

# **SERIAL LCD DISPLAY**

## **SELD**

**With this project you can send serially data to an LCD display (with Hitachi HD4478 or compatible controller).**

**In this way you can save a lot of Program Memory Space and Micro In/Out ports.**

**You need only 1 PIC 16F84 (or any other cheaper Pic Microcotroller) and few connections.**

**You can connect SELD to another PIC/Micro or terminal with only 1 wire.**

**It is possible to send data to the display also from the PC via standard serial port (you can use any Terminal program or my Pic Terminal).**

**Seld can receive data at 2400bps and send it at 9600 bps to the LCD display.**

## **CIRCUIT**

**It is the same circuit found in PBP manual except for Debug Output Pin (PortB.0) and Serial Input (PortB.1) .**

**You don't need to connect debug pin :it is only for testing.**

**The debug instruction may cause some error if you send data to seld very fast.**

**For this reason there are 2 different files.**

**The first (Serlcd.bas) is for testing with a terminal program or a pic (you should use a delay between each characters)**

**The second one is for normal operation (pic,termianl,micro....).**

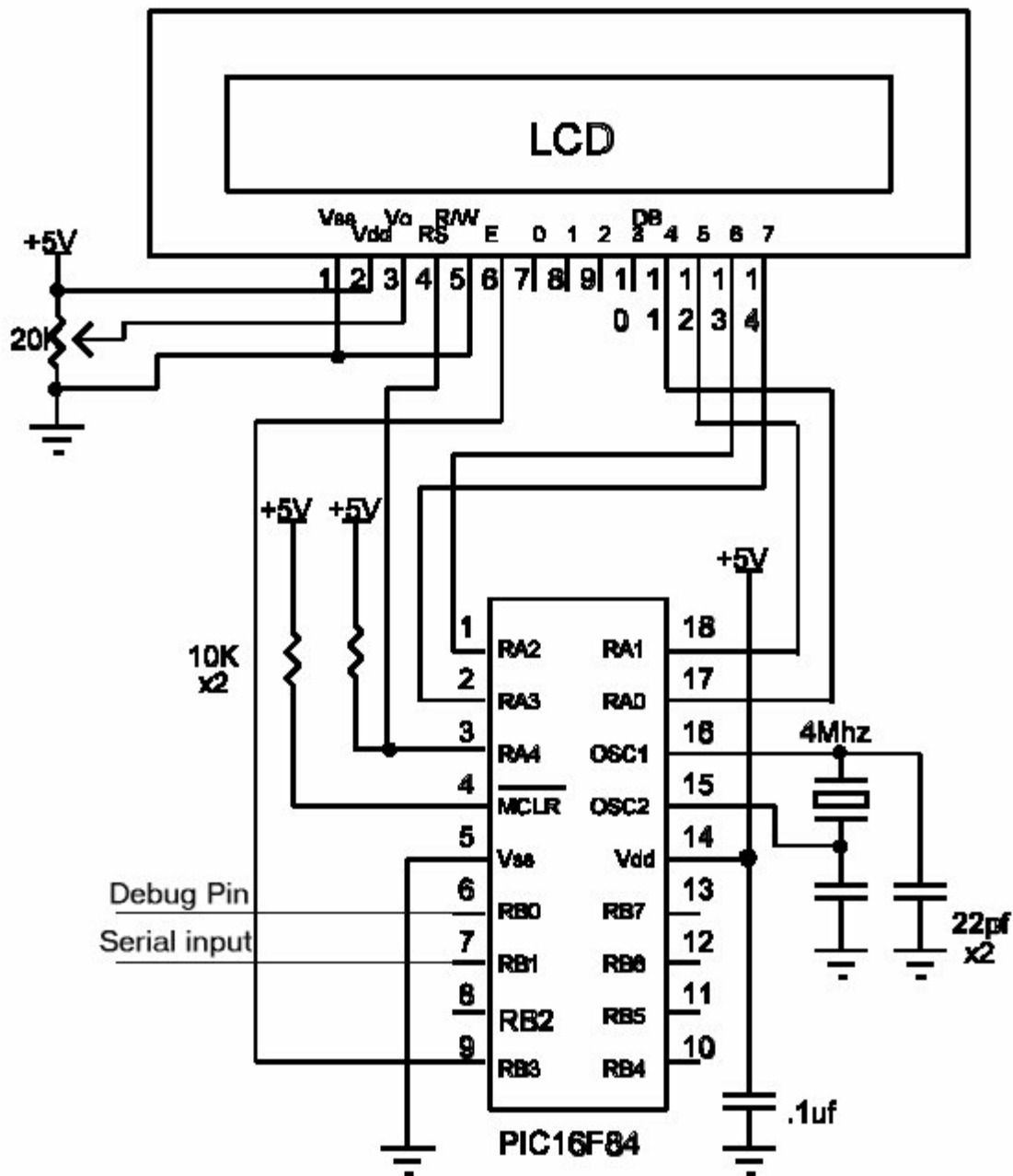
**Data is sent from the remote controller (another Pic, Micro, PC,....) to PortB.1 of the Pic 16F84 .**

