

# SERGE Sequencer XL (SEQ8XL) for Eurorack



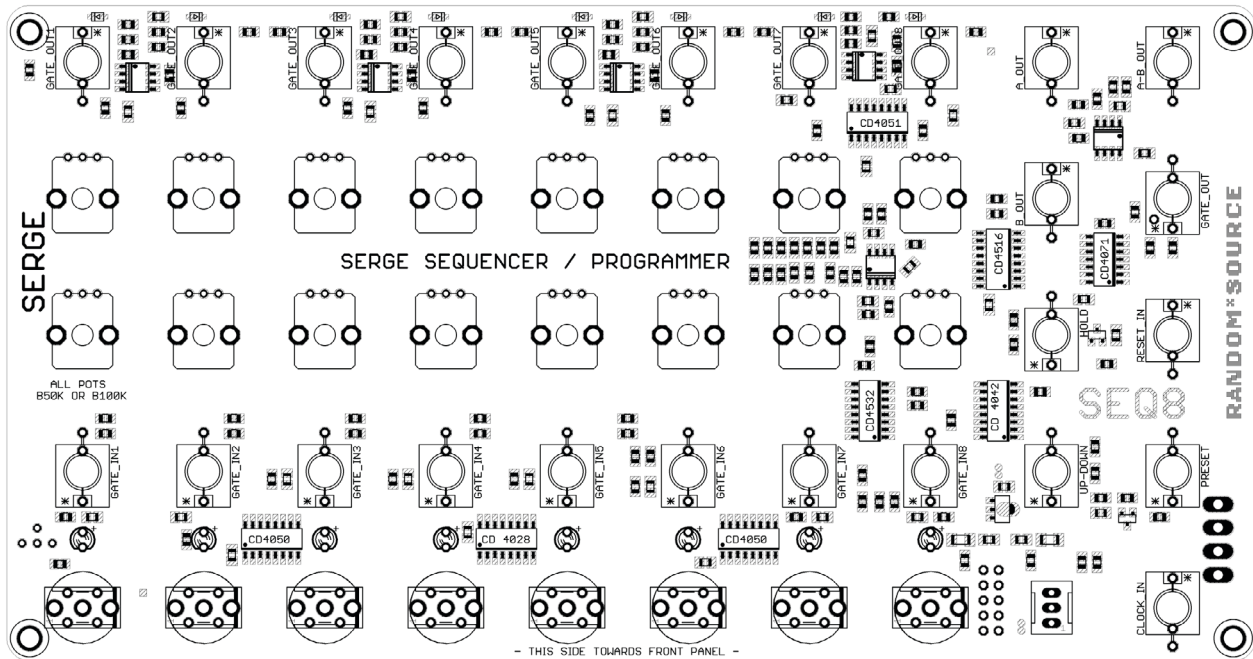
The SEQ XL is a modern incarnation of Serge's analog sequencer / programmer. 8 stages. 2 rows of CV output. Pulse in and outputs for each stage. A - B (A minus B) outputs the difference between A and B (-5 to 5V range). The length of sequences can be set via the pushbuttons - while a sequence is running. RESET, UP/DOWN, HOLD inputs. Switch to start / stop the sequencer. PULSE STAGE SELECT inputs allow selecting specific stages. great at audio rates. ALL GATE output goes high when any button is pressed (or a stage is selected by a pulse input) and allows the use of the SEQ8 as a simple mini-keyboard. covers a wide range of uses from sequencing / storing presets ("programming") to wavetable-like sounds in the audio range.

The Sequencer 8 by Random\*Source is a licensed and authorized adaption of the original Serge design. Compared to previous versions of the Serge Sequencer, the R\*S version features:

- Improved speed / accuracy - clean stepped waveform output up to clock frequencies of 10kHz and above.
- ALL GATE output allows the Sequencer's pushbuttons to be used as a mini keyboard.

