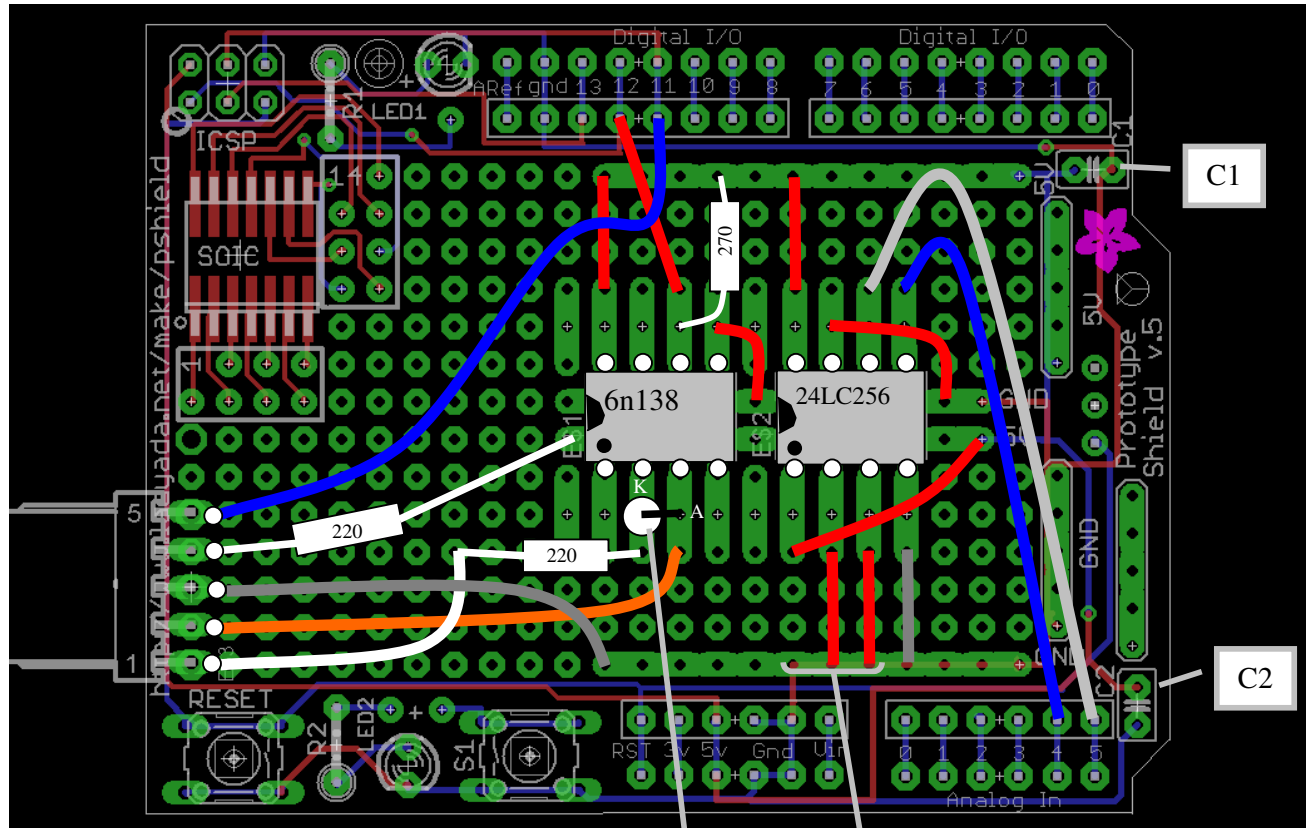
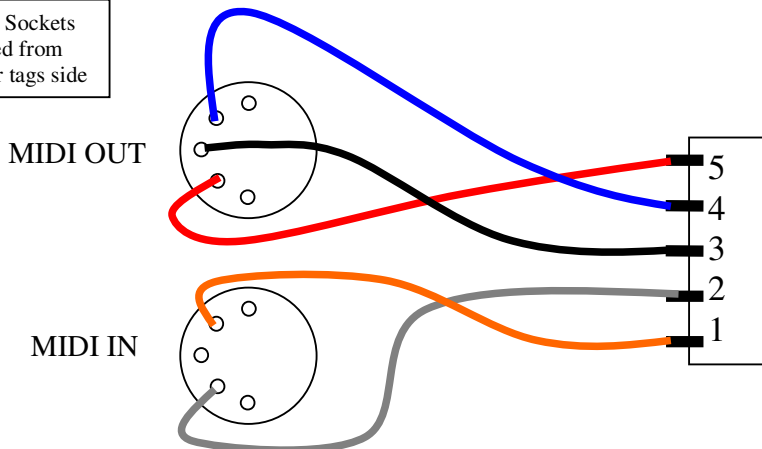