**SELD send each character received from the serial input (at 2400 bps) to the LCD display.**

**You can send also special commands like Clear Display or Cursor Movement.**

**I have decided to follow the same commands syntax reported by Hitachi Datasheet and PBP manual.**

**You can modify the syntax in any way.**

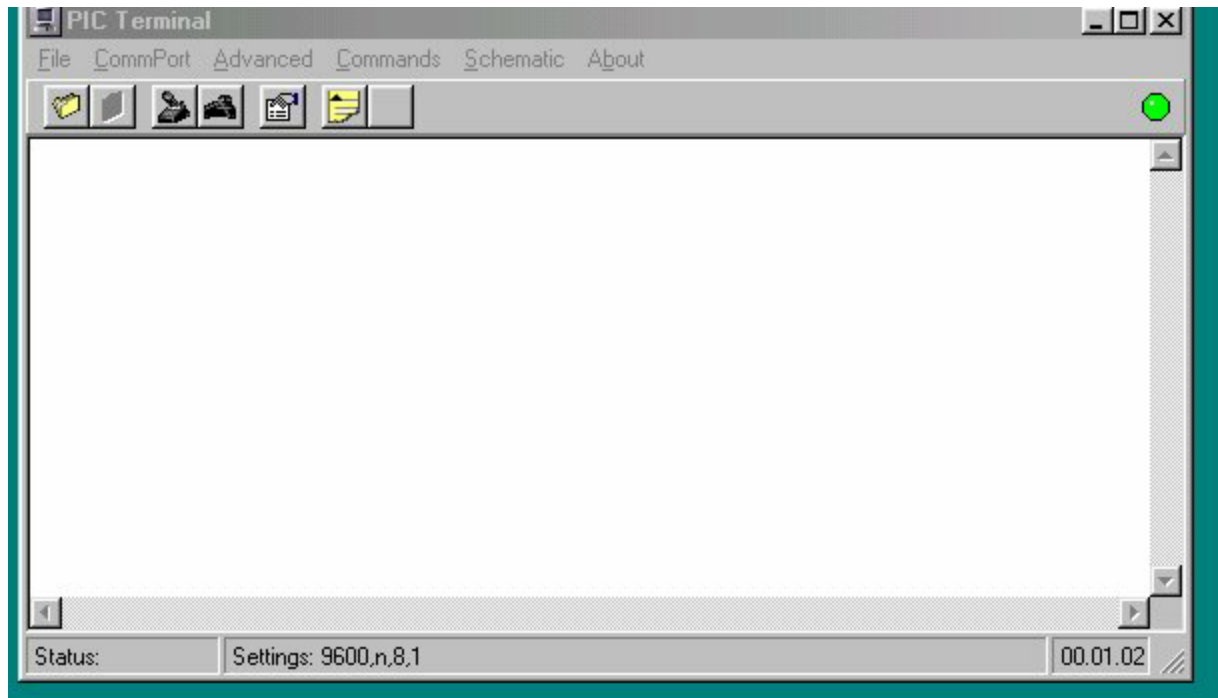


## **FAST TEST**

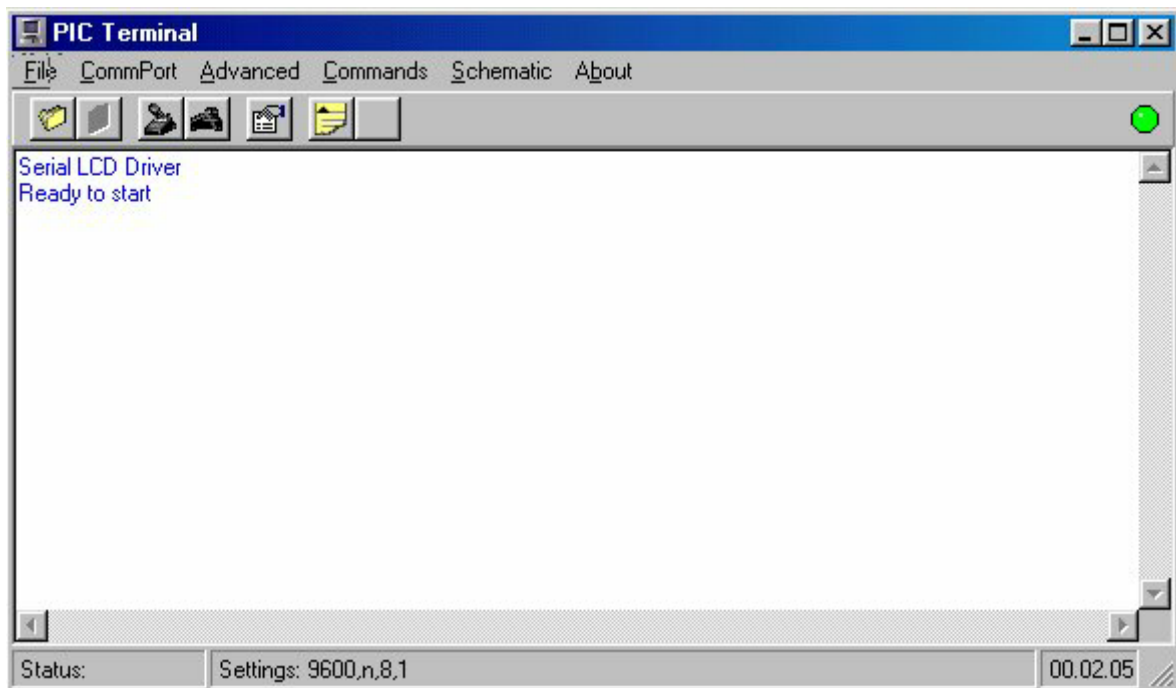
Connect your pic to an LCD display as indicated above.

Connect the pic to your computer as indicated in PBP manual (debug and serin).

Open a Terminal Program (as PIC TERMINAL) . Select 2400 bps or 9600 bps (depending by the file you have downloaded) and the right Com port.



