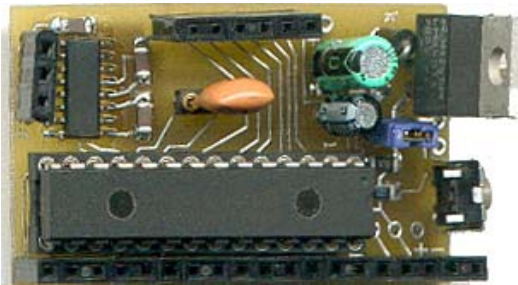


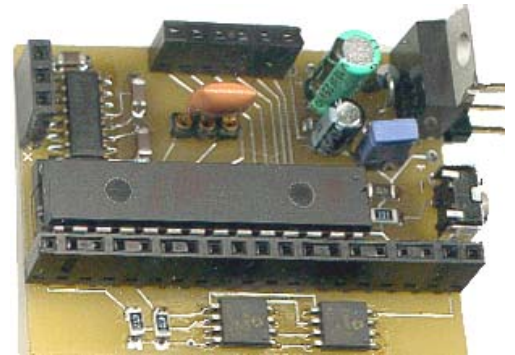
# CB28 and CB28a Ver1

## General purpose 28 pin PIC microcontroller boards



C28

- On-board regulator and power LED
- On-board RS232 driver chip
- All PIC pins are brought to headers
- CB28A has room for 2 I2C eeproms
- Reset button
- Selectable power, on-board/external
- Small and economical



C28A

Can be used as stand alone controllers for a variety of projects. For quick projects it takes the hassle of having to bread board all the parts. Includes, a 5v regulator, an RS232 transceiver, reset button, and the CB28A includes room for 2 I2C eeproms. All pins (PortA, PortB and PortC) are conveniently brought out to headers. One can use male or female headers. The 3 pin OSC sip socket makes easy to change resonators. RS232 pins are Rx,Tx and Gnd and are wired to Portc Pins 6 and 7. This makes it possible to program the PIC while on the board using a bootloader. Designed to work with PIC16F87x and PIC18F2x2 mcus.

Kits provided by COMPSys are designed for use by other developers and hobbyists to be incorporated in their own designs. The kits are not intended to be end user plug'n'play devices.

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, 0.022" 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.

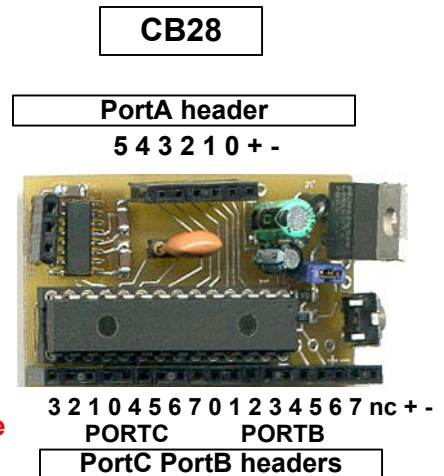
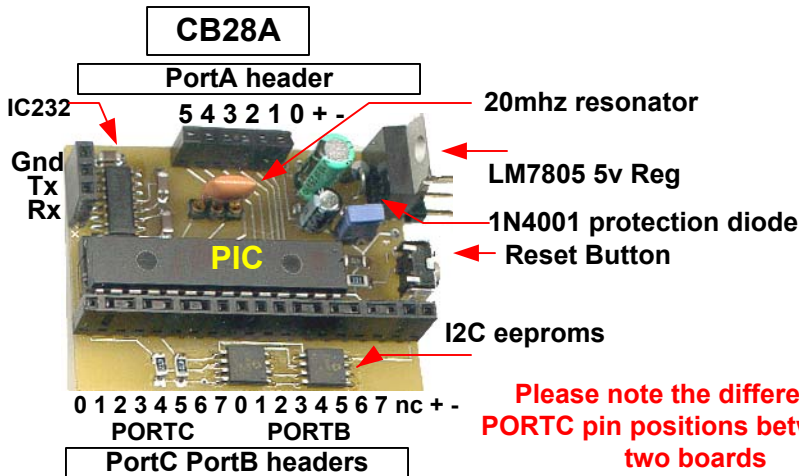
**Make sure that you work in a clean well lighted area and have adequate desk area. If you have carpeting then please be aware of static discharge as well as accidentally losing tiny components in the carpets fiber. SMD capacitors and resistors are very tiny and can quickly become lost in the carpeting.**

