

# SEQv4+ ENC-PLATE

Eight encoders with switch functions connect to the SRIO chain on the [le MEC](#) board below. The PCB also holds Matias switches.

Note that two sets are required for a SEQv4+ build.

## Schematic

The encoders are directly connected through the headers to DIN pins in the stacked PCB. The switches are connected to the matrix through diodes.

Part	DIN SR	DIN pins/column	Cathode row
EN1	1	0,1	-
EN2	1	2,3	-
EN3	1	4,5	-
EN4	1	6,7	-
EN5	3	0,1	-
EN6	3	2,3	-
EN7	3	4,5	-
EN8	3	6,7	-
SW1	2	D0	C0
SW2	2	D1	C0
SW3	2	D2	C0
SW4	2	D3	C0
SW5	2	D4	C1
SW6	2	D5	C1
SW7	2	D6	C1
SW8	2	D7	C1

## BOM v1.0 placeholder

Type	Qty	Value	Package	Parts	Mouser	Reichelt	Conrad	Other	Notes
<b>Resistors</b>									
	6	100-220R 5%	THT	R1-6					
<b>Resistor network</b>									
	1	10k	SOM16	RN1	4816P-T02-103LF				
<b>Capacitors</b>									
	3	100n	1206	C1-3					
<b>Diodes</b>									
	19	1N4148	THT						
<b>LEDs</b>									

Type	Qty	Value	Package	Parts	Mouser	Reichelt	Conrad	Other	Notes
<b>Resistors</b>									
	18	various	3mm						insert into switches
<b>ICs</b>									
	1	74HC165	SOIC16	IC2	595-SN74HC165DR				
	2	74HC595	SOIC16	IC1, IC3					
<b>Encoder</b>									
	1	STEC12				STEC12E08			
<b>Switches</b>									
	18	MEC/APEM	3FTH9	SW1-18	642-3FTH9	TASTER 3FTH9	705276 - 62		
<b>Headers</b>									
	1	1*3	male						
	2	2*5	male						
<b>Hardware</b>									
	6	M3 spacer	TBD						
	1	datawheel	DK-38?						
	18	switchcaps	22.5mm		642-1S11-22.5		1S11-22.5		

## Versions

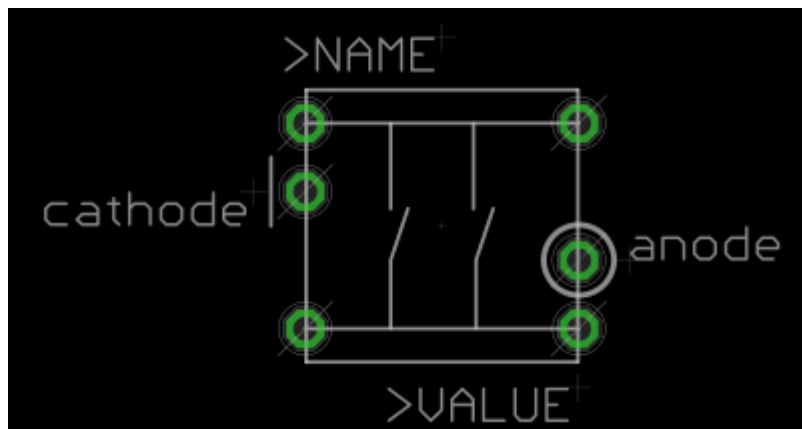
v1.0: first release.

## Assembly

Start with the SMT parts (caps, ICs and RN), then the resistors and diodes with correct polarity. Headers, switches (read below first!), encoder, caps and knobs.

**Important:** insert the LEDs into the switches before soldering them! It's quite hard to bend the legs once the switches are in place. The LED legs should not interfere with the switch action; i.e. the button should be pressed and released without getting caught on the legs.

Ensure that when the switch is soldered in, the LED is correctly polarised. Round part (anode) of the LED to the circled pin; flat part (cathode) to the line:



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