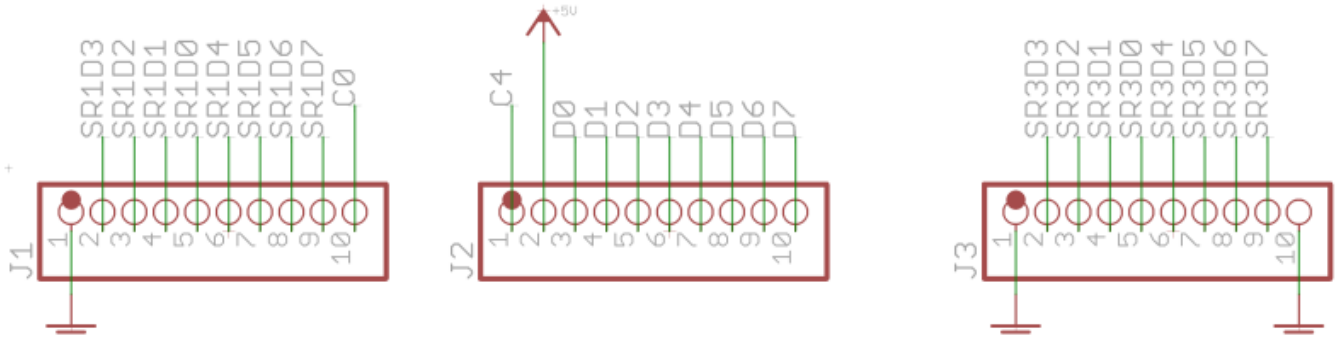
SEQv4+ ENC-PLATE

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

Type	Qty	Value	Package	Parts	Mouser	Reichelt	Conrad	Other	Notes
Diodes									
	8	1N4148	THT						

Type	Qty	Value	Package	Parts	Mouser	Reichelt	Conrad	Other	Notes
Diodes									
Encoders									
	8	STEC12				STEC12E08			
Headers									
	3	1*10	through-board	MDF7-10S-2.54DSA(55)					
Hardware									
	2	M2 washer	3mm?						
	9	M3 washer	3mm?						
	8	knobs	TBD						

Note: two sets are required per SEQv4+!

Versions

v1.0: first release.

Assembly

Start with the eight encoders and diodes. Important to note:

- There is <3mm vertical distance between the stacked PCB sets. If diode or encoder legs are too long, they may short out the components below. I need to check the assembly. It might be that all parts on the ENC-PLATE PCB are soldered from the top and the legs protruding through are trimmed flush on the underside.

Once the diodes and encoders are okay, line up the headers, using a le MEC board and optionally some of the mounting points. Once you are happy, solder the three 1*10 male pin headers on the lower PCB, and only then fix the through-board female headers on the upper PCB.

- At this point, check again that there are no soldered joints bridging the two PCBs.

We need to first decide how the case will come together, but it is wise to now align the mounting washers. Lastly the Matias switches are then mounted in the Plate PCB, and are soldered below.

- Keep in mind that once the switches are in, the only way to separate the two PCBs is to remove the switches!

So it could be that the DIN functions of buttons and encoders are tested prior to installing the switches.

License

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