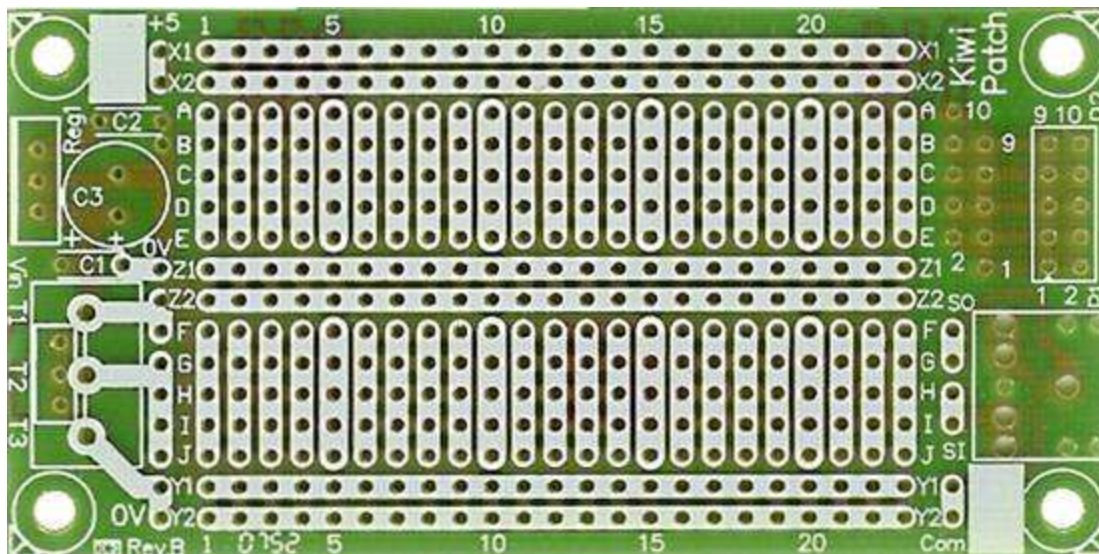


## INTRODUCTION

The Kiwi-Patch PCB provides a solution for building electronic circuits originally developed on a basic breadboard including some additional features such as a 3 pin terminal connector, 10 Way DIL connector, stereo 3.5mm jack socket and on board voltage regulator circuit.

**Fig 1 KiwiPatch PCB**



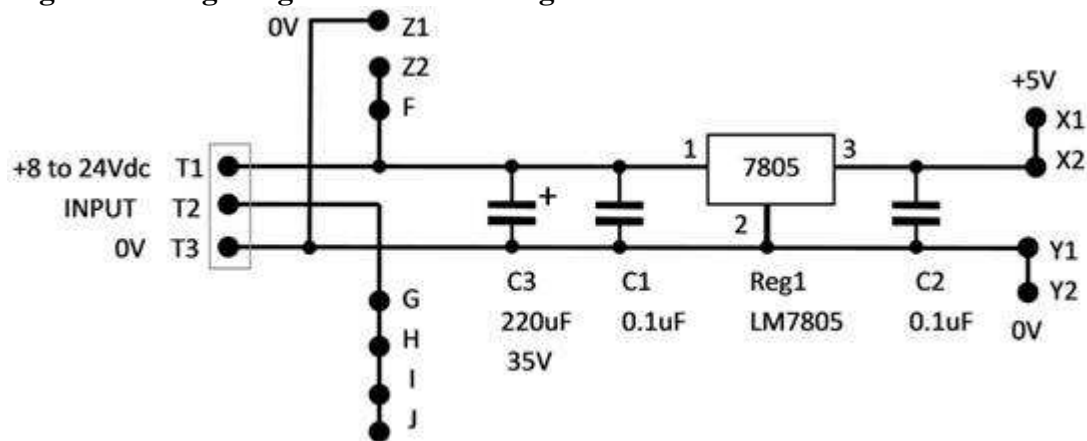
The regulator circuit consists of the following

Reg1 - Voltage regulator LM7805

C1, C2 - 0.1uF Ceramic Capacitors

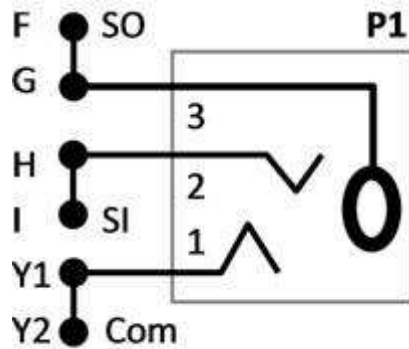
C3 - 220uF 35V Electrolytic Capacitor

**Fig 2 Voltage Regulator Circuit Diagram**



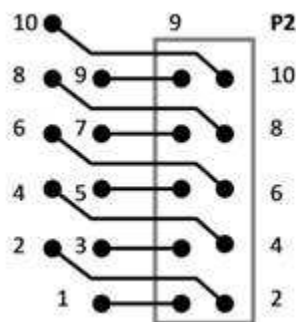
The stereo socket, fitted to location P1, provides the means to connect a stereo jack lead to the Kiwi Patch PCB. This may be used as a means for audio or data communications.

