

Specifications

< Control Section >

Keyboard:

- C - C 37-notes (3 octaves), mini keyboard designed specifically for the MS-20 mini

Voltage Controlled Oscillator 1 (VCO 1):

- Scale (32', 16', 8', 4') (6 octaves, +cent, -cent)
- Wave form (Triangle, Sawtooth, PW-Square, White Noise) (4 modes)
- Pulse width adjust 1:1 - 1:infinity

Voltage Controlled Oscillator 2 (VCO 2):

- Scale (16', 8', 4', 2') (6 octaves, +cent, -cent)
- Wave form (Sawtooth, Square, Pulse, Ring modulator) (4 modes)
- Pitch ($\pm$ 1 octave)

VCO Master control: Master tune ($\pm$ 100cent):

- Portamento (max. 10sec)
- Frequency modulation intensity by MG/T.EXT (-5V - +5V)
- Frequency modulation intensity by EG1/EXT (-5V - 0V)

VCO Mixer:

- VCO 1 Level
- VCO 2 Level

Voltage Controlled High Pass Filter (VCF HPF):

- Cutoff frequency (50Hz - 15,000Hz)
- Peak (flat - self OSC)
- Cutoff frequency modulation intensity by MG/T.EXT (-5V - +5V)
- Cutoff frequency modulation intensity by EG2/EXT (-5V - +5V)

Voltage Controlled Low Pass Filter (VCF LPF):

- Cutoff frequency (50Hz - 15,000Hz)
- Peak (flat - self OSC)
- Cutoff frequency modulation intensity by MG/T.EXT (-5V - +5V)
- Cutoff frequency modulation intensity by EG2/EXT (-5V - +5V)

Envelope Generator 1:

- Delay time (10sec)
- Attack time (10sec)
- Release time (10sec)

Envelope Generator 2:

- Hold time (20sec)
- Attack time (10sec)
- Decay time (10sec)
- Sustain level (0V - 5V)
- Release time (10sec)

Modulation Generator (LFO):

- Wave form (Positive Sawtooth - Triangle - Negative Sawtooth, Wide Pulse - Square - Narrow Pulse)
- Frequency (0.1Hz - 20Hz)

Manual controller:

- Control wheel (center click)
- Momentary switch -->GND

Power switch and Volume:

- Volume

Indicator:

- LED (KBD trigger, Modulation Generator rate, Power ON)

< External Signal Processor >

Control section:

- Input signal level
- Low cut frequency (50Hz - 2,500Hz)
- High cut frequency (100Hz - 5,000Hz)
- CV adjust
- Threshold level

Input and Output:

- Signal In
- Amplifier Out
- Band pass filter Out
- CV Out (0 - +8.4V)
- ENV Out (0 - +5V)
- Trig Out (+5V-->GND)

Indicator (LED):

- Peak indicator
- Trigger indicator

< Patch Panel >**Keyboard:**

- Keyboard control voltage output (Exponential) (0 - +8V)
- Keyboard trigger output (+5V-->GND)
- VCO-1 + VCO-2 control voltage input (Linear response)(0 - +8V)
- VCO-2 control voltage input (Linear response) (0 - +8V)

VCO:

- VCO-1 + VCO-2 external frequency control input (OCT/V) (-5V - +5V)

VCF:

- External signal input (3Vp-p max.)
- External High pass filter cutoff frequency control input (2OCT/V) (-5V - +5V)
- External Low pass filter cutoff frequency control input (2OCT/V) (-5V - +5V)

VCO + VCF:

- Total external modulation input (T.EXT)(-5V - +5V)

VCA:

- External initial gain control input (0 - +5V)

EG:

- EG 1 envelope signal normal output (-5V - 0V)
- EG 1 envelope signal reverse output (+5V - 0V)
- EG 1 + EG 2 trigger input (-->GND)
- EG 1 trigger input (-->GND)
- EG 2 envelope signal reverse output (+5V - 0V)

MG:

- Triangle output (Positive Sawtooth - Triangle - Negative Sawtooth) (5Vp-p)
- Rectangle output (Wide Pulse - Square - Narrow Pulse)(0 - +5V)

Noise Generator:

- Pink noise output (5Vp-p)
- White noise output (5Vp-p)

Sample and Hold:

- Clock trigger input (-->GND)
- Sample signal input (5Vp-p max.)
- S/H output (5Vp-p max.)

Modulation VCA:

- Control voltage input (0 - +5V)
- Signal input (-5V - +5V)
- Signal output (-5V - +5V)

Manual controller:

- Control wheel output (-5V<--0V-->+5V)
- Momentary switch output (-->GND)

Signal out:

- Signal output (mono 1/8" mini phone jack, 2Vp-p output impedance 3.5k ?)

Head phones:

- Head phones output (Stereo 1/8" mini phone jack, 33 ? 48mW)

USB:

- Type B, USB-MIDI Input/Output

** Only note messages (velocity is not used) can be transmitted and received.*

MIDI:

- MIDI Input

**Only note messages (velocity is not used) can be transmitted and received.*

Power Consumption:

- 9W

Power Supply:

- DC9V

Dimensions (W x D x H): a

- 493 × 257 × 208 mm / 19.41 x 10.12 x 8.19 inches

Weight:

- 4.8 kg / 10.58 lbs.

Accessories:

- AC adaptor (9V/1.7A), Patch Cord x 10