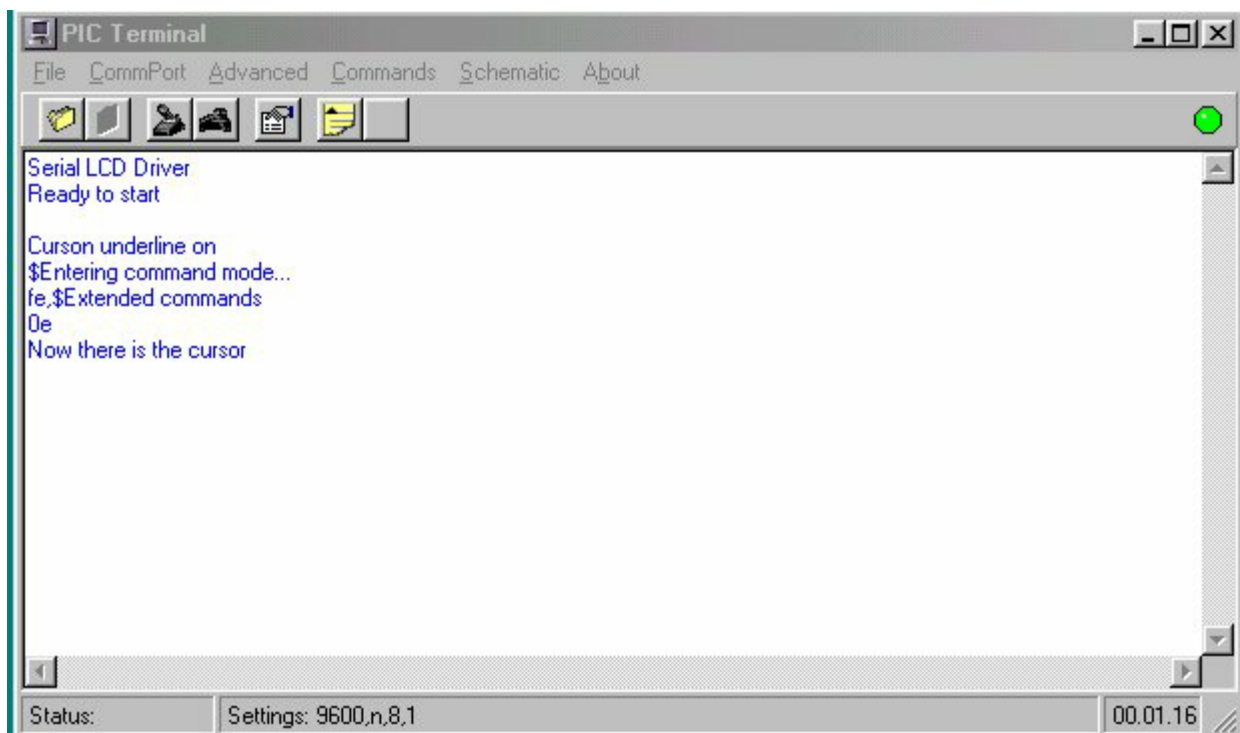
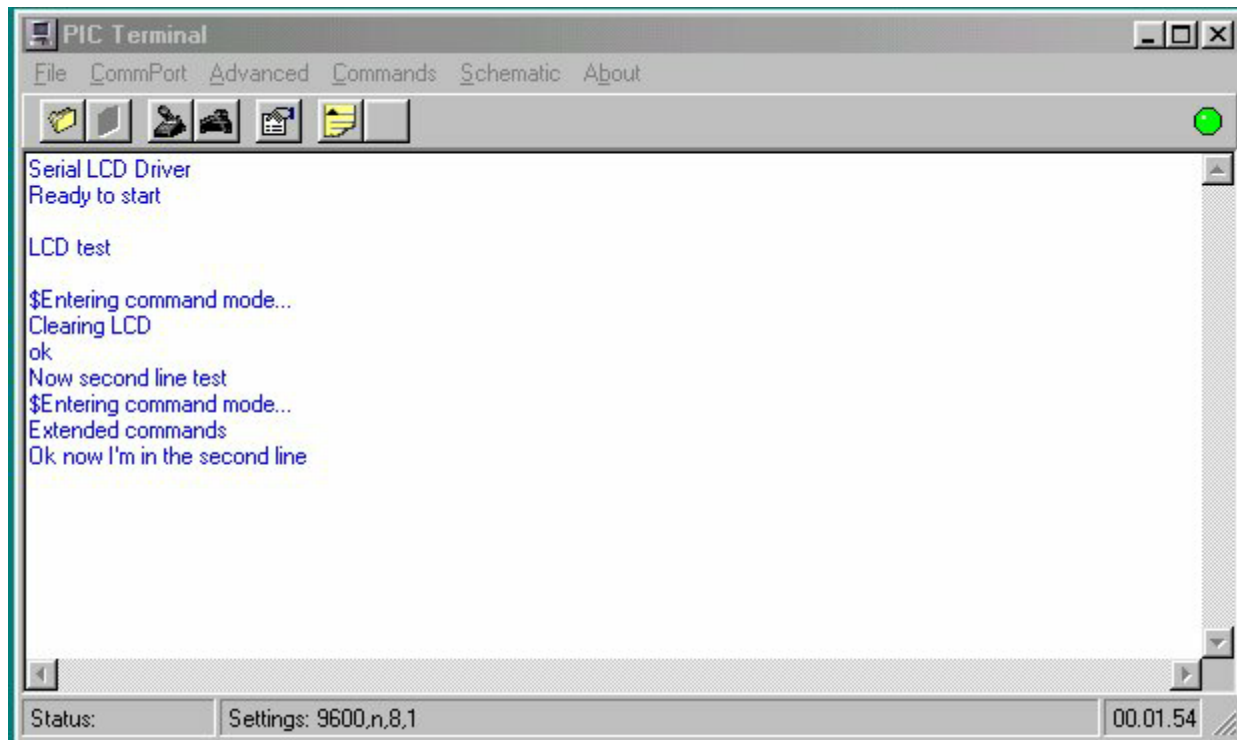
**Com port open.  
SELD is ready to receive data.**



