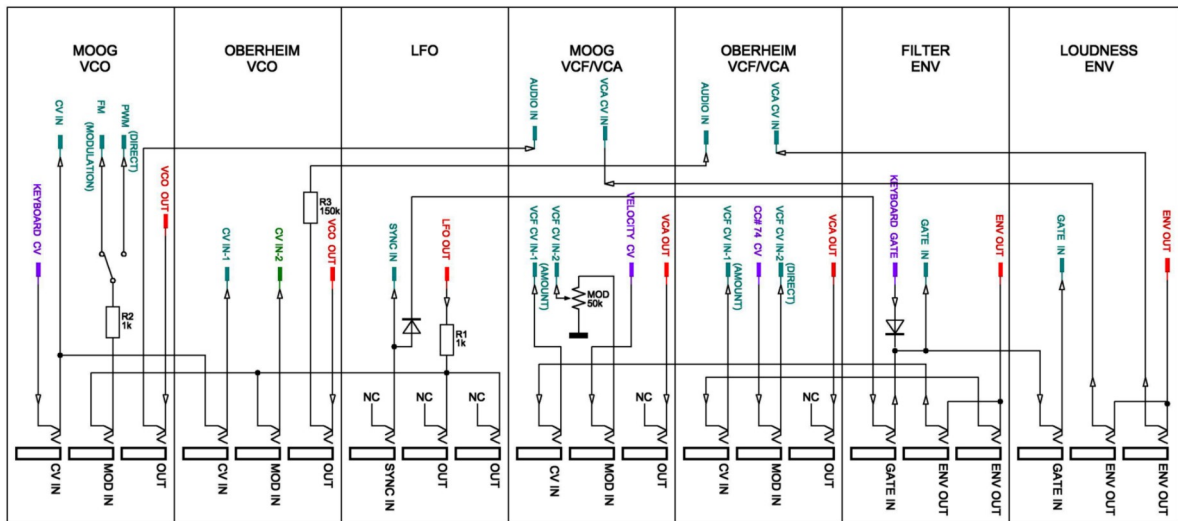


# Obermoog

## OM-1

### mLab 2016



Question:

I can't find the MAIN OUTPUT of the Obermoog Synthesizer.

Answer:

Unlike other synthesizers, the Obermoog has 2 VCF/VCA MODULES, so we have two MAIN OUTPUTS, which are the OUT jacks of both VCF modules.

Question:

I see, the Oberheim VCO has a Sync button. What can I do with it?

Answer:

This is a latching toggle switch. If depressed, then SYNC is active. In this case, the Oberheim VCO is in perfect tune with the moog VCO. It's a pretty biting hard sync effect. Turn the Oberheim VCO Frequency POT while in Sync. Or set LFO modulation, and you'll get a fascinating sound effect, similar to the legendary moog prodigy sync sound.

Question:

I see that the moog VCO has a switch, labelled PWM/FM, what does it mean?

Answer:

The LFO output signal is always available at the *VCO MOD IN* jacks followed by the modulation POT. The modulation signal then goes to the *moog VCO FM/PWM* switch where can choose, between Pulse With modulation, and Frequency Modulation. If set to PWM (only if PULSE waveform is selected) then the LFO signal will do a Pulse Width Modulation, otherwise, if set to FM, then the LFO will do a Frequency Modulation.

Question:

What can I do with the *LFO SYNC IN* jack?

Answer:

A lot!

It's not only a Sync Input as labelled, It's also a Sync Out signal. It's a stereo jack. The ring of the stereo jack is the Sync Input to synchronize the LFO with an external clock signal.

The Tip of the Stereo Jack is the *LFO SYNC OUTPUT*, e.g. to feed the Envelope Generators with a proper GATE signal. In this case you can use the LFO as a Sample & Hold random CV/GATE Sequencer.

Question:

There are 2 GATE IN jacks in the envelope section. How do I use them?

Answer:

Each of the envelope modules has a GATE IN jack.

The *FILTER ENV GATE IN* is used to trigger the ENV module for both VCF

The *LOUDNESS ENV GATE IN* is used to trigger the ENV module for both VCA

Both GATE IN jacks are internally linked together and pre patched with the MIDI to GATE interface. If you plug a cable into the FILTER GATE IN jack, then the internal link is broken and the cable now feeds the Obermoog with an external gate signal for both ENV modules. If you plug a cable into the LOUDNESS GATE IN, then only the VCA GATE link is broken and feeds the LOUDNESS envelope externally from the cable, but the MIDI to GATE signal still feeds the FILTER envelope.

Question:

The LFO and the 2 Envelopes, each has 2 Outputs. Is there any difference between them?

