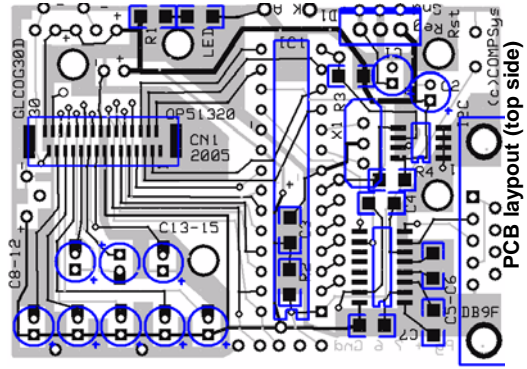


# COG Optrex 51320 LCD interface Ver 1.0.0

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.

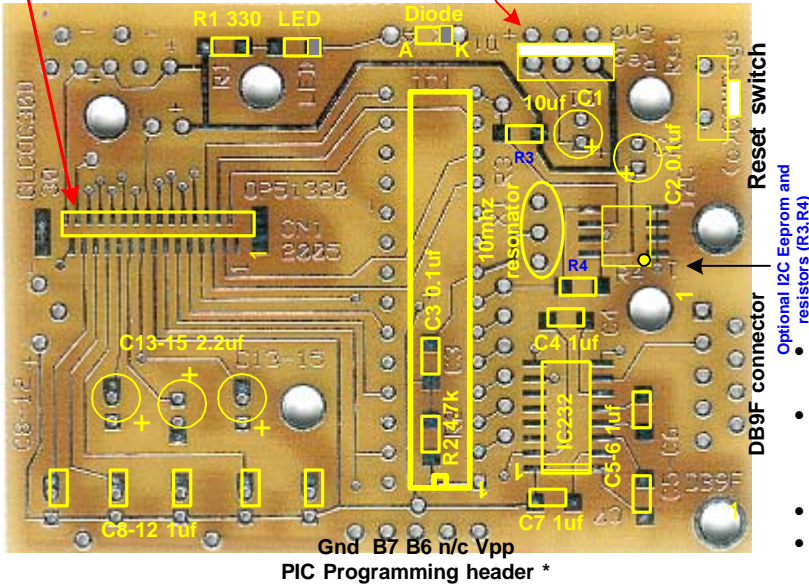
Note: The LCD has an LED backlight that consumes approx 250ma. If power for the backlight is provided by the board, then a heat sink should be used on the regulator



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.

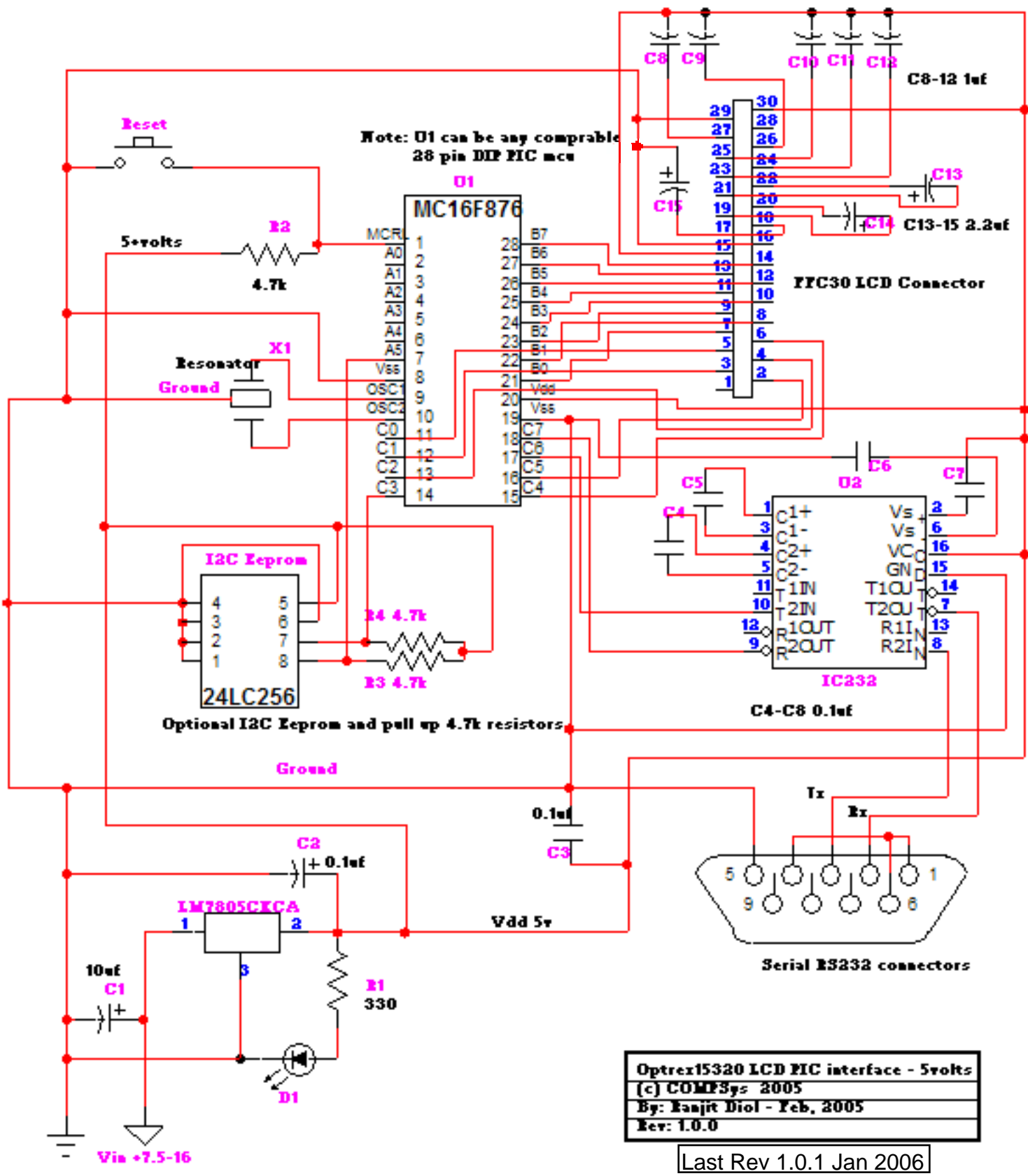
## Construction

- 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 cathode (-) 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



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