CORSYNTH

C-104

ODYSSEY OF SOUND VCO

USER MANUAL

C104 ODYSSEY OF SOUND VCO

The C104 Odyssey of Sound VCO is a voltage controlled oscillator based in the discrete core of the ARP VCOs (2600, Odyssey…).

The oscillator has four waveforms available simultaneously (sine, triangle, saw and square with variable pulse width). The square wave pulse width goes from 10% to 90% and can be over-modulated. This feature makes possible to created sounds that are not possible in other VCOs.

In addition to the VCO, the module includes a Ring Modulator (CMOS) and a Diode Soft Clipping circuit that can be voltage controlled. The RM and the DSC have independent outputs.

VCO

- Wide frequency range from 5Hz to 40KHz.
- Perfect tracking over at least 8 octaves.
- Coarse and fine frequency controls.
- +/- one octave switch.
- Temperature compensated.
- Four waveforms available simultaneously : Sine, triangle, saw, square.
- Square wave pulse width 10%-90% allowing overmodulation.
- Hard sync input.
- Two 1V/Octv inputs.
- One exponential modulation input with level control.

Ring Modulator (RM)

- CMOS based.
- Independent ouput.
- VCO Square wave is internally connected to the Ring Modulator.

Diode Soft Clipping (DSC)

- Soft clipping level control.
- Soft clipping level can be voltage controlled.
- Independent output.
- Two waveforms available, (triangle and saw) selectable by switch.

C104 Odyssey of Sound VCO
Front Panel Description

Coarse frequency control

+/- one octave switch

Soft clipping level CV input

Sync input

Ring modulator input

Square wave, pulse width control (10% to 90%)

1 Volt / Octave input

1 Volt / Octave input

Exponential modulation input

Sine wave output

Triangle wave ouput

Fine frequency control

DSC waveform selector switch

Soft Clipping level control

"Diode Soft Clipping" (DSC) ouput

Pulse width modulation level

Pulse width modulation input

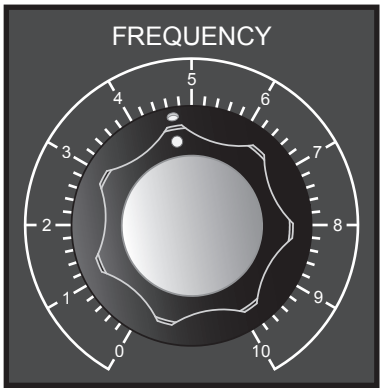
Exponential modulation level

Saquare wave output

Ring modulator output

Saw wave output

CONTROL DESCRIPTION



FREQUENCY

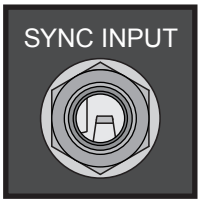
This control sets the base oscillation frequency of the VCO. The control range is 9 octaves from 20Hz to 10KHz.

FINE TUNE

This controls allows to make a fine adjustment of the VCO frequency. The range of this control is +/- one octave. When the control is at 0 position it doesn't have any effect over the VCO frequency.

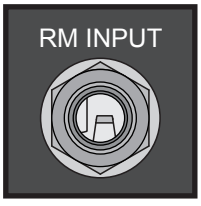
+/- ONE OCTAVE SWITCH

This control allows to the user to transpose the VCO frequency .
The switch has three positions :
+1 OCT : One octave up.
Center : No effect.
-1 OCT : One octave down.



SYNC INPUT

Sync input. Every time a trigger signal is detected the VCO restarts the waveform to the beginning of its cycle.

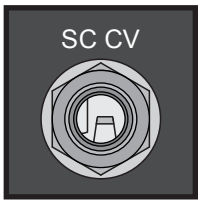


RM INPUT

Ring modulator input. The input signal should be a square wave from another VCO.

