# Logiquencer MS20 Edition

## LFO based Sequencer For Korg MS 20/MS20 mini ™ [1]

Device and Graphics by SpaceF-Devices – © 2017
3D knobs from OS 20 Scope synth by Fernando Hood, Courtesy of Ocean Swift Synthesis.

*This manual concentrates on the use with the "MS 20 mini [(1)]" because it is always available in SpaceF Studio. Logiquencer works the same with any synth in scope or outside Scope as long as it can recognize audio as a modulation source.*

**What is it ?** Logiquencer is a device that use minimal DSP resources and which is used like a step-sequencer. It uses 3 LFOs that generate "Peaks" that will be recognized as triggers by the receiving device/machine. Depending on the settings, you will get sequences, gates and rests, syncopation, in classic or unusual rhythms. You can of course control filter modulation with it.

The difference with a classic step sequencer is the much lower DSP usage, and the fact that you do not directly control each steps. It allows getting similar results faster and in a different way. It is usually less tedious than step by step programming. With Logiquencer, it is about trying things to see where it gets you. After a while, you will be able to predict how it reacts and how to create variations such as silences, syncopation. So it is not only fun and simple, it is also deep, and you will soon find that it generates most if not all desirable gate sequences.

**Requirements;**

- Scope 4.x/ Scope 5.1 (on any hardware: Xite-1, Xite-D, Scope…)
- Any synth accepting audio modulations as triggers (such as Korg MS20 / MS20 mini ™ )
  **NB: to use with CV Gates, you will need an Audio to CV converter.** This is not necessary with the Korg MS20 due to the presence of the "ESP" that converts audio signals into modulations and triggers.
- Cables to send audio signals from Scope (through ADAT or ZLink or Analog Out) to MS20,
- 2 patch cables to patch MS20 ESP Env and Trig outputs to filter cutoff and trig In.
- What you get with Logiquencer is Logical, eventhough you will find that some results are far from your expectations : always be ready to store a preset, save the preset list, record the audio from your synth.
- **WARNING: Never plug this device to speakers when the output signal is "Silent Audio"**. Silent Audio is a digital signal with the highest levels and dynamic range available in Xite, it can damage your speakers.
- **Usage with Scope devices/Modular Patches:** Logiquencer is directly compatible with any device (software/hardware) accepting audio as modulation. If there is no trigger detector on the device it can at least **modulate filters**.
- **A/// Quick Start**

After loading the Device, press on the "Press" button under /Re-Trig/Manual/ (or play a note of your keyboard if you are in "keyboard" trigger mode). This will resync the 3 LFOs. Failure to do so is ok but your work may not be reproducible in a different session (the LFOs resync differently each time they are loaded into a project).

[1] The names « Korg », « MS 20 » « MS20 mini » and other references to devices that are not this device are trademarks of their owners and these brands are mentioned for reference and example purposes.

By adjusting all parameters, you will be able to create triggers, silences, and sequences.

**B/// Settings on the Korg MS-20$^{tm}$ (ESP and Patching)**

- **Signal Level input** should **be around 5 / 6.**
- **Threshold Level** should be **around 8**. Always try value between 5 and 10 if you feel something is wrong with the groove.

Generally Speaking, the two parameters above play a role in the precision and feel of the sequence that is sent by Logiquencer. The interaction between Logiquencer and those two parameters can change dramatically the way the signal is interpreted and converted into modulation or triggers by the MS20.

**1/ Continuous triggered loop:** this is the default mode: the sequence goes on and you can transpose it using the keyboard of the ms-20. The sequence will always be in sync even if your keyboard playing is not perfectly on time.

Now, Using your patch cables:

- Conect the **"Trig Out"** of the External Signal Processor to the "**Trig In"** of the Keyboard section (KBD/Trig In)
- Connect the **"Env Out"** of the Extrenal Signal Porcessor to the **"Cutoff Frequency"** of the "Lowpass"
- Connect **Logiquencer "Out"** to the **"Signal In" of the Korg MS-20** (using your ADDA/patch bay etc)

**2/ Simple modulator.** The device modulates the filter only. No triggers, so sound is heard only when you play the MS-20 ; do like in 1 above, then disconnect the Trig In patch to disable the envelope triggers.

**C/// Logiquencer Operations and hints**

**"Midi In":** sets the channel of the device. Midi in is used to receive Note-On message to sync the sequencers/LFOs, and to assign Midi CC to Logiquencer parameters.

**Retrig "Keyboard / Manual" :** you can choose "Manual" and press the button to resync the LFOs. The generated sync is extremely stable and is always available, even if you don't plug the device midi inputs. To use the "Keyboard" Retrig, you must plug the device midi in and play the note-on on the right midi channel.

Play/Stop: the sequence is always playing and "Play/stop" is just a mute button. You press play, be ready to resync the sequence at your liking. Or not, you may find that what you hear is just what you wanted.

**Vu Meter** (halo behind the play/stop button): shows that a sequence is sent to the outputs. It is also very fast and a good indication that a sequence is changed by this or that parameter. The colors change from low to high level blue/green/yellow/orange/red.

- Level knob near the on/off button: allows reducing the levels sent to the "button halo vu meter". It reduces the resolution of the vu-Led and makes it less "visible".

**SIGNAL TYPE:**

- **Silent Audio** is a digital signal that is recognized as audio. It is fast, precise, and contains the maximum dynamic. It gives the best resolution/precision/dynamic range.
- **White Noise** is an actual sound (that can be heard on speakers) and is more "organic" than Silent Audio. It makes the MS20 respond very differently. It allows longer triggers, with an impression of overlapping notes. It may also show no difference on some sequences because of the way the MS20 is set. Generally, a setting of 5/6 as signal level and 8 as threshold level allows to hear differences between this generator and the other.

**Contour/Resolution:**

Allows to re-shape the peaks of the signal in order to influence the feeling/groove or even the quantization of the sequence. "None" does not change whatever is coming from the sequencers, while "Strong" is the maximum re-shaping that you can achieve and is often obvious but sometimes you won't hear anything different.

**Gate Length:** Makes shorter or longer gates on the MS20.

**LFO Intensity:** The 3 Sequencers are LFOs. You vary the level of these signals by applying different intensity to them. The difference of level between each Sequencer/LFO allows to:

  - Create filter modulation with peaks at various intensities
  - Create phase effects on the MS20 oscillators (especially when the peaks are doubled)
  - On Scope, the signal can be used for Cutoff and Volumes. Pitch is possible but will create a kind of "electro drum loop effect". It can be fun, but pitch is not intended in this version for MS20.

By playing on the settings of each Sequencer, you will create new type of sequence.

- The sequences are composed of "Peaks" generated by each sequencer
- By applying different "intensity" to each Sequencer, to create a sequence with peaks at various "level". This will be reflected on the filter modulation of the MS20.
- The peaks of different levels will be recognized as short/longer triggers by the MS20, and sometimes will be ignored.
- If each Sequencer produces a peak at the same moment, the signal reaches maximum gain.
- If all sequencers are silent at the same time (no peak or shape) the Signal is at its minimal value.
- By playing on the speed of each sequencer/LFO, you produce long sequences with peaks at various levels, sometimes at maximum, sometimes at minimum, and with several possible values in between.
- Triggers are produced by changes of intensity of the Signal.
- A peak of very high intensity generally last longer than a peak at a lower value.

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Thanks to contact us on http://forums.scopeusers.com/SpaceF-Devices/for further support.

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