**Fig 3 P1 - Stereo connector Circuit**



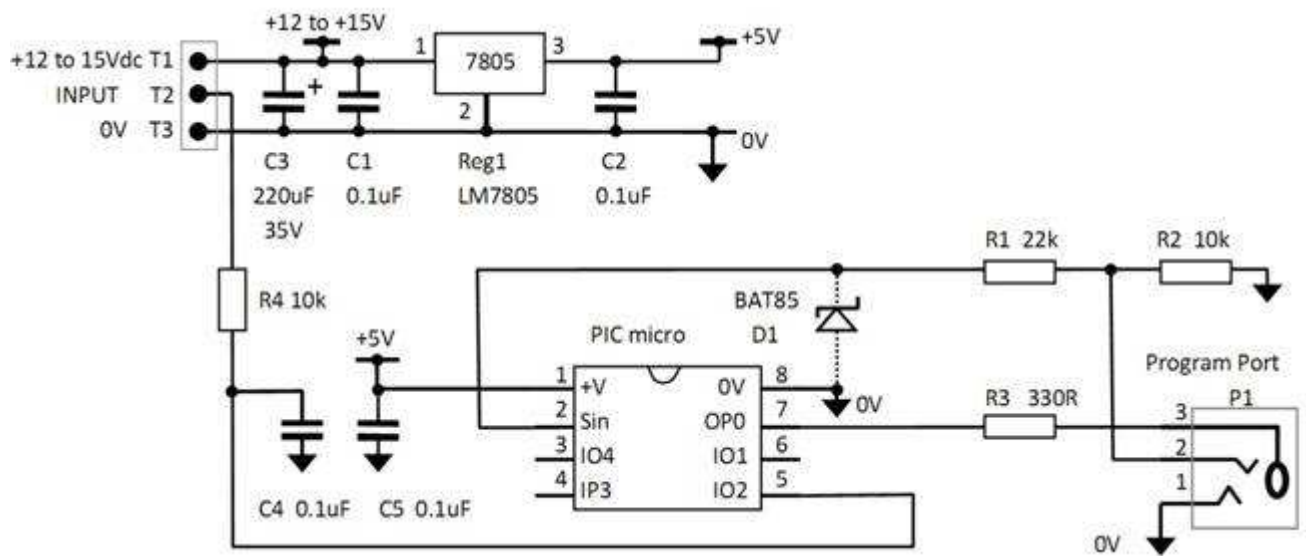
The Dual In-Line DIL 10 way header, fitted to location P2, provides the means to connect a ribbon cable or Pin header for connecting to adjacent PCBs.