MIDI In-Out + EEPROM on Adafruit Prototype Shield PCB



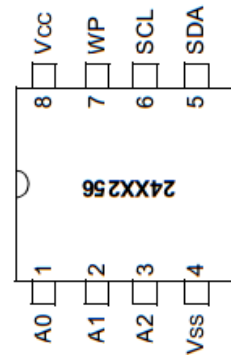
MIDI Connector Wiring

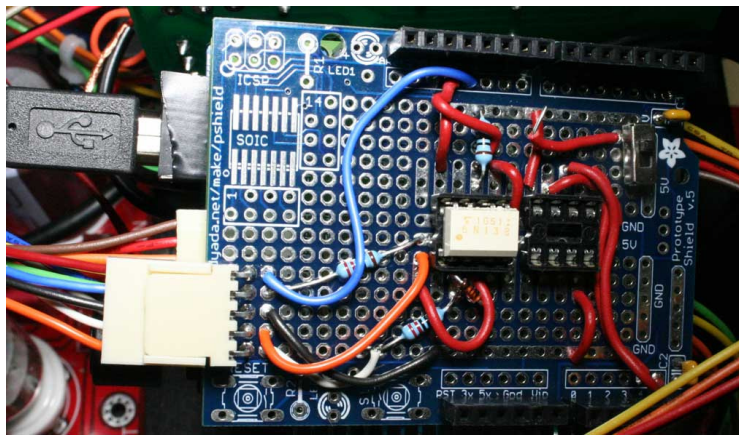
MIDI Sockets
viewed from
solder tags side



Set I2C address lines
to 5V or GND as
required – see “I2C
Addressing” below.

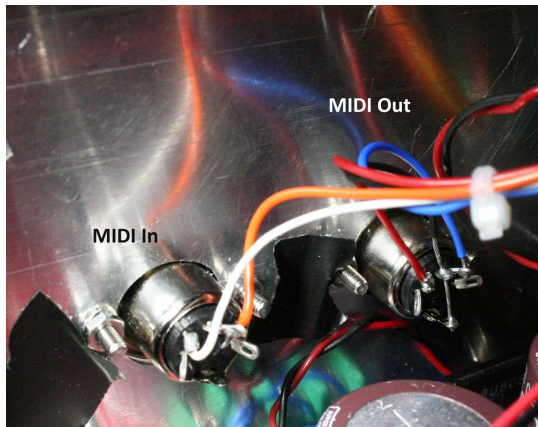
1N4148





The MIDI/EEPROM Shield

Note: The EEPROM chip is not yet inserted and the address lines are not wired in this photo. The small program/run switch at the top right was not used in the final version.



Wiring of MIDI sockets

Colours as per the wiring diagram above (apart from the white wire which is grey in diagram)

MIDI + EEPROM Bill of Materials

Qty	Description	Comment	Part number	Supplier
1	1N4148 Silicon Diode			
1	6n138 Darlington optocoupler			
1	24LC256 ¹ I2C EEPROM ²	May be omitted if only MIDI is required		
2	8 Pin DIL socket	1 only required if EEPROM is omitted		
2	220 ohm 0.25W			
1	270 ohm 0.25W			
2	5 Pin 180 degree DIN sockets			
1	Adafruit Prototype Shield pcb		55	Adafruit ³
1	Set of stacking headers for Arduino	Fit to the outer row of holes on shield	85	Adafruit
2	0.1uF 50V ceramic capacitor (C1, C2)			
1	5-way Right angle Molex board plug			
1	5-way Molex cable socket			
5	Molex crimp terminals to suit above			
	Single core hook-up wire 22 AWG			
	Flexible hook-up wire - various colours			
4	M3 Bolts, nuts and spring washers	For mounting DIN sockets to the panel		

¹ The 24LC256 is a 32K × 8 (256 Kbit) I2C Serial EEPROM

² Other Serial EEPROMS are pin compatible e.g. MC24C64 8192 × 8 (32 Kbit)

³ Also available from other suppliers in UK and Europe e.g. [ebay](#) and Pieter Floris (Netherlands)

I2C Addressing

The I2C address lines A0, A1 and A2 of the Serial EEPROM must be set to provide a unique address on the I2C data bus to avoid conflicting with any other device on the same I2C data bus. Each pin must be connected to either +5V (logic '1') or GND (logic '0') to select the address as per the following table. *Address 1 is considered as reserved for use by this EEPROM #1.*

I2C Address	A2	A1	A0	Comment
0	0	0	0	Used by Adafruit LCD Shield
1	0	0	1	EEPROM #1
2	0	1	0	Available for other I2C devices
3	0	1	1	“
4	1	0	0	“
5	1	0	1	“
6	1	1	0	“
7	1	1	1	“

MIDI Schematics