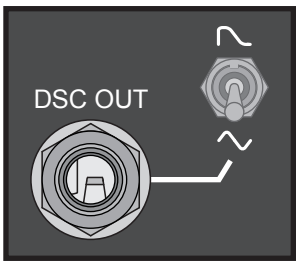
SC LEVEL

This control sets the amount of distortion of the "Diode Soft Clipping".



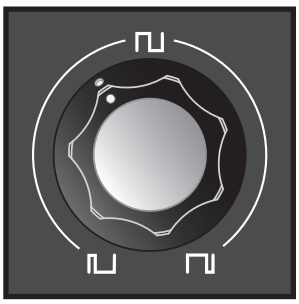
SC CV

Soft clipping amount CV input. The signal is added to the level set by the potentiometer SC LEVEL. The input aceppts possitive and negative signals (+/- 5 Volts).



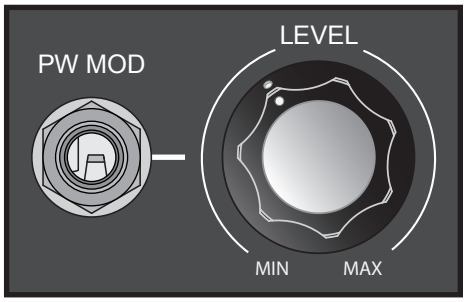
DSC OUT

"Diode Soft Clipping" (DSC) output. The switch selects the signal to be routed to the distortion circuit (saw wave or triangle wave).



PULSE WIDTH

This potentiometer sets the pulse width of the square wave. The pulse width is limited to a 10% minimun and a 90%. maximum.

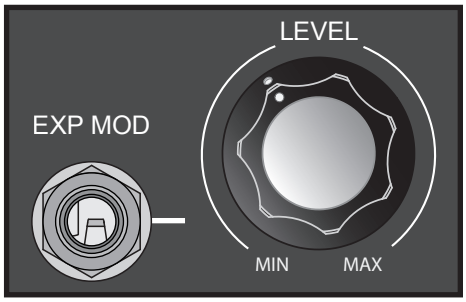


PW MOD

Pulse width modulation input. The LEVEL potentiometer sets the amount of modulation. The signal is added to the level set by the potentiometer PULSE WIDTH. The input allow positive and negative signals (+/- 5 Volts).

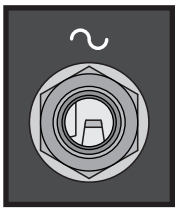
1V / OCT

Exponential frequency control input.

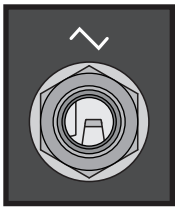


EXP MOD

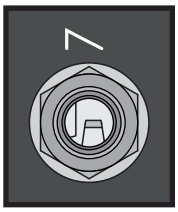
Exponential frequency modulation input. The LEVEL poteniometer sets the amount of modulation.The input allow positive and negative signals (+/- 5 Volts) .



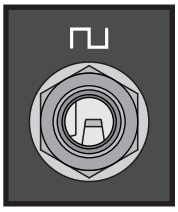
Sine wave ouput.



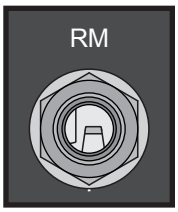
Triangle wave ouput.



Saw wave output.