**Fig 4 P2 - DIL Header Circuit**



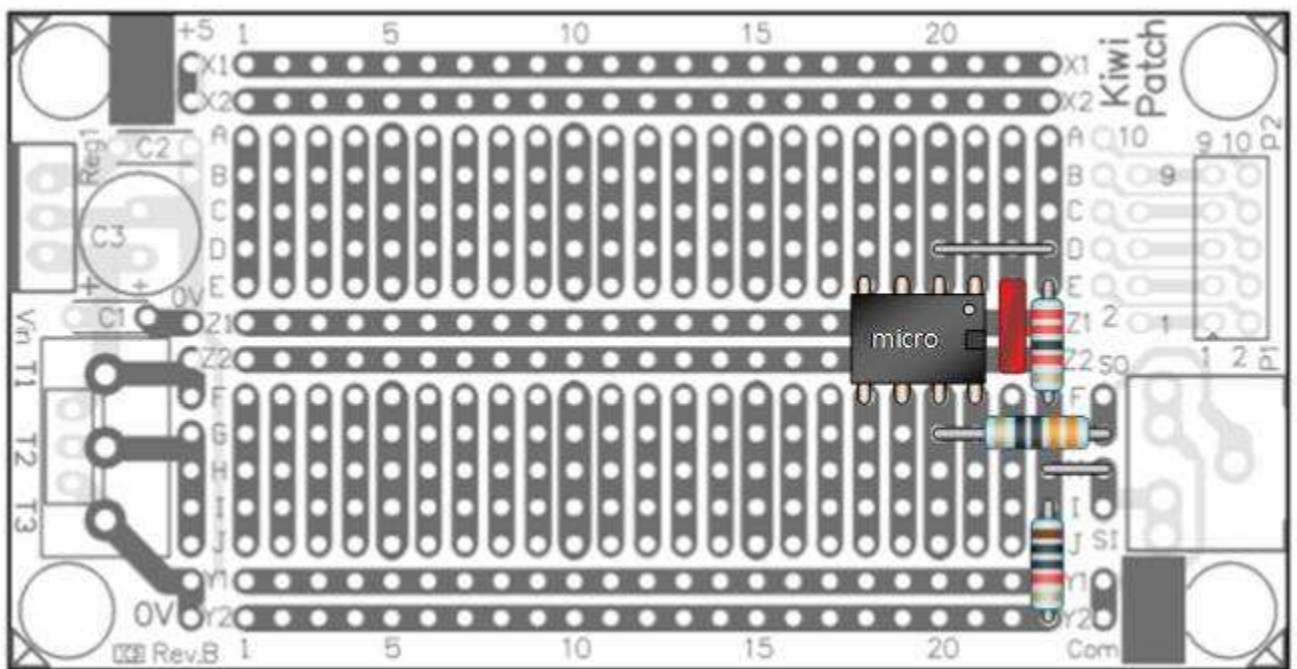
The Kiwi Patch PCB is ideally suited for a typical application using a Pic microcontroller circuit that includes the 5V Regulator supply circuit and stereo socket used for serial programming the microcontroller.

**Fig 5 Pic Microcontroller Circuit diagram with serial programming port**



Below is an example of the assembled Kiwi Patch PCB with the circuit example built as illustrated above in Fig 5.

**Fig 6 KiwiPatch Pic Microcontroller circuit application**



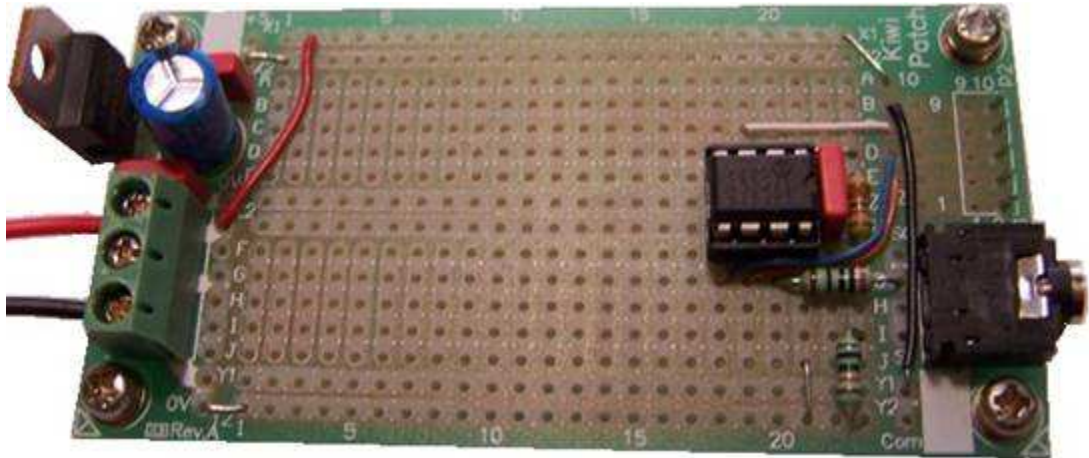
The PCB layout for the Pic microcontroller circuit diagram in Fig 5 is illustrated below in Figure 7.

The components include the Pic Microcontroller, capacitor C5 0.1uF, Resistors R1 22k, R2 10k, R3 330R and two wire links. (22k = Red, Red, Black, Red, 10k = Brown, Black, Black, Red, 300R = Orange, Orange Black, Black.)

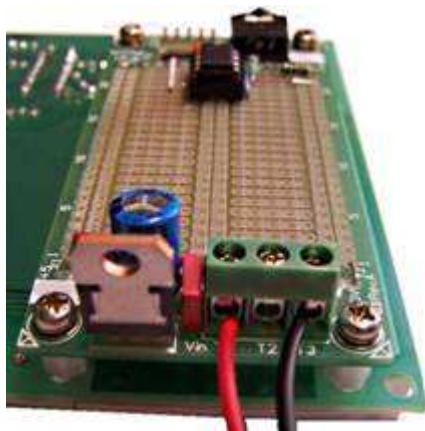
Underside of the PCB, the Rail Z1 is the +5V supply rail and a solder bridge connecting to E21 microcontroller Pin 1.

