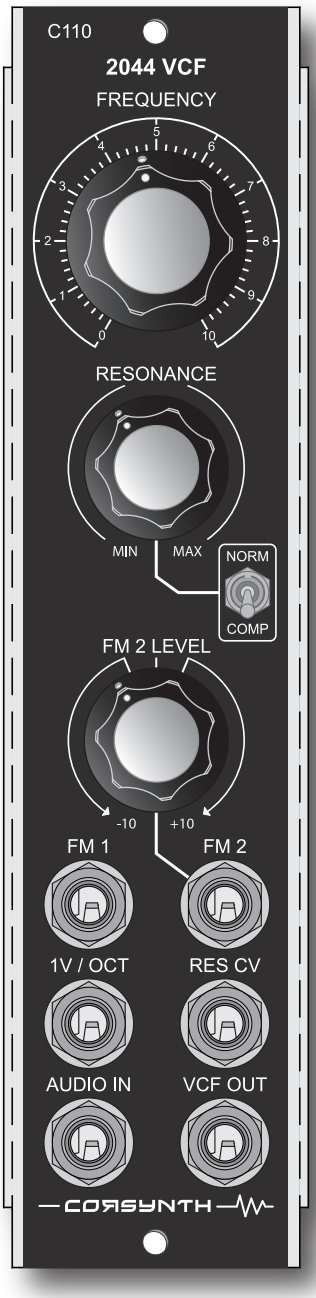
CORSYNTH

C110 2044 VCF



USER MANUAL

C110 2044 VCF

The C110 2044 VCF is a four pole low pass filter based in the classical filter SSM2044. This filter chip is responsible for the sound of some well known polysynths from the 80s like the Korg Mono / Poly , Korg Polysix , Korg Trident, PPG Wave 2.2 and 2.3 ,EMU Emulator I, Kawai K3, Sx-240 , Siel Opera 6 ....

The C110 is designed using the new reissued SSI2144 IC. It is an updated version of the original SSM2044 with lower noise, better control feedthrough but preserving all the sonic characteristics of the original design.

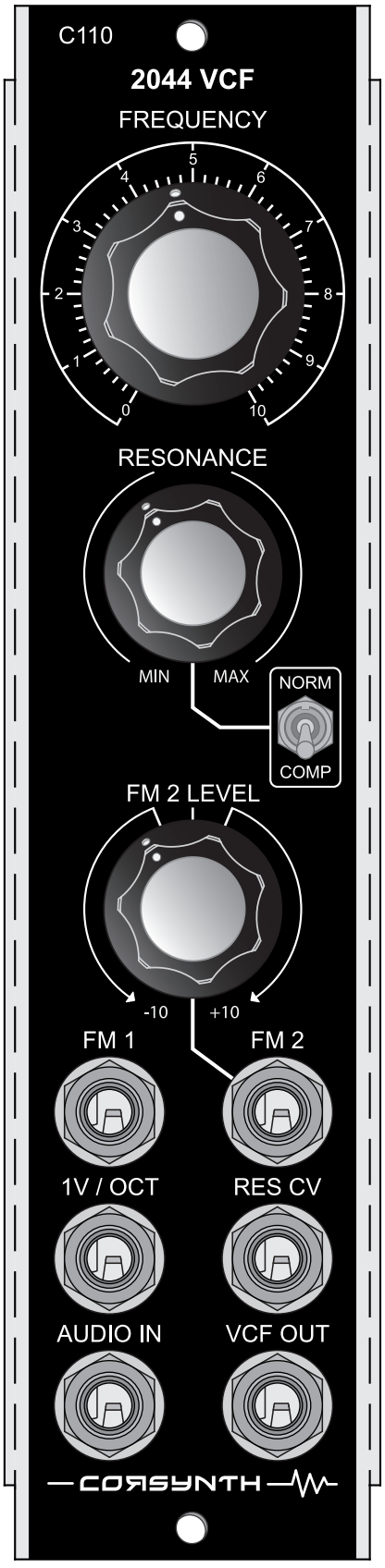
Like many filters the SSM2044 suffer from gain loss when the resonance is increased , the C110 includes an especially designed circuit co correct that. This circuit can be activated or deactivated on the front panel allowing the user to select between the traditional response and the gain compensated response.

The C110 has temperature compensated voltage control and it will oscillate at high resonances. It can be used as an oscillator over 3-4 octaves.