## DIY - Build your own SEQ8XL

The Random\*Source SEQ8XL kit consists of a front panel and a pcb with all SMT parts preinstalled. Only very few through-hole parts (power connector, trimmer for LED brightness, LEDs) have to be installed.



### Please note:

- The SEQ8XL requires no calibration. A trimmer can be used to adjust LED brightness.
- Use antistatic precaution - try to avoid touching the SMT parts.
- Board is designed to be powered by a +/-12V stabilized PSU only.

## Bill of Materials

### Trimpots

1	5k*	Single-Turn for LED brightness - pick to match LEDs	e.g. Bourns 3362P-1-502LF (or whatever fits)
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### Misc

1	Euro Power header		MTA-100 power connector, Reichelt: WSL 10G
25	Thonkiconn Jacks		3.5mm Jack Sockets (PJ301M-12) from Thonk
16	Potionmeter 50k or 100k	linear (B50K or B100K)	Alpha 9mm vertical pcb mount available from Thonk, Tayda, Mouser ... Use B50K or B100K, don't mix ...
1	SPDT switch sub-miniature	2 positions	Mountain Switch (Mouser: 108-0042-EVX)
8	LED lenses 3mm		SMB_200 RTP (Mouser: 593-2000R)
8	LED 3mm	low current	pick color to suit LED lens - panel pcb contains a 1k LED resistors, so pick brightness of LED to reflect that (i.e. not too bright)
8	Momentary Pushbuttons	OFF - (ON) mind the direction when mounting!	<b>For standard edition front panel:</b> <b>C&amp;K D6R__ F1... (e.g. D6R00F1LFS = white)</b>  For Special Edition front panel only: C&K Pushbutton: Mouser: 611-8125-222 Dress Nut: 611-702501201 Red switch Cap: 611-801803000

## Building

This is simply a suggestion - you might find a different workflow more practical:

1. Solder the power connector and the LED trimmer to the main pcb.
2. Mount the Thonkiconn jacks, the pots, switch LEDs and buttons onto the pcb. Don't solder them in yet.
3. Carefully mount the pcb (with the pots etc. inserted) onto the front panel. You may then have to wiggle each pot a bit to get the pots through. Make sure the threads of the pots go through completely and the pots sit right at the front panel. Screw the jacks and pots to the panel to make sure of that.
4. Once everything is nicely in place, solder the pots and jacks (while the front panel is attached).
5. Mount knobs etc.
6. Connect a power cord supplying +12V, GND, -12V to the power-header on the main board and double check the direction of the power header before you turn power on.
7. You should be ready to go :-)

## Basic Use

- Pressing a button selects the stage and also sets the start point (and length) for sequences.
- While you push that button, the ALL GATE output is high, so you can use it to generate envelopes and have the SEQ8 act like a simple keyboard.
- Feed a pulse or other signal into CLOCK and turn the sequencer (switch) ON to get it running through the stages. A and B output the voltage (CV) set by the knobs of the active stage. A - B (A minus B) outputs the voltage difference.
- The Stage Select Inputs act as if you pushed a button, i.e. ALL GATE will also go high when you send a trigger into one of these inputs.
- HOLD and RESET allow you to control the sequence. PRESET acts like reset, just the other way round - one lets the sequencer run when the control signal is high, the other when it's low.
- UP/DOWN changes the direction, please note that in order to go down, a stage higher than 1 has to be selected.

## Tips and Tricks

- The Stage GATE OUTs can be linked for an OR effect - using stackables you can send this into a Stage Select Input, thereby dividing the 8 steps in zones.
- A, B and A-B generate quite precise output steps (sharp edges) and can be used at audio rates for wavetable-like or bitcrushing sounds by e.g. using a Serge NTO as a clock.
- Two sequencers are more fun than one - try combining the SEQ8 with a TKB or another SEQ8 or an NCOM for rhythmic effects and complex sequences.
- Let us know if you find a great patch or post a video!
- Have fun!

Last edited on 19. May 2018, 12:04 AM

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