### Disclaimer and Terms of Agreement

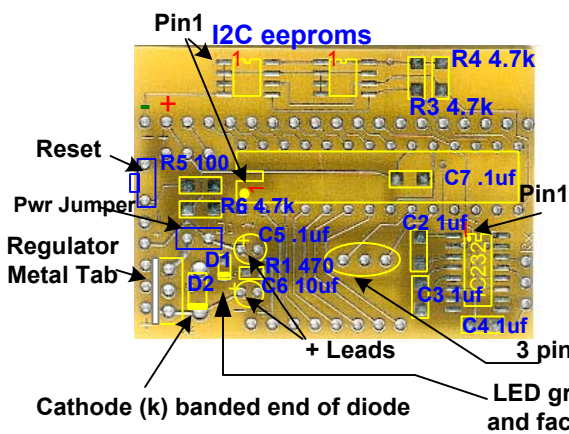
As with any kit, only the individual parts supplied are guaranteed against defects and not the user assembled unit. All kit parts are purchased from reputable sources such as Digikey Inc, Allied Electronics and Mouser Inc, however, should a kit part be ascertained to be defective it will be replaced 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 .

# CB28 /CB28a Assembly

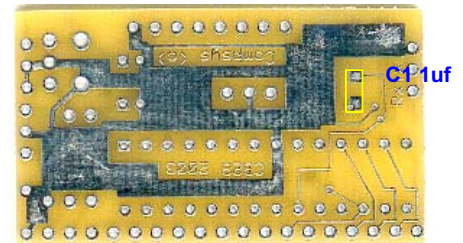
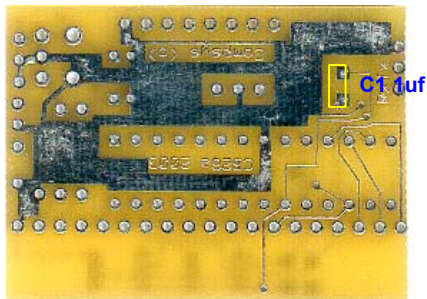
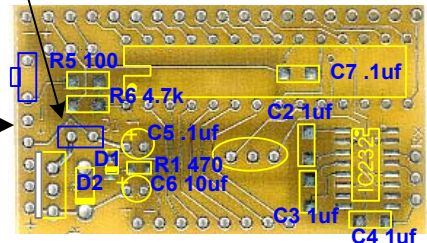
MCU: PIC16F87x or PIC18F2x2 (kit supplied with a PIC16F876)



Please note the difference in PORTC pin positions between the two boards



The 2 pin jumper can be removed to disconnect the LM7805 if a 5v supply is to be used instead. The 5v supply can be connected to + - pins as shown.



