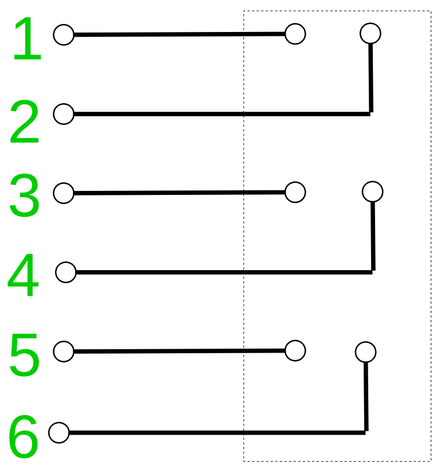
Wimborne Minster Model Town Interfaces Board – Circuit Diagram

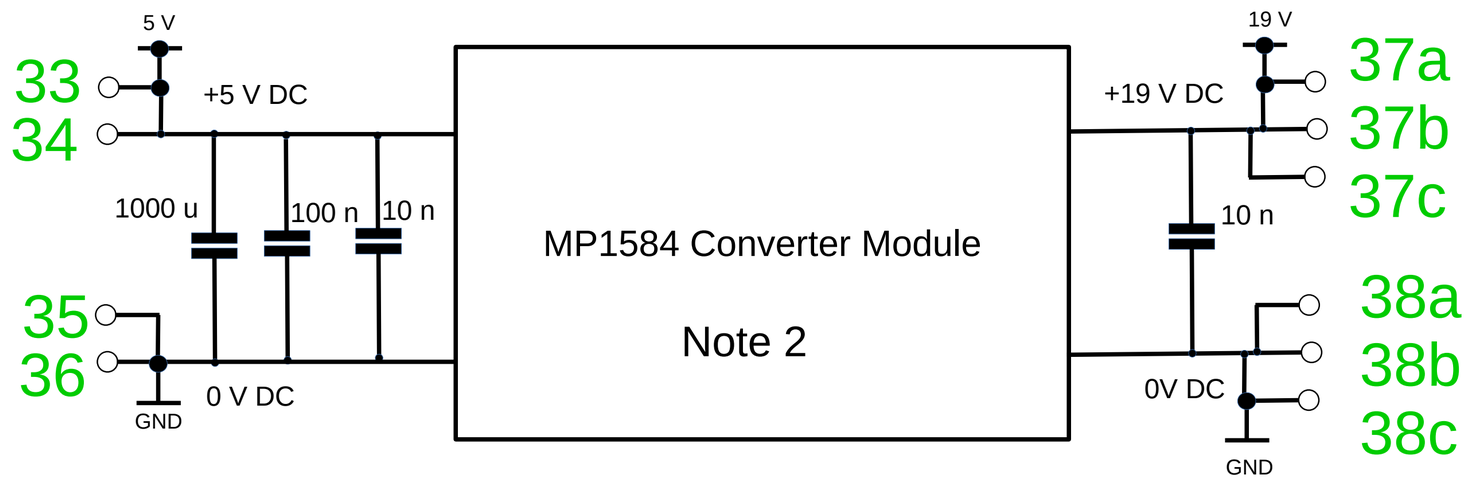
V0.2

Real Time Clock Connector



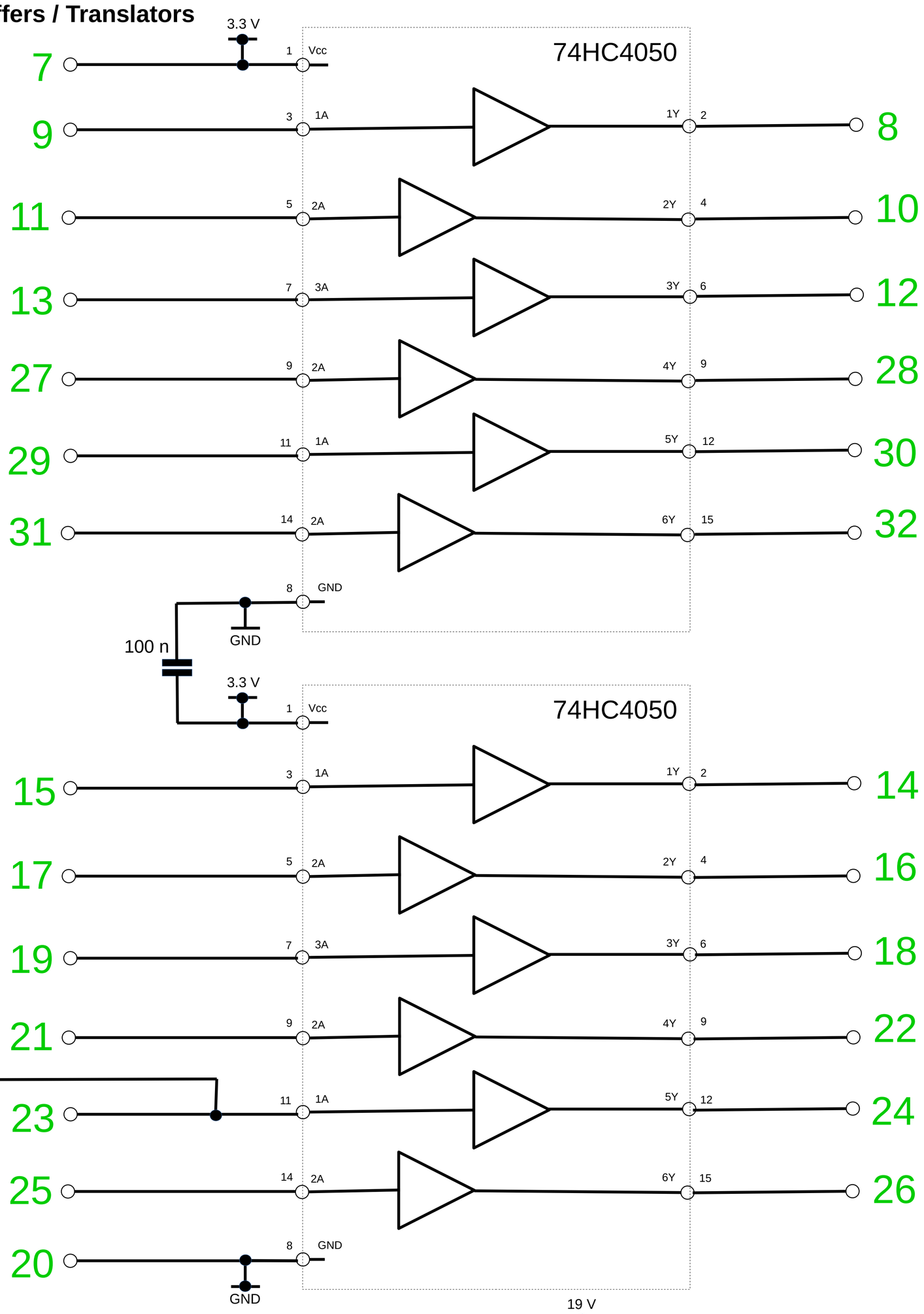
Note 1

DC-DC Converter

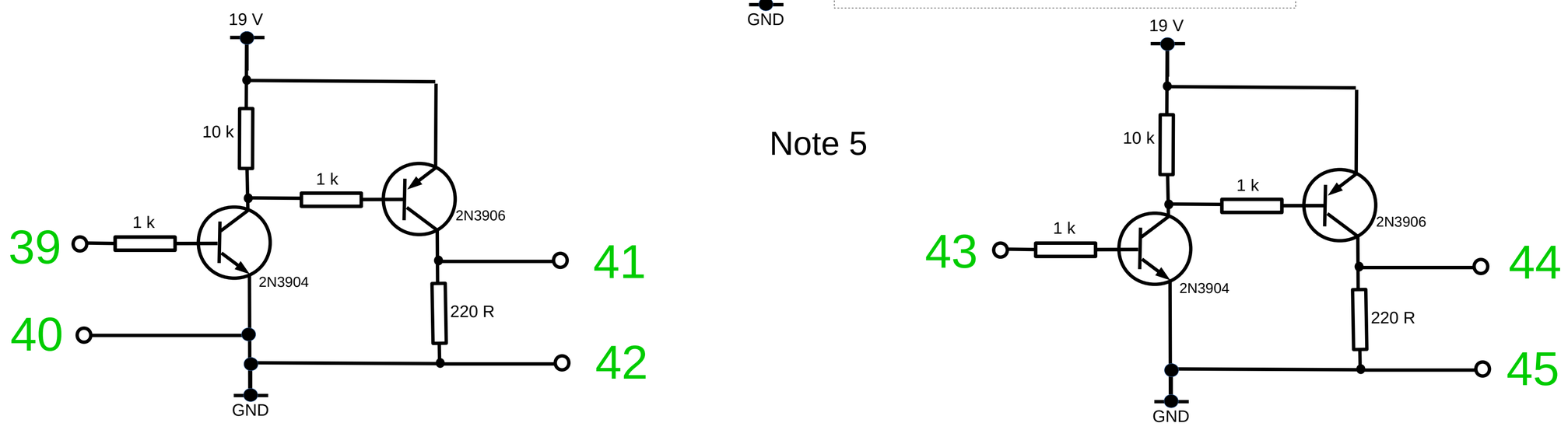


Notes 3and 4

Buffers / Translators



Note 5



Wimborne Minster Model Town Interfaces Board – Circuit Notes

Notes on Circuit Elements:

1. The Real Time Clock connector should be made using a double length of GPIO Header pins.

2. The DC-DC Converter Module is a buck converter which can convert DC I/Ps between 12 V and 24 V to to any lower value. The MP1584 Converter Module should be adjusted to provide 5 V output before connecting to any components using the on-board potentiometer.

3. 74HC4050 is a hex non-inverting Buffer Translator. See pinouts below. If Vcc is 3.3 V, then any input levels up to 15 V will be translated to 3.3 V, to suit the Rpi. Similarly, if Vcc is 5 V, then 3.3 V logic levels from the RPi will be translated to 5 V. Outputs may be routed via a low value resistor (eg 220 R) to protect the driver from excess current Drain.

4. Buffers / Translators are used to convert 5 V logic I/P's to 3.3 V to suit the Pi where there are more than one or two Channels, the Resistance Probe.

5. Level Converters are used to convert 3.3 V logic from the Pi to 5 V or 19 V to suit the Motor Drive Circuit. Solid State Relays or Magnetic Probe. These will be configured on a case by case basis.