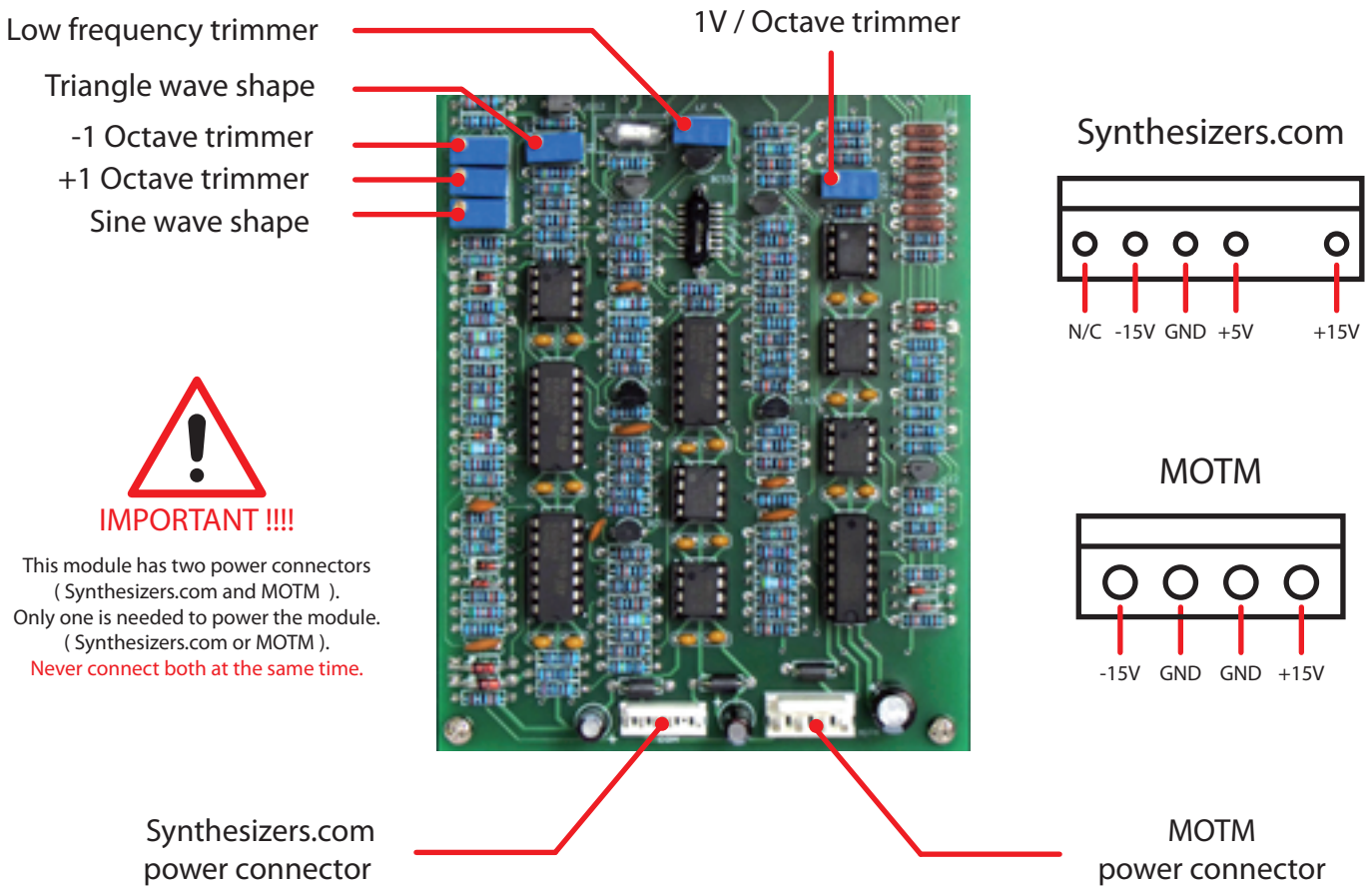
Square wave ouput.



RM

Ring modulator output. If no signal is connected to the RM INPUT , the output is equal to the VCO square wave.

POWER CONNECTORS AND TRIMMERS



TECHNICAL DATA

Module Format : 5U, (Synthesizers.com, Moog)
Module Width : 2 MU (Moog unit)
Power : +15V@54mA , -15V@48mA
Power connectors : Synthesizers.com , MOTM (4 pin)
Frequency range : 5Hz – 30KHz
Signal level : 10Vpp (+/- 5V)

After turn on the module , it needs over 10 minutes to stabilize. After that time , the VCO frequency will remain stable with almost no variation.


0
1
2
3
4
5
6
7
8
9
10
CORSYNTH