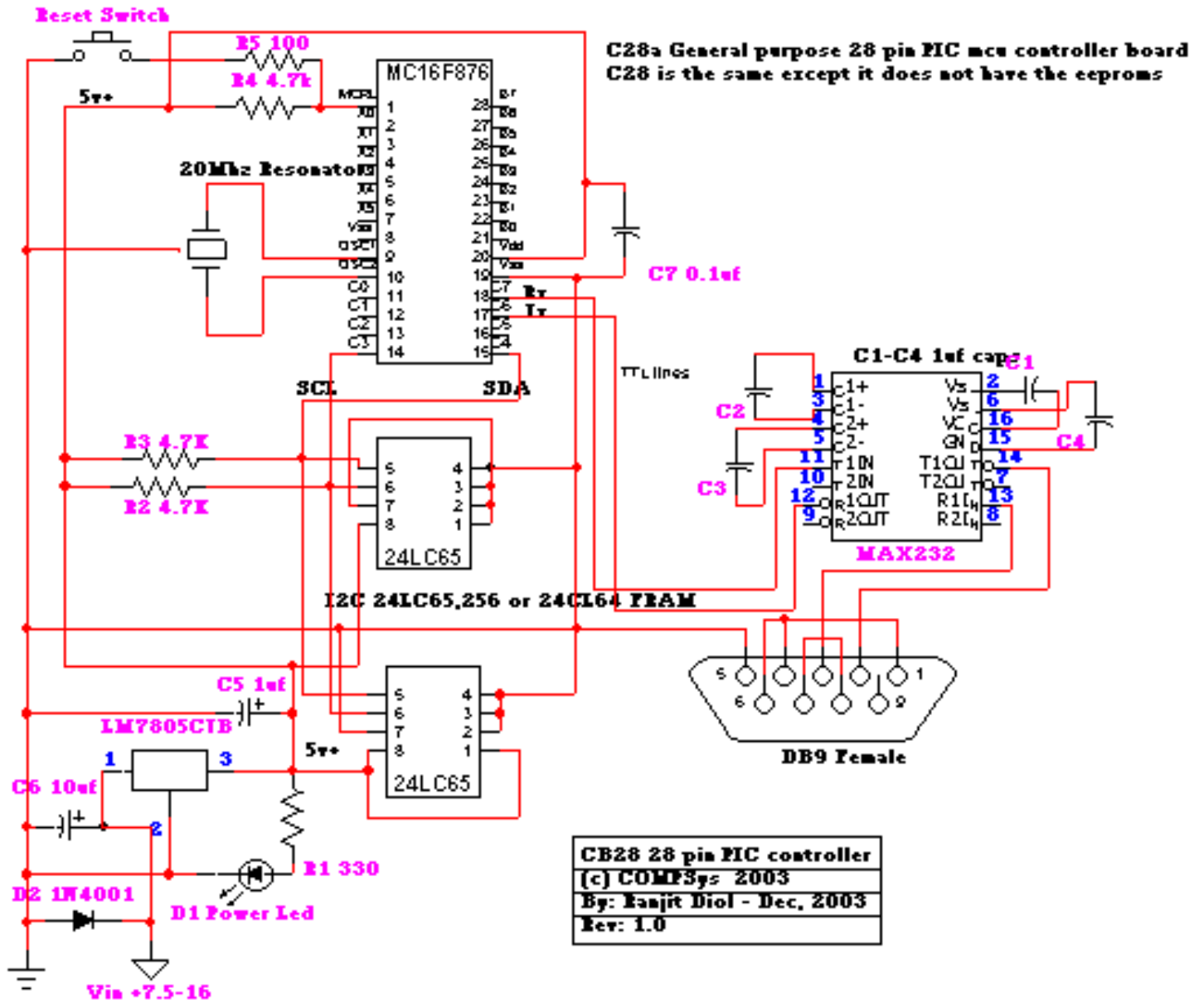
Note: Make sure to orient the diodes, radial capacitors, IC's and eeproms correctly!

## PARTS

- |                          |                           |
|--------------------------|---------------------------|
| 4 - 1uf SMD caps         | 1 - Max232SOIC            |
| 1 - .1uf SMD cap         | 1 - PIC16F876             |
| 1 - 10uf radial cap      | 1 - 20Mhz resonator       |
| 1 - 1or .1 uf radial cap | 1 - LM7805 regulator      |
| 1 - 100 SMD resistor     | 1 - Reset switch          |
| 1 - 470 SMD resistor     | 1 - 2 pin jumper/header   |
| 1 - 1N4001 diode         | 1 - SMD LED               |
| 1 - circuit board        | I2C eeproms CB28A board   |
| *1 4.7k SMD resistor     | *3 - 4.7k for CB28A board |
| Misc: pin headers        |                           |

- Carefully prep the capacitor, resistor and LED pads with a small drop of solder.
- Mount all the SMD capacitors and resistor on top side
- Mount the LED (D1) NOTE: The cathode (-) end has a dark band and faces towards the edge of the board.
- Carefully orient and mount the eeproms (CB28A board)
- Carefully orient and mount the IC232. Note Pin 1 is at the banded end (beveled edge) of the IC
- On the back side of the pcb, mount capacitor C1
- Orient and mount the 1N4001 diode (D2), observe the banded end (cathode).
- Mount LM78L05 Observe orientation of the LM78L05 IC (flat end faces out towards).
- Orient and mount C5 1uf & C6 10uf radial capacitors
- Double check all components for solder splashes, bridges etc.
- Mount the reset switch, the 2 pin power jumper, IC socket & headers

# CB28a Schematic



Subject to change without notice