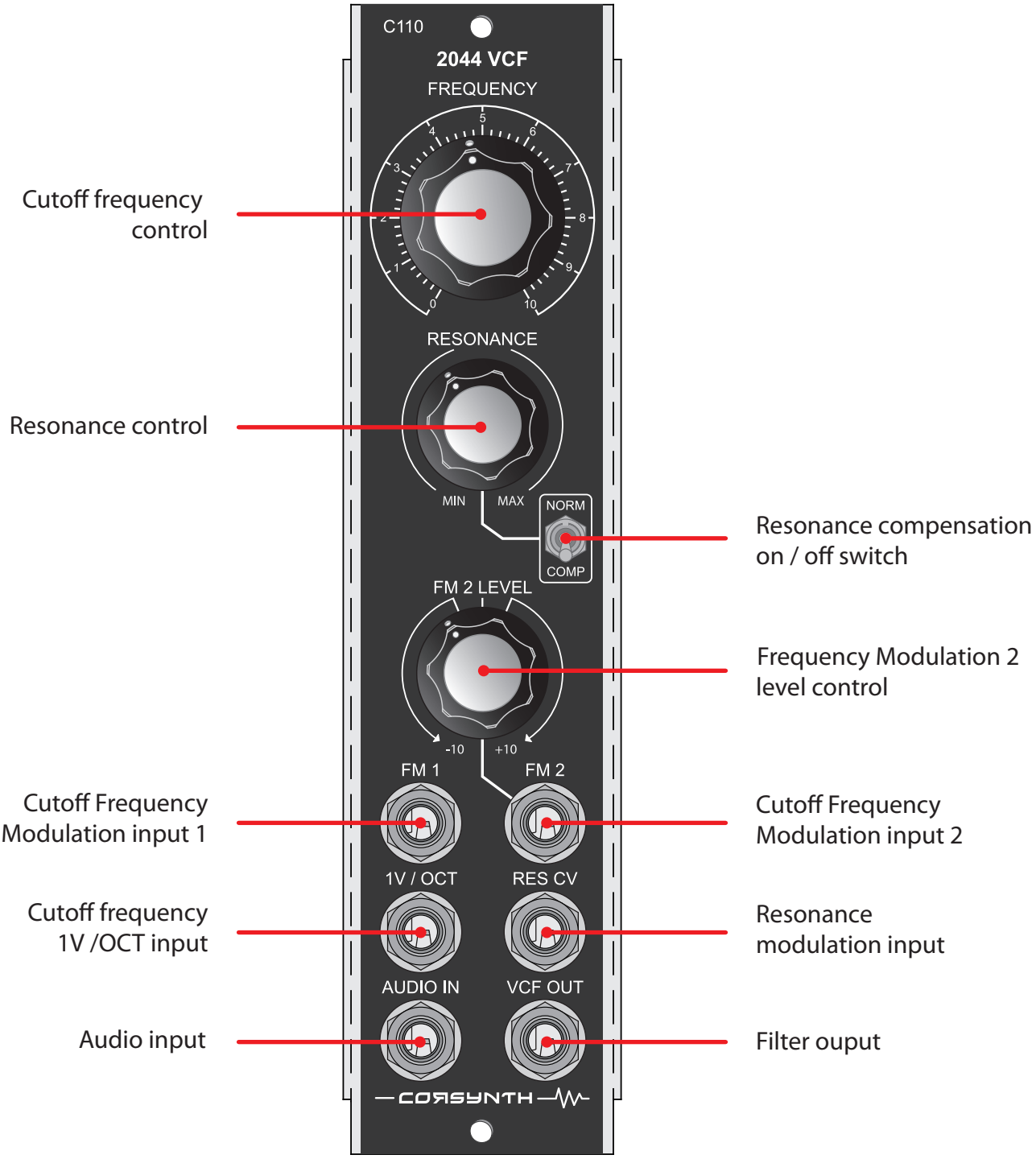
The C110 main characteristics are :

- Four pole response (24db/octave)
- Gain compensation circuit
- Three modulation inputs one with an attenuverter
- Voltage controlled resonance
- Temperature compensated
- One audio input

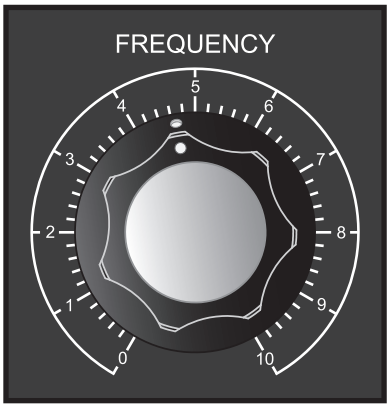
The FM2 input has a 0,66 V/Octave response expanding the modulation range to 7,5 octaves using the typical 5V envelope.



