

Ge0Seq v1.5.1 BOM

This PCB set can be used to either build a standalone sequencer module for use in Ge0sync desktop machines, or as a normal 8hp Euro-rack module.

BUILDING FOR DESKTOP

You only need to build the lower "Sequencer Board" PCB
Install all parts on the PCB numbered 0-100 and 300+ **Do not install those numbered 300+ i.e the Euro power input circuit**
Install the 4x 4pin and 1x 2pin Molex headers

BUILDING FOR EURO MODULE

You need to build both PCB but all MIDI parts should be installed on the upper "Control Board" only.
Install all parts on the PCB's numbered 0-100 and 300+ **Do not install those numbered 900+ i.e. those above the dotted line on the "Sequencer Board"**
Install the 4x 4pin pin as pin headers, and the 6pin (2x3) power and groun pin header. **Do not install the 2pin power header.**
Install the 6pin ISP header on the reverse of the "Sequencer Board"

Blue parts on on upper "Control Board"

If in doubt read the build guide!

included in kit

Standard 11mm clearance between the two boards, so just keep that in mind.

In the Mouser column, I've either placed a part number or search terms. Due to part shortages etc, the string that will find you suitable parts to choose from what is in stock etc.

Value	Count	Location	Mouser	Alternatives	Notes
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COMMON PARTS FOR BOTH BUILDS

Resistors

1% MetalFilm 1/4W - or better (0.1% - but can be expensive)

3K	1	R3	Search "MFR 3K 1/4w" etc		
4K7	1	R5			
6K8	1	R14			
10K	2	R4,R15			

5% Carbon 1/4W or better (can be 1%)

1K	7	R6,R7,R8,R9,R10,R11,R12	Search "CFR 1K 1/4w" etc		
10K	3	R1,R2,R13			
Jumper	1	RX-JUMP			

Capacitors

MLCC

22p	2	C4,C5	mlcc leaded 22pf	2.5mm leg spacing	
10n	1	C2	mlcc leaded 0.01uf	2.5mm leg spacing	
100n	1	C1	mlcc leaded 0.1uf	2.5mm leg spacing	

Electrolytic

0.33u/25	1	C3	50NW50R33MEFC4X5	Low profile, but normal 11mm will fit laying flat	
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IC

78L05	1	IC1	511-L78L05ABZ		
ATMEGA328P	1	IC3	556-ATMEGA328P-PU	Programmed version included in kit	
MCP4822	1	IC4	579-MCP4822-E/P		
LM328	1	IC5	926-LM358N/NOPB	Must be good quality for DAC multipler - DO NOT USE TL072 they don't cope well with low voltages - 358N better than 358P but 358P better than any TL	

Crystal

16Mhz	1	Q1	815-ABL-16-B4Y		
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Misc

Reset SW	1	S1-RESET	710-431256031716		
0.96 OLED	1	I2C-DISPLAY		I2C 4pin variant - VCC,GND,SCL,SDA	
Encoder	1	SW1	Aliexpress etc	ALPS_EC12E_SW	24 detents, push switch
2x3	1	JP1		2x3 male header	

EURO RACK ADDITIONAL PARTS FOR MODULE BUILD

Resistors			
5% Carbon 1/4W - or better			
220R	1 R300	Search "CFR 220ohm 1/4w" etc	
1K2	3 R301,R312,R316		
5K6	1 R302		
Jumper	4 BRD-GND,VCC,SCL,SDA		Connect these in the order that matches your display, so BRD-SCL goes to your I2C-SCL pin etc
Diodes			
1N4148	1 D302	512-1N4148	On control PCB
1N5817	2 D301,D302	511-1N5817	
Diodes			
3mm LED	2 RDY, BOOT	Normal 3mm led - any colour	Attach to UPPER control PCB only.
Capacitors			
MLCC			
100n	2 C303,C304	mlcc leaded 0.1uf	2.5mm leg spacing
Electrolytic			
47u/25	2 C300,C301	e.g. UKL1E470MEDANA	Low profile, but normal 11mm will fit laying flat
IC			
6N138	1 IC300	859-6N138	
Misc			
PWR	1		10pin euro power header or 2x5 pin header
MIDI JACK	1 MIDI	806-KCDX-SS-N2	Horizontal PCB mount
PJ301M	8 U1-U8	Thonk etc	Thonkiconn
1x4	4 DISPLAY, CV-OUTPUTS, CV-IN-OUT,ENC-MIDI		1x4 male pin header
2x3	1 JP2		2x3 male pin header
1x10	2 DISPLAY, CV-OUTPUTS, CV-IN-OUT,ENC-MIDI		1x4 male pin header
1x4	1 JP2		2x3 male pin header
1x4	1 I2C-DISP		1x4 low profile female header
11mm	3 Standoff		
3mm	6 Screws		

DESKTOP ADDITIONAL PARTS

Resistors			
5% Carbon 1/4W - or better			
220R	1 R900	Search "CFR 220ohm 1/4w" etc	
1K2	2 R912,R916		
1K2	1 R901		
5K6	1 R902		
Diodes			
1N4148	1 D902	512-1N4148	On control PCB
Diodes			
3mm LED	2 RDY, BOOT	Normal 3mm led - any colour	Attach to LOWER sequencer PCB only, at 90 degrees - see build guide
IC			
6N138	1 IC900	859-6N138	
Misc			
PJ301M	8 U1-U8	Thonk etc	Thonkiconn

MIDI JACK	1 MIDI IN	164-2531
1x4	4 DISPLAY, CV-OUTPUTS, CV-IN-OUT,ENC-MIDI	538-10-11-2043
1x2	1 PWR,GND	538-10-11-2023
1x4	4 DISPLAY, CV-OUTPUTS, CV-IN-OUT,ENC-MIDI	538-22-04-5048
1x2	1 PWR,GND	538-22-23-2028
Molex pin	36	538-08-55-0129
Hookup wire		

- Vertical PCB mount
- Molex 4 pin plug
- Molex 2 pin plug
- Molex 4 pin header
- Molex 2 pin header
- Molex plug pins, maybe cheaper - cheaper in bulk
- For cables from molex plugs to Jack board, encoder, display and power input