Q168 Oscillator++ Aid

Q168 is an Aid module for use with the Q169 Oscillator++ module. Q168 provides access points to various signals hidden inside the Q169 along with adding features useful for more elaborate patches.

Access to the LFO Sine and Square waves is provided along with a Gate Sync switch that causes the LFO to reset with each Gate input to the Q169.

Access to the internal envelope generator's output is provided and a Sustain knob replaces the AD/ASR switch on the Q169.

Direct access to the Noise signal and the Sample and Hold circuit is provided.

An independent attenuator circuit provides attenuation, inversion and voltage offsets. This is useful for converting bipolar audio signals into unipolar CV signals and vice-versa. This section can also be used as a voltage source.

A 2 volt output allows precision transposing of the Q169 VCOs +2 octaves, or -2 octaves when patched through the attenuator section.

Access to VCO #1's linear pitch voltage input is also provided.
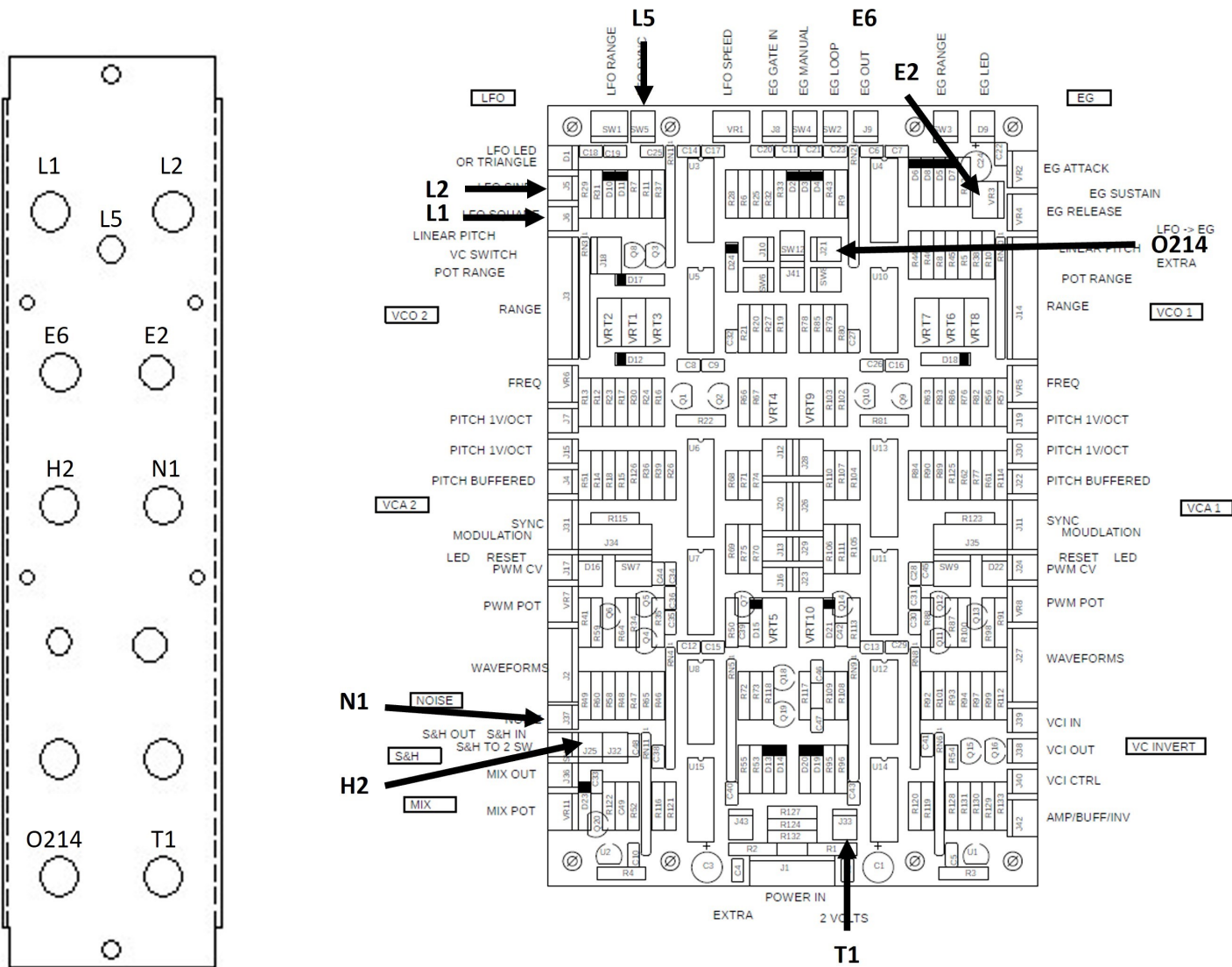
Q168 Oscillator++ Aid Specifications

Panel Size: Single Width 2.125"w x 8.75" (Moog Unit Format).
Power Requirement: +15V@10ma, -15V@10ma. Synthesizers.com standard.