C110 2044 VCF
Front Panel Description



CONTROL DESCRIPTION



FREQUENCY

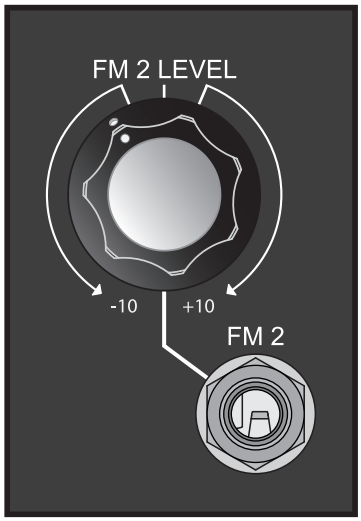
This control sets the cutoff frequency of the filter. The frequencies above cutoff frequency are attenuated at a rate of 24dB per octave. When the control is set to 10 position the filter is totally open so it doesn't have effect over the audio frequency.

RESONANCE

This control sets the resonance level. Above 9 position the filter will self-oscillate with a frequency defined by the frequency control. The generated waveform is a very pure sine wave that can be used as sound source.

RESONANCE COMPENSATION SWITCH

The original 2044 filter as many other filters suffer from gain loss when the resonance is turned up. This switch activated an especially designed circuit to compensate this gain loss. In NORM position the filter has no compensation and in the COMP position the volume loss is compensated.



FM2

Frequency modulation input. This input has 0.66V / Octave response getting this way a 7,5 octaves modulation range using a 5V envelope. The FM 2 LEVEL potentiometer sets the amount of modulation. This potentiometter is a reversible attenuator, in center position there is no modulation , to the right attenuates the input signal and to the left attenuates an inverts the input signal. The input allow positive and negative signals which together with the value set by the FREQUENCY control, the FM1 and the 1V / OCT inputs sets the final value of the cutoff frequency.

FM 1

Frequency modulation input. The input allow positive and negative signals which together with the value set by the FREQUENCY control, the FM2 and the 1V / OCT inputs sets the final value of the cutoff frequency. This input has a response of 1V / octave.

1V / OCT

Frequency modulation input. The input allow positive and negative signals which together with the value set by the FREQUENCY control, the FM1 and the FM2 inputs sets the final value of the cutoff frequency.

RES CV

Resonance modulation input. The input allow positive and negative signals which together with the value set by the RESONANCE control give the final value of the resonance.

AUDIO IN

Filter input

VCF OUT

Filter ouput

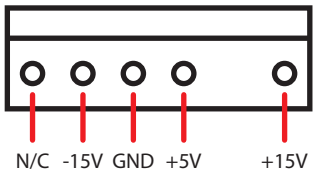
Trimmers and power connectors

IMPORTANT !!!!

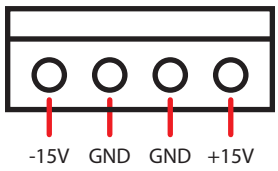
This module has two power connectors (Synthesizers.com and MOTM). Only one is needed to power the module. (Synthesizers.com or MOTM).

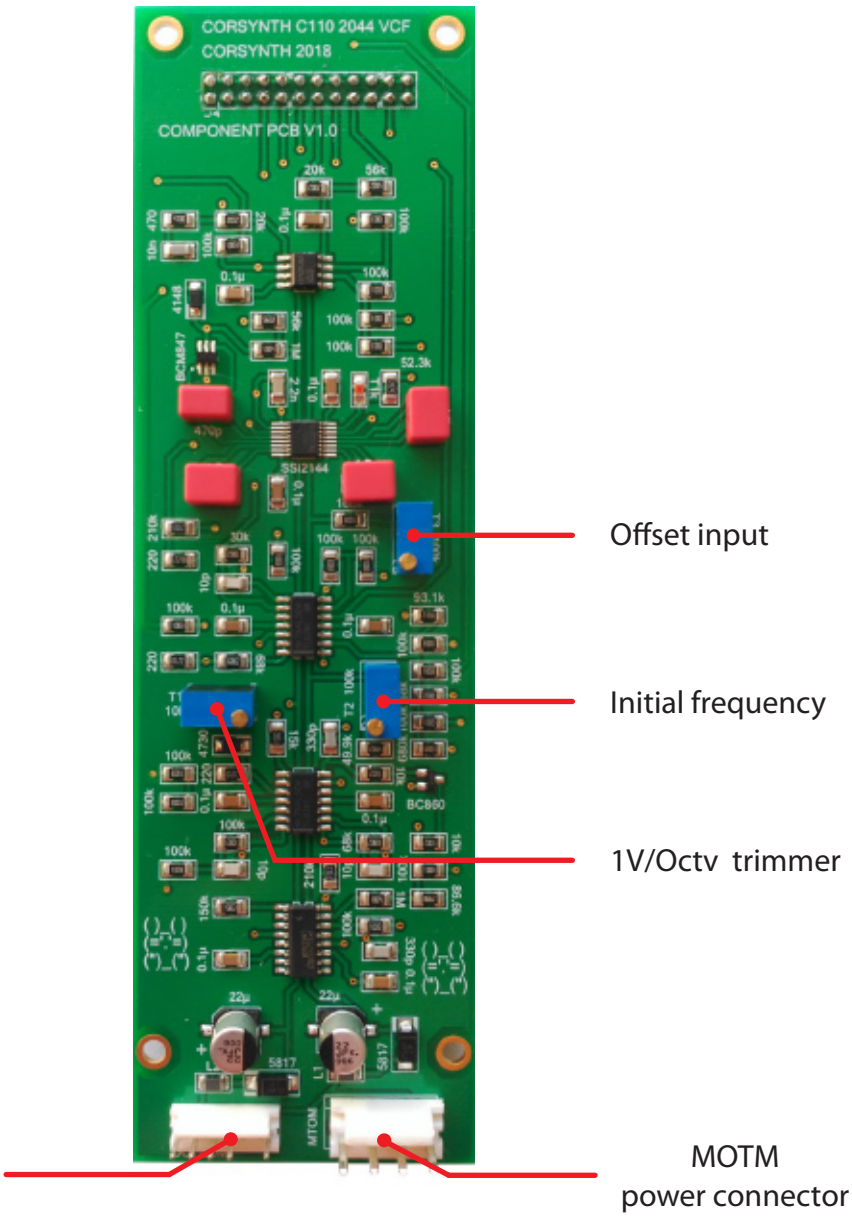
Never connect both at the same time.

