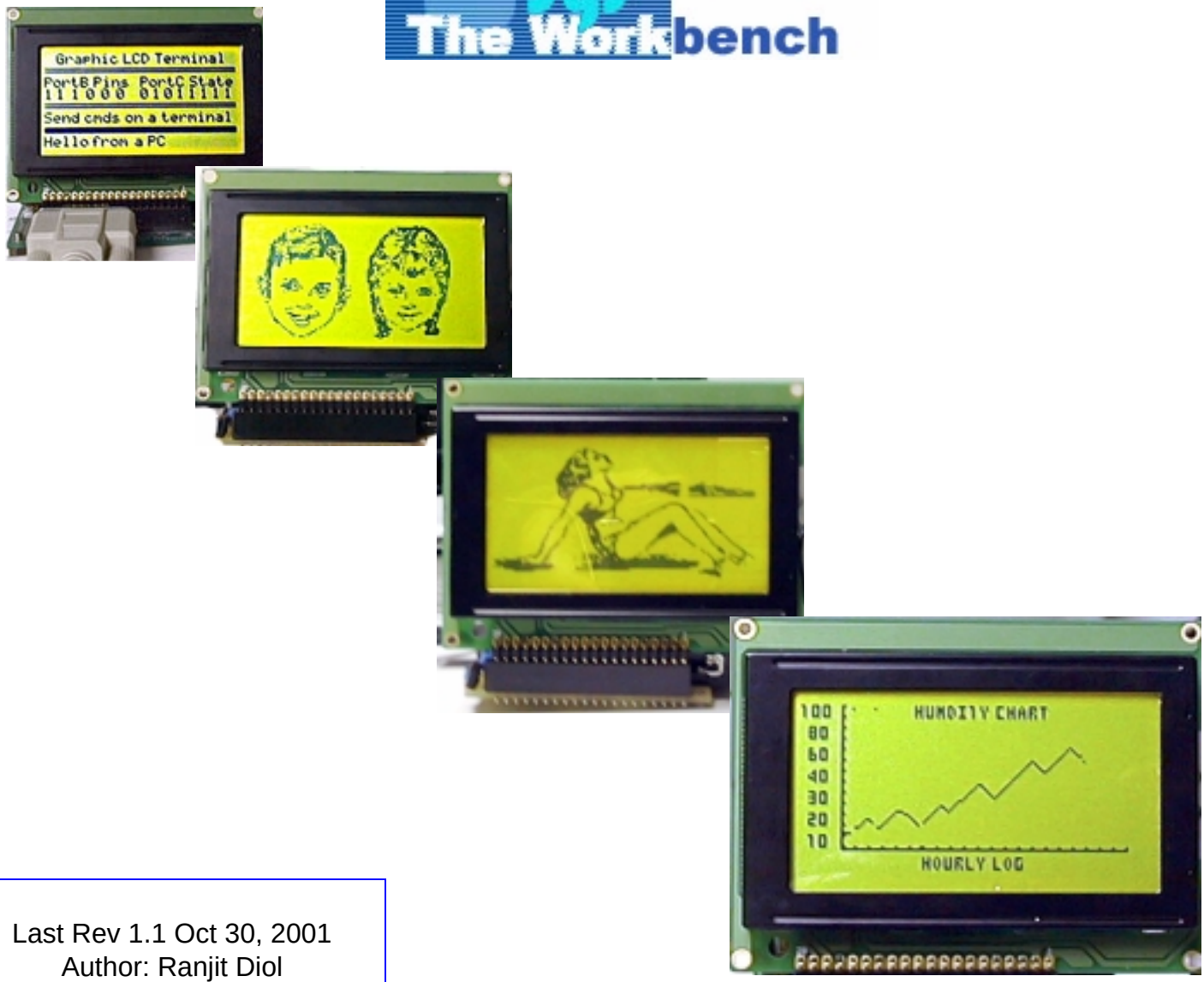
GLiPIC Ver C

Assembly manual

Ver 1.0



Last Rev 1.1 Oct 30, 2001
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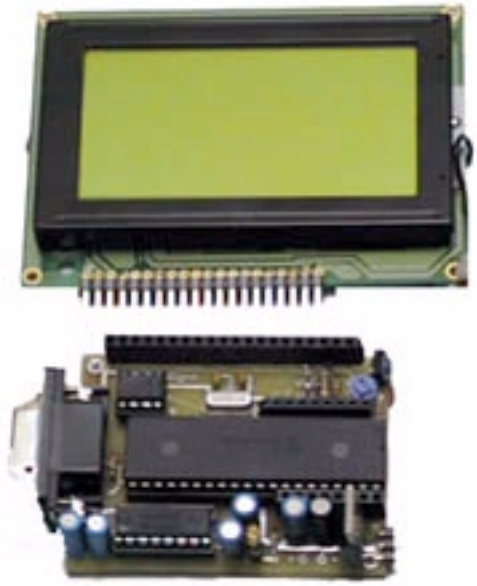
