

# RELAY SWITCHER

The information on this page is the bare minimum needed to build the project, however you will find more information at <http://six4pix.com/switcher>

I recommend you check the expanded instructions before you start building the board.

## Here are the component designators used on the PCB:

**R1, R11** 1K RESISTOR (X2)  
**R2-R9** 100R RESISTOR (x8)  
**R10, R12** 1K5 RESISTOR (X2)  
**R13** 220R RESISTOR

**R10 is the unlabelled resistor above R11. R3-R9 are the unlabelled resistors between R2 and R10.**

**C1** 47UF 50V ELECTROLYTIC CAPACITOR  
**C2,C3,C4** 100nF CERAMIC CAPACITOR (X3)  
**C5** 4U7 10V ELECTROLYTIC CAPACITOR

**D2** 1N4001 RECTIFIER DIODE  
**D3** 1N4148 SIGNAL DIODE

**PWR, ACT** 3MM LEDS (x2)

**IC1** PIC16F1825 MICROCONTROLLER (In Socket)  
**IC2** 6N138 OPTOCOUPLER (In Socket)  
**IC3** 3.3V 0.1A VOLTAGE REGULATOR TO92

**MODE** 6MM TACTILE SWITCH

**5VDC** DOUBLE TERMINAL BLOCK 5MM

**MIDI\_IN** 5 PIN DIN PCB MOUNT SOCKET

**Please carefully check the polarity of C1, C5, D2, D3, IC3 and all LEDs before soldering!**

Solder the module to the pin header on the relay board.  
Attach the 4 nylon stand-offs to the base plate using the screws.  
Place the relay board on the stand-offs and use the nuts to secure the relay module to the base.  
Use the brass stand-offs to support the relay switcher module above the upper part of the base plate.

## The default MIDI note to port mapping is

Port	Note	Port	Note
PORT A	C3 (60)	PORT E	E3 (64)
PORT B	C#3 (61)	PORT F	F3 (65)
PORT C	D3 (62)	PORT G	F#3 (66)
PORT D	D#3 (63)	PORT H	G3 (67)

The default receive channel is **MIDI Channel 1** for all ports.  
Output is set at **20 milliseconds duration**.

The configuration can be changed over MIDI using a downloadable Java application. Check the web link given at the top of this sheet for the full instruction manual and the application download.

**\* Power the board from a 5VDC supply being careful to get the polarity correct. Do not power the module from a higher voltage supply – this may damage the relay module.**

**\* The power supply should be able to provide at least 500mA at 5VDC**

**\* I do not not advise using the module to switch mains electricity unless you are a qualified electrician or otherwise competent to work on mains supplies. If you do so, it is AT YOUR OWN RISK.**

**\* To electrically isolate the relay coil drivers from the Relay Switcher microprocessor module requires a second DC power supply and removal of the jumper on the relay module. You should consider this step if you are switching mains power with this module. Please check the web site for information.**

**\* Always check the manual if you have any doubts**

**\* Have Fun!**

Feel free to contact me at [sixtyfourpixels@gmail.com](mailto:sixtyfourpixels@gmail.com) with questions, suggestions and feedback.

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