

StereoInputSelection – mounting instructions

Thanks for buying this StereoInputSelection pcb or kit! Now the fun of mounting starts. Make sure you read the complete instructions before you start mounting. Complete assembly can be done by an experienced hobbyist in about one hour. This circuit was designed to be used in a preamplifier project. More information can be found on the project page:

<http://www.djuke.nl/en/projects/10-pre-amplifiers/34-preamplifierv2>

List of components

The kit consists of the following components. If you bought the pcb, these components are suggested (but you can of course adapt it to your needs).

SMD components

Qty	Value	Device	Parts
1	100n	C-1206	C1
1	MCP23S08	I/O extender	IC1
6	Green	LED-1206	LED1, LED2, LED3, LED4, LED5, LED6
6	BSS138	N-jfet	Q1, Q2, Q3, Q4, Q5, Q6
2	0R	R-0806	A0, A1 (address selection, use 1 in preamp project)
6	100k	R-1206	R1, R4, R9, R11, R12, R13
4	10k	R-1206	R10, R14, R15, R16
6	1k5	R-1206	R2, R3, R5, R6, R7, R8

Through-hole components

Qty	Value	Device	Parts
1	100uF/16V	C-pol 2.5-6	C2
3	Cinch-4x	Connector	IN12, IN34, IN56
4	KK-3pin	Connector	IN5, IN6, OUT1, OUT2
1	KK-4pin	Connector	MULTI-CTRL
1	Ribbon 6-pin	Connector	INPUT
6	1N400x	Diode	D1, D2, D3, D4, D5, D6
6	DC5V	Relay	K1, K2, K3, K4, K5, K6

Tools

Required:

- ✓ Soldering iron, flux and solder (0.5mm)
- ✓ Multi-meter (voltage and resistance)
- ✓ Side-cutting pliers, tweezers

Recommended:

- ✓ Adjustable power supply
- ✓ Oscilloscope
- ✓

Mounting

Note that this kit contains (small) SMD components, which have been pre-mounted for convenience. The easiest way of mounting the remaining through-hole components is by starting with the components with the lowest height and build up the PCB in steps, where components of the same height are fitted and soldered in each step. So, solder the through-hole components in this order: diodes, small connectors, electrolytic capacitor, relays, cinch connectors.

Always double check all components before you solder them (especially the ones that are polarity dependent, electrolytic capacitors, etc), as it is difficult to remove them after soldering, much more time consuming and may break components or PCB.

Hints:

- The pcb can directly be mounted to a panel using the cinch connectors
- The 5.1InputSelection pcb has the same hole layout and can be stacked on top using metallic spacers

Operating mode

The circuit is intended to be controlled from a SPI master, like a microcontroller. Please refer to the schematic and datasheets if you intend to use it in some other way. As an example: the address selection can be chosen with A0 and A1 (both at 1 in the preamp project).

Testing

Double-check all soldering connections to make sure no shorts are present.

- Connect the INPUT connector to a 5V SPI master
- Check the voltage on pin18 of IC1 (should be 5V)
- The LEDs provide visual feedback on the chosen input

Schematic and top silkscreen

