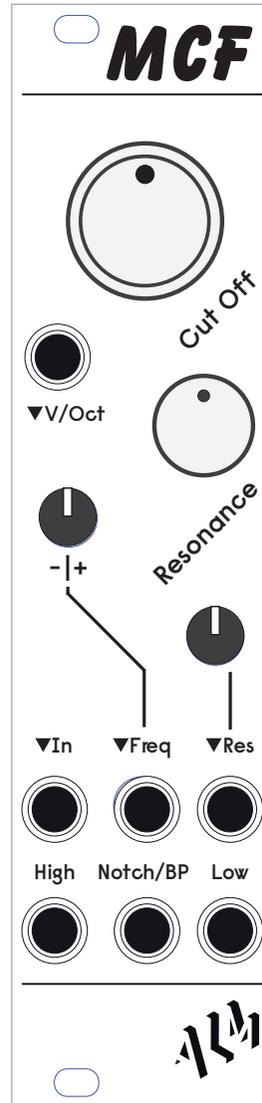
Primary control input and bipolar attenuator for the cut off parameter. Expects approx 0 - 5V. Use with LFOs and Envelopes or audio rate modulation.

Self patching an extra filter output adds additional harmonics or wave shapes if self oscillating.

### AUDIO INPUT

Input to the filter circuit for processing, designed to accept modular level audio signals.

Input sources may need to be attenuated, filter will drive from hot input levels.



### FREQUENCY CONTROLS

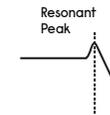
Sets the base frequency for the filter cut off. The v/oct and frequency inputs are added to this.

The main control knob sweeps across the full audio frequency range.

### RESONANCE CONTROL

Sets the level of the resonant peak at the top of the cut off frequency. Increases to self oscillation just above the one o'clock position. The Res input is added to this.

MCF may be used as a pure sine wave oscillator when no input is patched and resonance is set to full.



### RES INPUT AND ATTENUATOR

An applied voltage increases the level of resonance. Expects approx 0 - 5V. Includes a unipolar attenuator for dialing in proper amount.

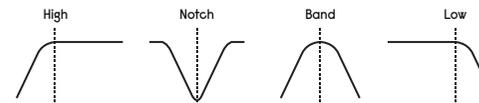
### OUTPUTS

Each filter output is 3 pole with an 18dB/oct slope.

**Low** - low pass filter output. Passes frequencies below the cut off.

**Notch/BP** - notch **or** band pass filter output. Jumper on the rear of the module selects one or the other. Passes frequencies outside (notch) or within (bp) a narrow region around cut off frequency.

**High** - high pass filter output. Passes frequencies above the cut off.



### V/OCT Tracking Calibration

Calibration is performed by carefully adjusting the trimmer on the back of the module. Apply 1V to v/oct input, and tune the self oscillating filter via front panel controls to C1. Next change the input voltage to 3V and now adjust trimmer on reverse until you get C3. You may need to go back and forth and repeat the process a couple of times for best results.

You should tracking over roughly 2 octaves. Note the module ships pre-calibrated.

### Support

Need help? Email your questions to [help@busycircuits.com](mailto:help@busycircuits.com)

For the latest news, additional info, downloads and firmware updates please visit the ALM website at <http://busycircuits.com> and follow @busycircuits on Twitter and Instagram.

### Limited Warranty

From the date of manufacture this device is guaranteed for a period of 2 years against any manufacturing or material defects. Any such defects will be repaired or replaced at the discretion of ALM. This does not apply to:

- Physical damage arising from mistreating (i.e. dropping, submerging etc).
- Damage caused by incorrect power connections.
- Overexposure to heat or direct sunlight.
- Damage caused by inappropriate or misuse.
- Use of incorrect or non official firmware

No responsibility is implied or accepted for harm to person or apparatus caused through operation of this product. By using this product you agree to these terms.