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
Resistors									
	6	100-220R 5%	THT	R1-6					
Resistor network									
	1	10k	SOM16	RN1	4816P-T02-103LF				
Capacitors									
	3	100n	1206	C1-3					
Diodes									
	19	1N4148	THT						
LEDs									

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

Versions

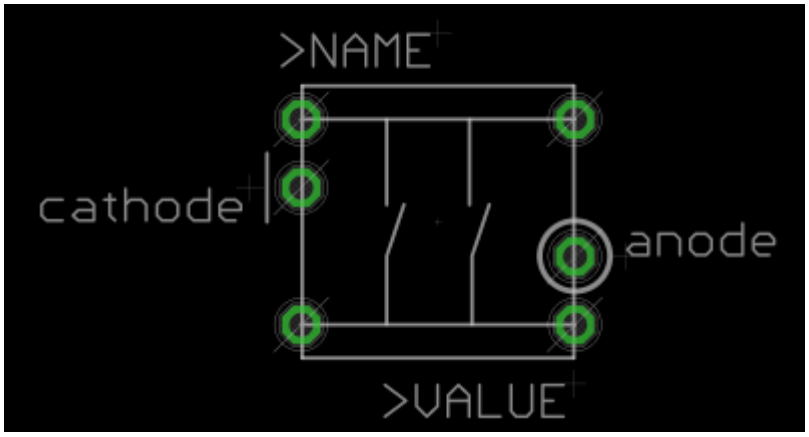
v1.0: first release.

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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