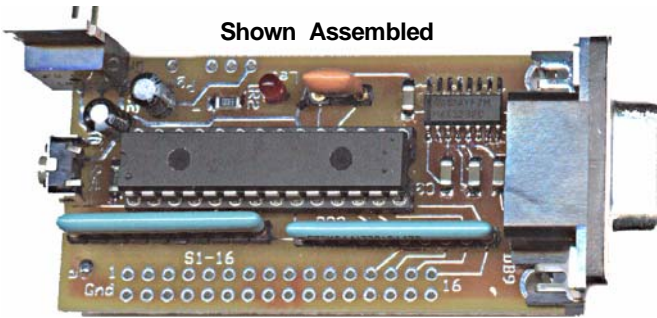
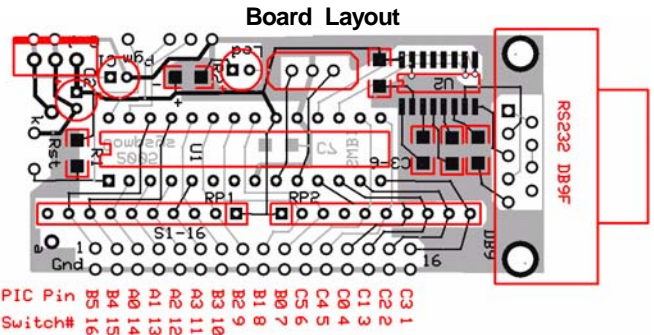


SWBRD1

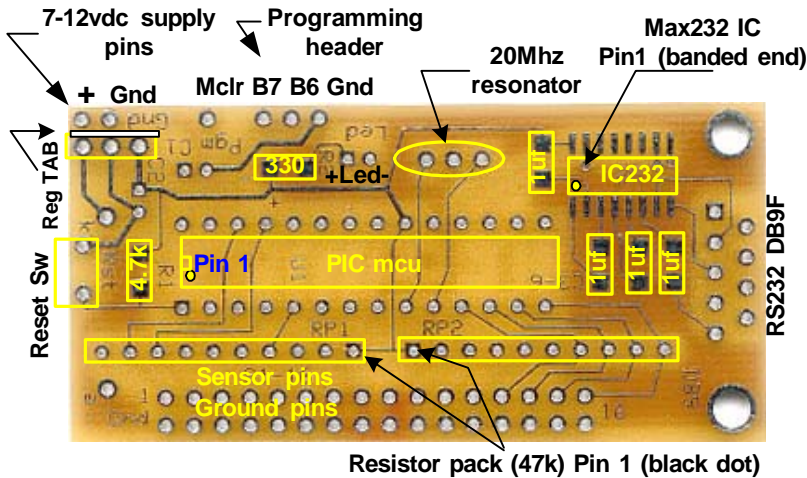
16 Switch Sensor Board Kit Ver 1.0



Shown Assembled

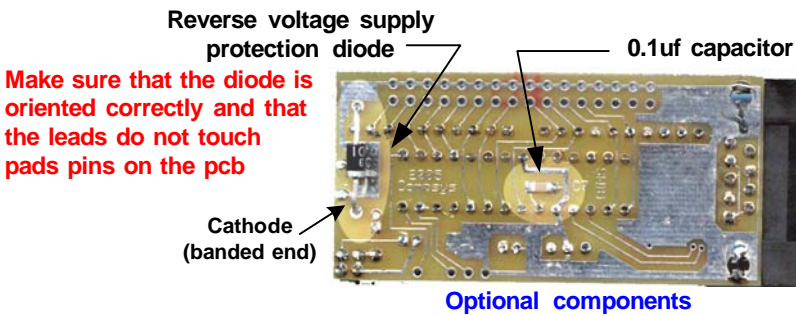


A general purpose programmable controller board configured for 16 switch sensors. The switch pins are normally held high using 47k resistors and the PIC's demo firmware detects when a pin is taken low by grounding it via a switch. The switch's status sent serially at 19200 baud via the DB9F RS232 connector. It can be monitored using any terminal application. The board can be programmed using a conventional PICProgrammer via header pins.



Construction

1. Mount the Max232 as shown. Use solder sparingly!
2. On the top side, mount the SMD resistors and capacitors.
3. Mount the 28 pin IC socket, LED, and C1,C2 (radial caps)
4. Orient the regulator with the metal tab facing outside and solder it in place and also mount the Reset Switch.
5. If you plan on using the PIC pins for other applications without the 47k pull up resistors, then mount 1x10 sockets in the RP1, RP2 holes so that the resistor packs can be removed when needed.
6. Mount the DB9F socket, 20Mhz resonator and any headers
7. Options: On the bottom side of the board mount C7 and the 1N4001 diode as shown below.
8. Double check all your work and inspect for cold solder joints and solder bridges.
9. Apply 7-12vdc supply and check if the LED lights and measure for 5v along the power bus.
10. Carefully orient and insert the PIC mcu in the 28 pin socket



Make sure that the diode is oriented correctly and that the leads do not touch pads pins on the pcb

IMPORTANT!

Assembly of this kit requires that the user has the necessary tools and skills to work with SMD (surface mount device) components. If you are not comfortable with soldering miniature parts, then please seek assistance from someone who is capable to do so. Small mistakes can cause many frustrating hours of grief in trouble shooting!

Minimum tools required:

A fine point low power (25w max) soldering iron and thin solder. Ideally, 0.020" diameter (or less) silver-bearing non-corrosive rosin core should be used. In addition, narrow needle nose pliers, diagonal cutting pliers, good quality tweezers, large magnifying glass, volt-ohm meter, and a 7 to 12 vdc power supply.

