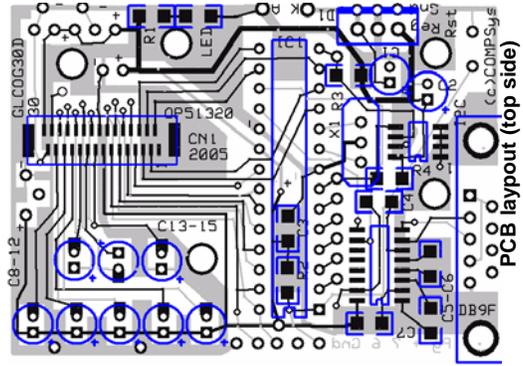


COG Optrex 51320 LCD interface Ver 1.0.0

A PIC microcontroller based adapter for a Optrex 51320 128x64 COG lcd. The board also includes a 5v power regulator and a Max232 RS232 IC. All Unused pins brought to headers and can be used for other purposes.

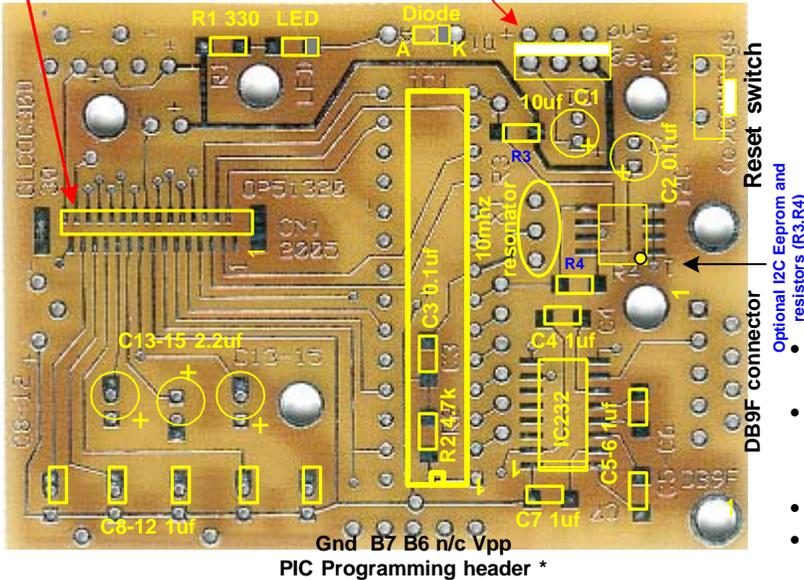
Note: The LCD has an LED backlight that consumes approx 250ma. If power for the backlight is provided by the board, then a heat sink should be used on the regulator



Includes provisions for an optional I2C eeprom for storage

Shown assembled (with the optional Optrex 15320 128x64 LCD)

30 contact FFC lcd ribbon connector Contact side
 1N4001 rev voltage protection diode
 5v Regulator TAB faces outwards
 7-16vdc supply Vin+ Gnd



PARTS List

- | | |
|----------------------|---------------------|
| R1 - 330 | LM7805 5v reg |
| R2 - 4.7k | Max232 RS232 IC |
| C4-C12 1uF | PIC16F876 |
| C13 - 15 2.2uF | Resonator - 10mhz |
| C1 - 10uF | FFC 30 connector |
| C2-3 - 0.1uF | Misc: |
| D1 - 1N4001diode | Sockets and headers |
| LED | |
| Optional: | |
| I2C eeprom | |
| R3,R4 4.7k resistors | |

* The PIC can be programmed using a conventional programmer and connecting it to the header. See your programmer's documentation for more info.

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.