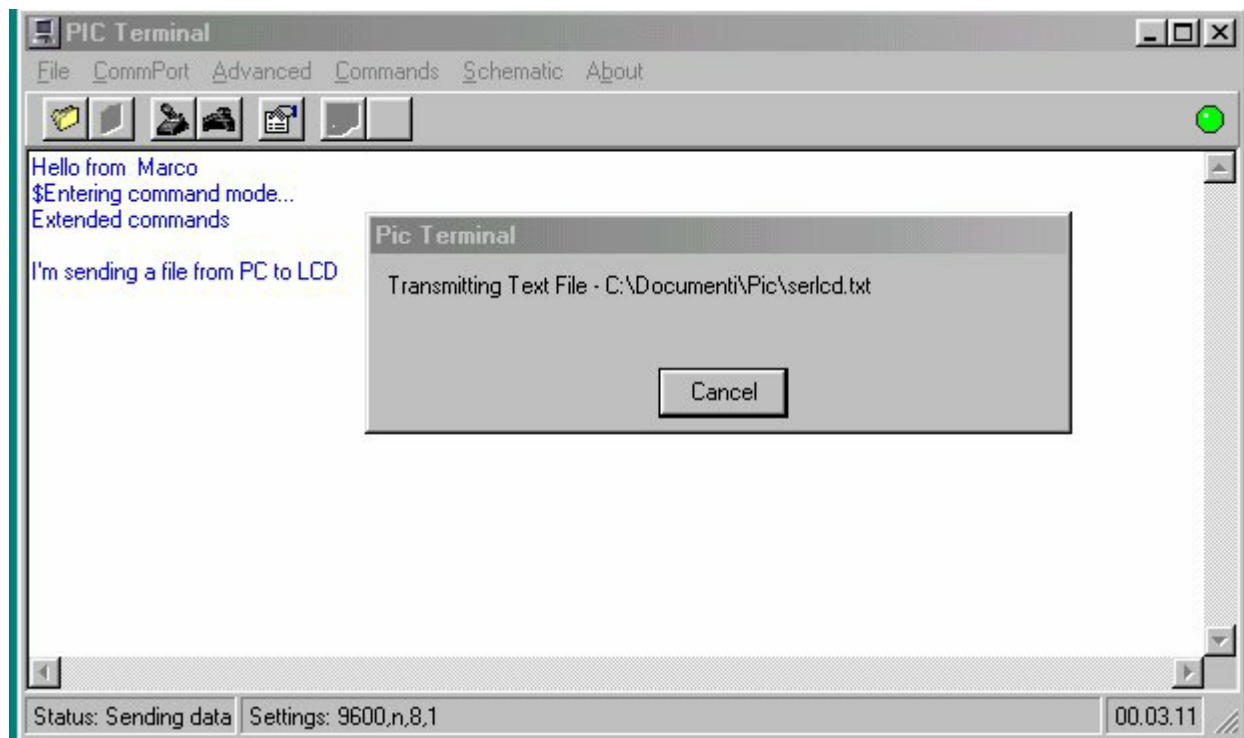
**Type standard characters or commands.**

**I have written "LCD test".  
After I have cleared the display sending :  
\$fe,1**

**To go to the second line just send \$fe,\$c0**



**Now I'm sending a text file with words and commands from PC to Display:it is very easy to display  
any kind of  
data .**



## **FAST TEST WITH ANOTHER PIC**

Download Seltst.bas (or .hex) and program another 16F84 4 Mhz Pic.

Connect portb.0 of this new pic to Seld's portb.1 .

Give power and look at the display.

The program makes many tests. It sends individual characters (every type) ,sends commands and sentences.

## **DOWNLOAD**

[Download Seld Code in PBP format \(txt format\):this is the reale operative program](#)

[Download Seld HEX form Pic16F84 4Mhz](#)

[Download Serlcd Code in PBP format \(txt file\):this is the test program \(it works also at 9600bps\)](#)

[Download Serlcd HEX format for PIC16F84 4Mhz](#)

[Download a demo txt file](#)

[Download the Seltst Code in PBP format \(txt file\):this is the test program you have to load in another Pic for testing Seld](#)

[Download Seltst HEX format for PIC16F84 4Mhz \(2400bps\)](#)

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**If you know how I can improve my project,just contact me**

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