The 0V supply rails Z2 connects to the F21 microcontroller Pin 8, and Rail Y2 connects to the serial socket P1 com.

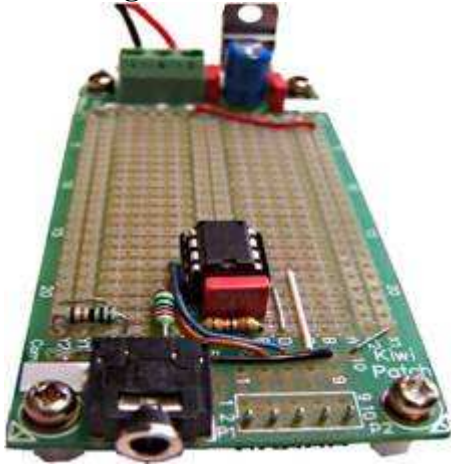
**Fig 7 Partially assembled KiwiPatch PCB**



**Fig 8 Assembled Regulator Supply**



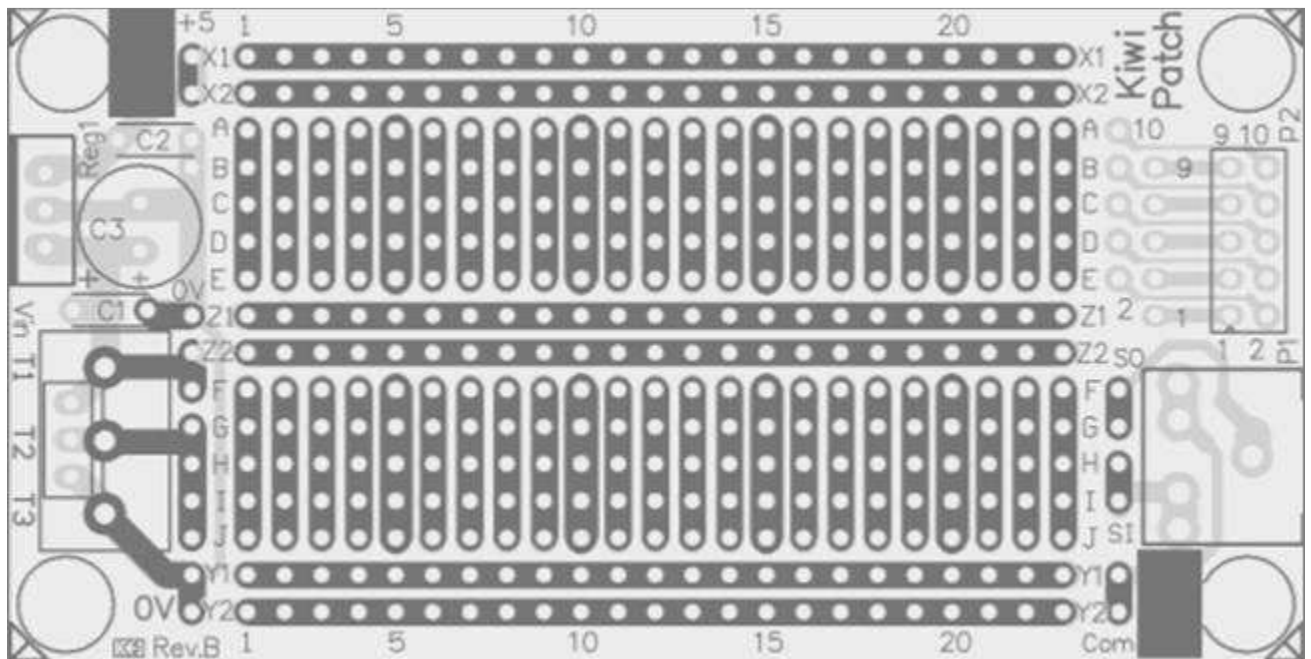
**Fig 9 Assembled Stereo socket and Pic Microcontroller**



The copper tracks are illustrated on top of the board to help visualise the connections below.

Solder bridging can be used to connect concentric tracks, typical for connecting IC pins to common supply rails.

**Fig 10 Kiwi Patch PCB Layout**



**Fig 11 Kiwi Patch PCB layout with highlighted negative and positive rails**