Answer:

Yes and No. The Envelope signals are the same but the LFO signals are different, where the center jack is an AC output and the right jack is a DC output.

Question:

If I'm using the LFO as a Sample & Hold random CV/GATE Sequencer, Waveform = NOISE, S&H RATE 6, AMOUNT fully clockwise, both VCOs FM-Modulation fully clockwise and a patch cable from the **LFO SYNC OUT** to the 1<sup>st</sup> Envelope **GATE IN**. The LFO then triggers both Envelope Generators and sends a random CV sequence to both VCOs. In other words, the LFO acts as a S&H Generator and plays a random sequence. And now my question: Why has the Envelope Release time no effect in my case?

Answer:

Yes, this is correct. The **LFO SYNC OUT** signal is a GATE and not a TRIGGER. Each time the S&H outputs a new CV value, the GATE becomes interrupted for a very short time. The Attack, Decay and Release time then will reset and the envelope-curve starts from the beginning, so that a VCF & VCA can be gated with fully SUSTAIN level feature. This is different from other Systems who are using Trigger signals instead of Gate. Such systems have side effects, which are dependant of the sequencer speed and needs work around by using an additional Gate Time Generator. In my view, - there is too much adjustment to handle. Play with Attack, Decay, Sustain and Output Level and you'll find out that the SUSTAIN Level has a similar effect, very close to the release time.

If you're using the LFO without the random generator (**S&H RATE** fully counter clockwise), then the *Sync Gate Time* can be controlled by the Duty Cycle POT.

Question:

Can I control parameters via MIDI?

Answer:

Yes you can, there are 6 CV and 6 GATE outputs coming from the internal MIDI interface. The following parameters are patched and predefined as shown below:

CV 1 = Note Number & Pitch	to VCO 1 & 2 CV IN
CV 2 = Velocity	to MOOG FILTER Cutoff MOD IN
CV 3 = Volume (cc#7)	to LOUDNESS ENV AMOUNT
CV 4 = Modulation (cc#1)	to LFO AMOUNT
CV 5 = Cut Off Frequency (cc#74)	to SEM FILTER FREQUENCY (inverse)
CV 6 = Channel Pressure	(not patched but internally available for general purpose)

The predefined default MIDI settings can be changed via MIDI System Exclusive commands and stored in the non volatile memory of the internal MIDI interface.

Each of the CV outputs 1...6 can be controlled by any MIDI Controller Number on any MIDI channel or OMNI-MODE.

Each of the GATE outputs 1...6 can be controlled by Note On/Off events on any MIDI channel.

Question:

I'm using my VOLUME MIDI controller cc#7 but nothing happens.

Answer:

This is correct, as long as your *LOUDNESS ENV AMOUNT POT* has been turned fully clockwise. If you want to enable MIDI cc#7 LOUDNESS control, you must turn the *LOUDNESS ENV AMOUNT POT* counter clockwise. The cc#7 volume control then goes from the current *AMOUNT POT* position up to maximum volume.

Question:

I noticed that MIDI cc#74 controls the filter frequency of the SEM Filter module inverse. The higher the controller value, the lower the filter frequency. Is this normal?

Answer:

Yes you are right, if you increase the value of cc#74 then the filter frequency goes low and vice versa.

Question:

I was playing with several MIDI controllers and suddenly the Obermoog played an arpeggio. I was wondering how that could have happened.

Answer:

Yes, there are hidden functions in the Obermoog. I'll reveal them now.

cc#108Direction	fwd, bwd, fwd/bwd (Arpeggiator and Phraser)
cc#109Octaves	1, 2, 3 (Arpeggiator and Phraser)
cc#110Trigger	Single, Multi (Keyboard Mode)
cc#111Priority	Highest, Lowest, Last(Keyboard Mode)
cc#112Mode	Keyboard, Arpeggiator, Phraser, Sequencer
cc#113Rec/Play	(Arpeggiator, Phraser, Sequencer)
cc#114GateTime	0...120, >120 = Sustain
cc#115SyncRate	1/2, 1/3, 1/4, 1/8, 1/12, 1/16 ... (while in MIDI-Sync)
cc#116SyncDelay	0...127 (while in MIDI-Sync)
cc#117ClockRate	(if not in MIDI-Sync)
cc#118	10=LoadMap, 20=SaveMap, 30=Defaults (settings) 40=LoadSeq, 50=SaveSeq (in sequencer mode) 60=UNDO, 70=REDO (in sequence record mode) 80>DeleteSeq 90=PauseNote

For further details look at: [CV-Six owners manual \(midisoft.de\)](http://midisoft.de)