Synthesizers.com

Q168 Oscillator++ Aid

Connecting the Q168 and Q169 Modules

Typically the Q168 Aid module mounts to the right of the Q169 Oscillator++ as viewed from the front, but the cables are long enough for it to be on either side. Locate each cable coming from the Q168 Aid module and match the number printed on the connector to the connector on the Q169 Oscillator++ module's circuit board. The Q168 will also require a power connector for the attenuator section. Some jumpers may need to be removed when installing the Q168.

Q168 Oscillator++ Aid

Patching Discussion and Modifications

Converting bipolar audio to unipolar gate and CV
Audio signals are bipolar -/+5 volt signals (10 volts peak-to-peak). Gate signals and most control voltage signals such as those controlling VCAs are unipolar 0-5 volt.

To produce gate signals from audio signals, patch the signal to the IN jack on the attenuator then set the knob to about 3 o'clock for 100% gain, and the offset switch to +5 to create 0 to +10 Volt bipolar signals.

To produce audio signals from gates or other unipolar signals, turn the knob to full clockwise for 200% gain then set the offset switch -5 to create a -5/+5 bipolar signal.

The attenuator section of the Q168 Aid module operates independently of any circuits in the Q169 and can be used anywhere in the system.

AD/ASR Switch and the Sustain knob
The Sustain knob connector replaces the AD/ASR switch on the Q169. This leaves the switch available for other purposes such as controlling the VCO reset voltage. The Q169 is shipped with reset jumpered so that gate sync of a VCO resets the waveform to 0V, but the other option is to reset the waveform to -5V and the AD/ASR switch could be used to change that setting.

Sample and Hold output
This jack can be useful for driving additional VCO's external to the Q169, or in addition to them.

Linear Pitch CV
This jack provides access to a linear pitch control input on VCO #1. This can be useful when driving the VCO from a keyboard that provides linear voltage scaling. The connector can be moved to VCO #2 Linear input if desired.

Noise
The dedicated Noise output is the same signal as that available on the VCOs but has more intense high frequencies due to the fact that the built-in VCAs for each VCO has a tiny amount of high frequency filtering.
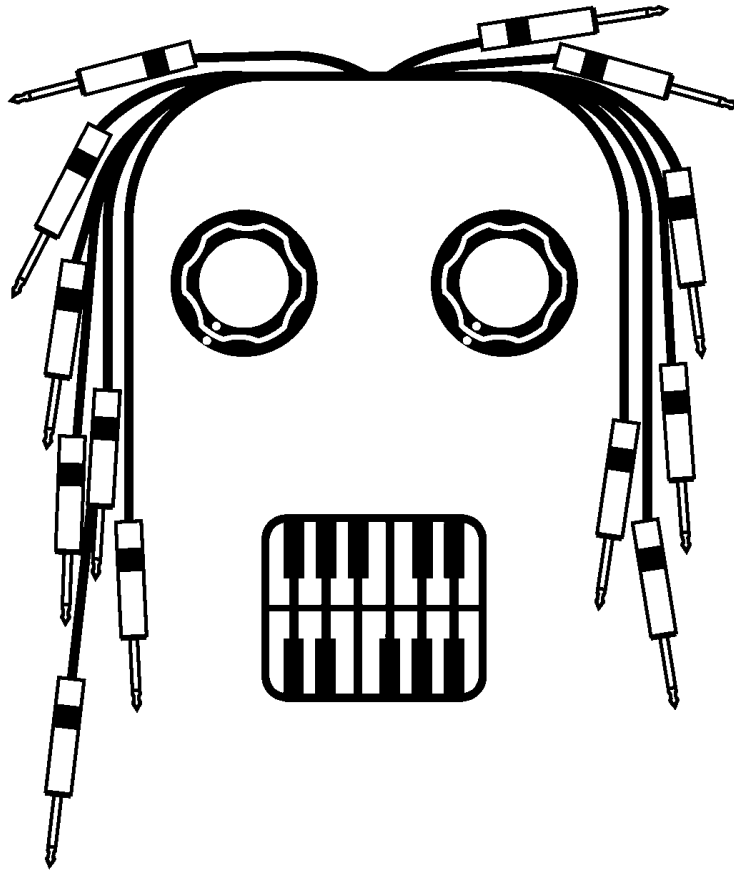
QFUN3 Modifications
Q169 Oscillator++ is built around the QFUN3 circuit board which offers a wide variety of function blocks including 2 precision VCOs, 2 VCAs, Sample and Hold, VC Switch, VC inverter, precision voltage references, an LFO, envelope generator and noise source. This makes the module ripe for DIY modifications to the front panel controls to offer features different than those offered on the stock model.

One modification example is changing the range switch which is factory selected to 3 specific values. The 10 pin MTA range connectors on the PCB for each VCO offer 6 different octave settings. Pin 1=5V, 2=4V, 3=3V, 4=2V, 5=1V, 6=0V. Pin 7 is the range switch input (1V/Oct scaling).

The 2V jack on the Aid module comes from this group of voltage references and that could be modified with custom wiring from the jack over to the VCO range connector.

Synthesizers.com

Patcher Jack

Synthesizers.com