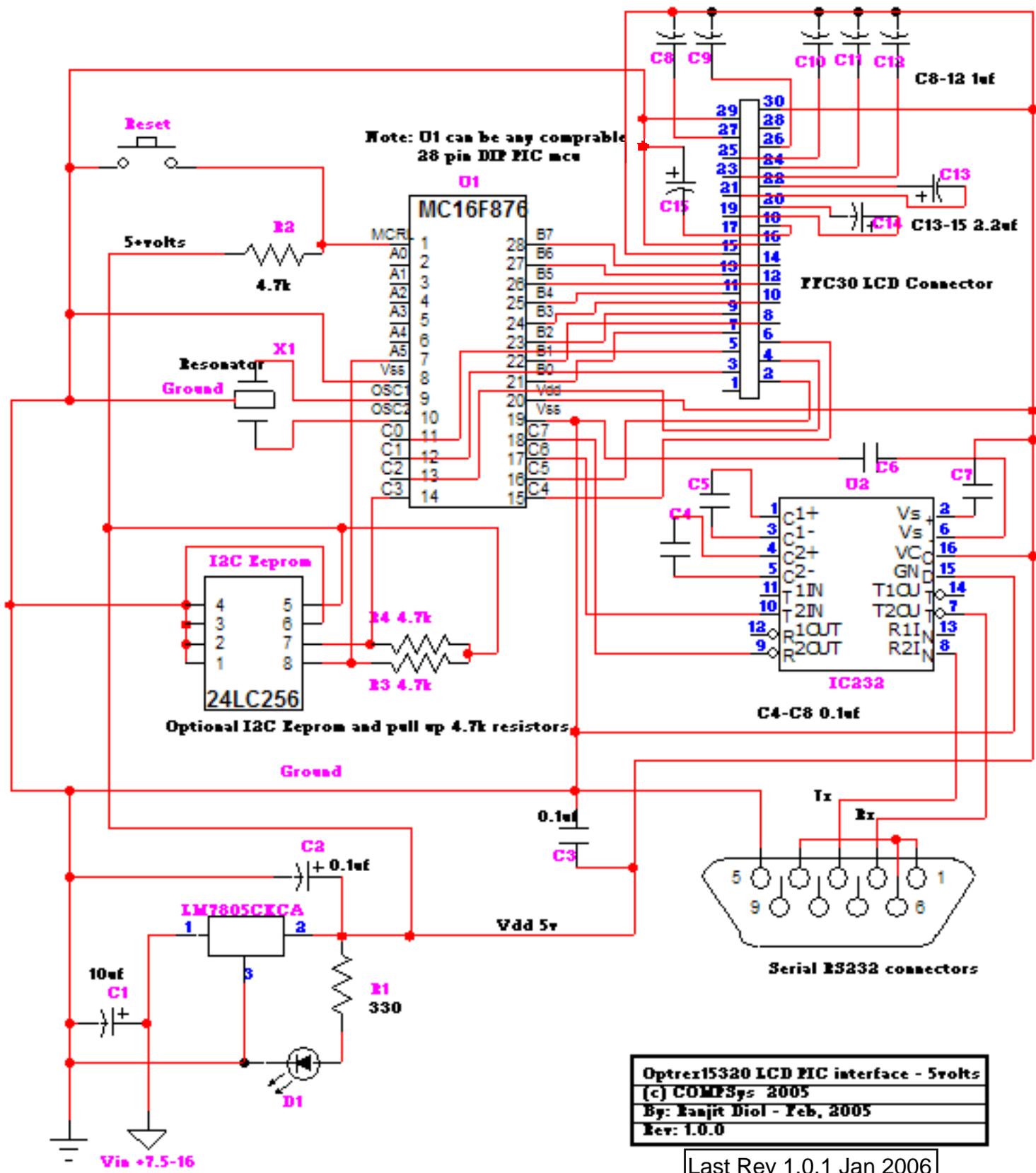
Construction

- Carefully mount the FFC30 connector. **Note how the contact side is positioned!**
- Mount capacitors and resistors next. Make sure the electrolytic caps polarity is correct. Square pcb pad is +
- Mount the RS232 IC (banded end is pin 1)
- Mount the optional I2C eeprom and R3,R4 resistors
- Mount 5v regulator (the metal tab faces outwards)
- Mount the LED green band end is the catode (-) square pad
- Install the diode. Banded end goes to K (cathode)
- Mount the 28pin IC socket (notched end is pin 1)
- Mount the Reset switch and the DB9F connector
- Mount headers as needed
- DOUBLE CHECK ALL COMPONENTS!**

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 .

PIC Optrex 15320 COG LCD controller Schematic



Optrex15320 LCD PIC interface - 5volts
 (c) COMPSys 2005
 By: Ranjit Diol - Feb, 2005
 Rev: 1.0.0

Last Rev 1.0.1 Jan 2006

NOTE: Subject to change without notice. Component numbering may not match the pcb