Synthesizers.com



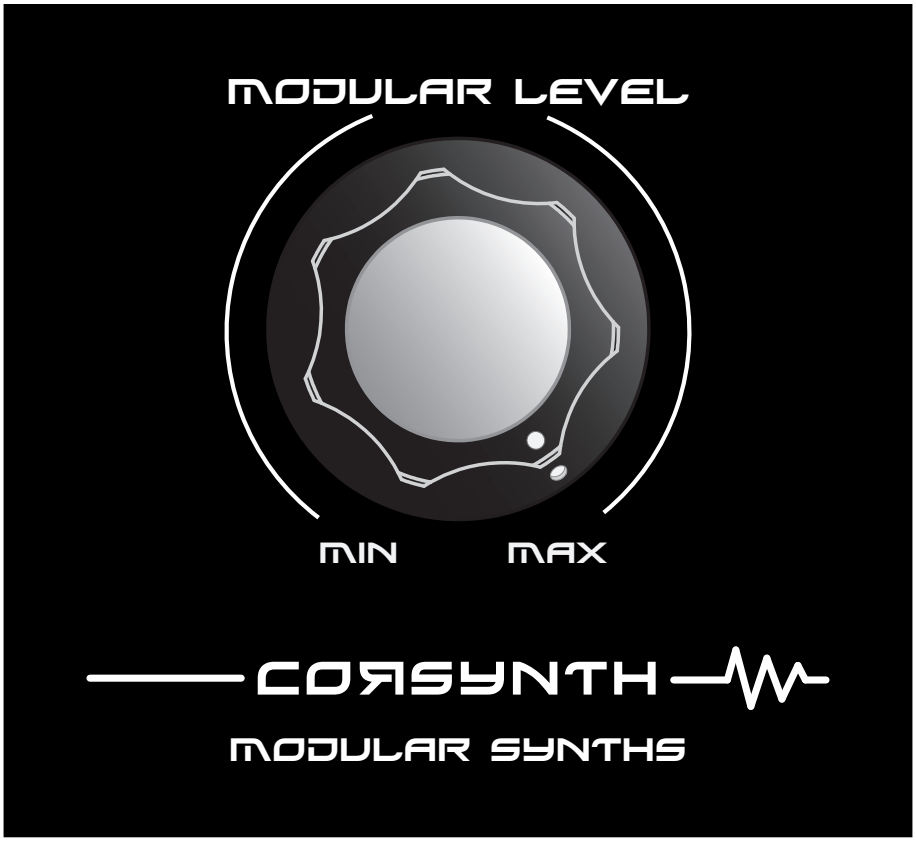
MOTM





TECHNICAL DATA

Module Format : 5U, MU format (Synthesizers.com, Moog)
Module Width : 1 MU (Moog unit)
Module Depth : 52 mm (2,05 inches)
Power : +15V@28mA , -15V@28mA
Power connectors : Synthesizers.com , MOTM (4 pin)


MODULAR LEVEL
MIN
MAX
CORSYNTH
MODULAR SYNTHS