Make sure that you work in a clean well lighted area and have adequate desk area. If you have carpeting then please be aware of static discharge as well as accidentally losing tiny components in the carpets fiber. SMD capacitors and resistors are very tiny and can quickly become lost in the carpeting.

Parts

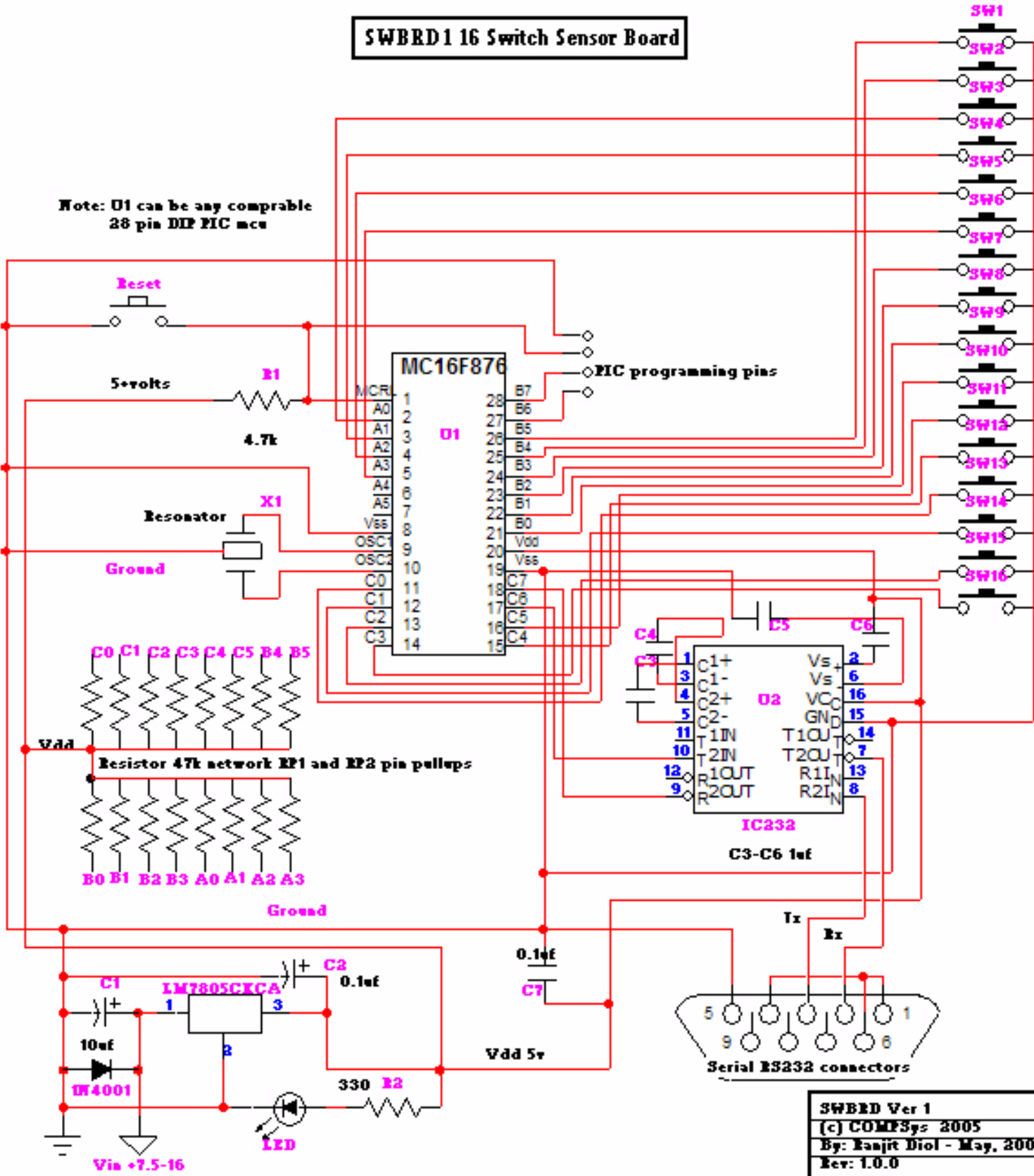
C1 0.1uf	PIC16F876
C2 1uf	Max232 SOIC
C3-C6 1uf SMD	LM7805
C7 0.1uf SMD	20Mhz resonator
R1 4.7K	LED
R2 330	D1 1N4001 diode (optional)
RP1,RP2 47K array	DB9F connector
Printed circuit board	Reset Switch and misc headers

Disclaimer and Terms of Agreement

As with any kit, only the individual parts supplied are guaranteed against defects and not the user assembled unit. All kit parts are purchased from reputable sources such as Digikey Inc, Allied Electronics and Mouser Inc, however, should a kit part be ascertained to be defective it will be replaced at no charge within 30 (thirty) days of the purchase date. Beyond that, COMPSys Workbench and / or the COMPSys developer(s) assume no liability and WILL NOT be held liable nor be held responsible wholly or in part for any damages caused by the construction of and / or use of their products sold .

SWBRD1 16 Switch Sensor Board

Note: U1 can be any comparable 28 pin DIP PIC mcu



SWBRD Ver 1
(c) COMFSys 2005
By: Ranjit Diol - May, 2005
Rev: 1.0.0

Subject to change without notice. Due to changes, part numbers may not match those on the pcb.