GLiPIC Board Ver. C

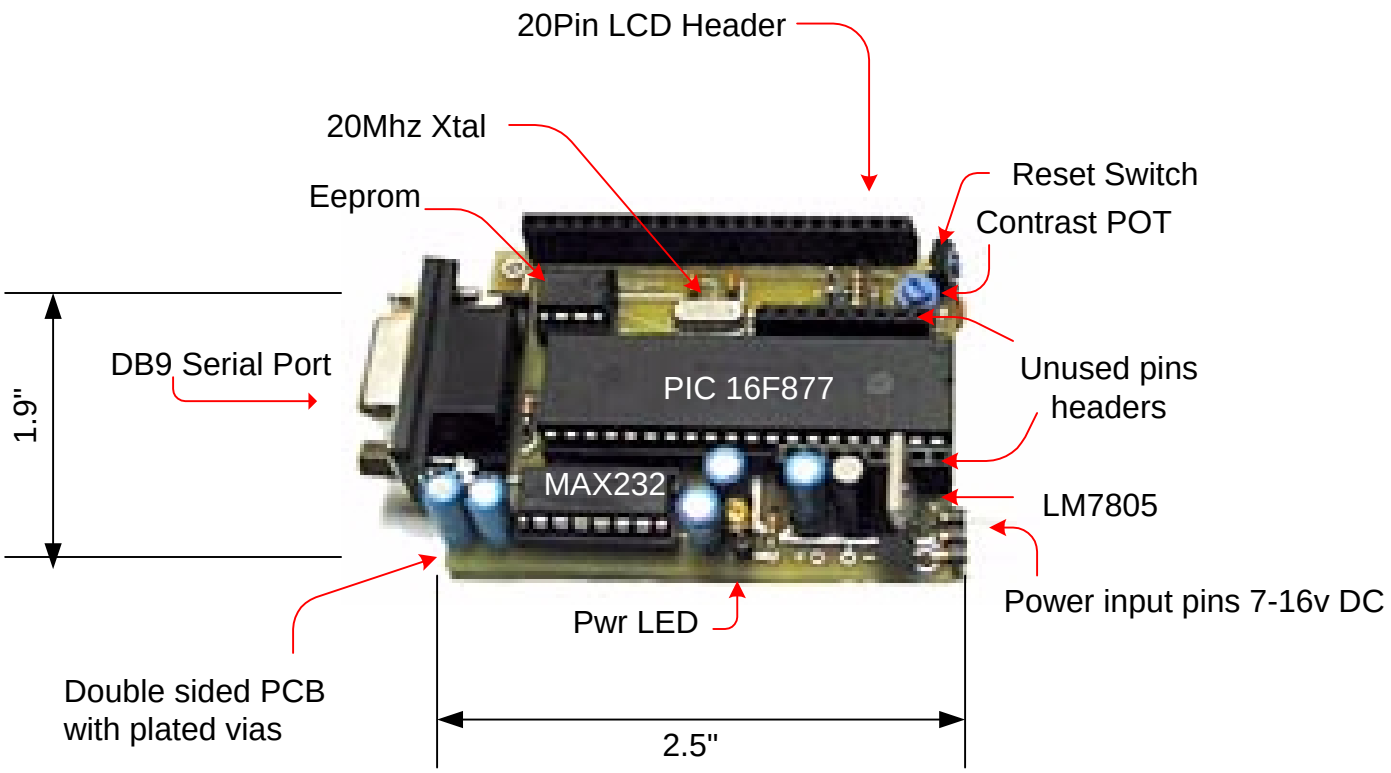
AGM1264 128x64 Graphic LCD Module



GLiPIC Board

Complete Unit

Details



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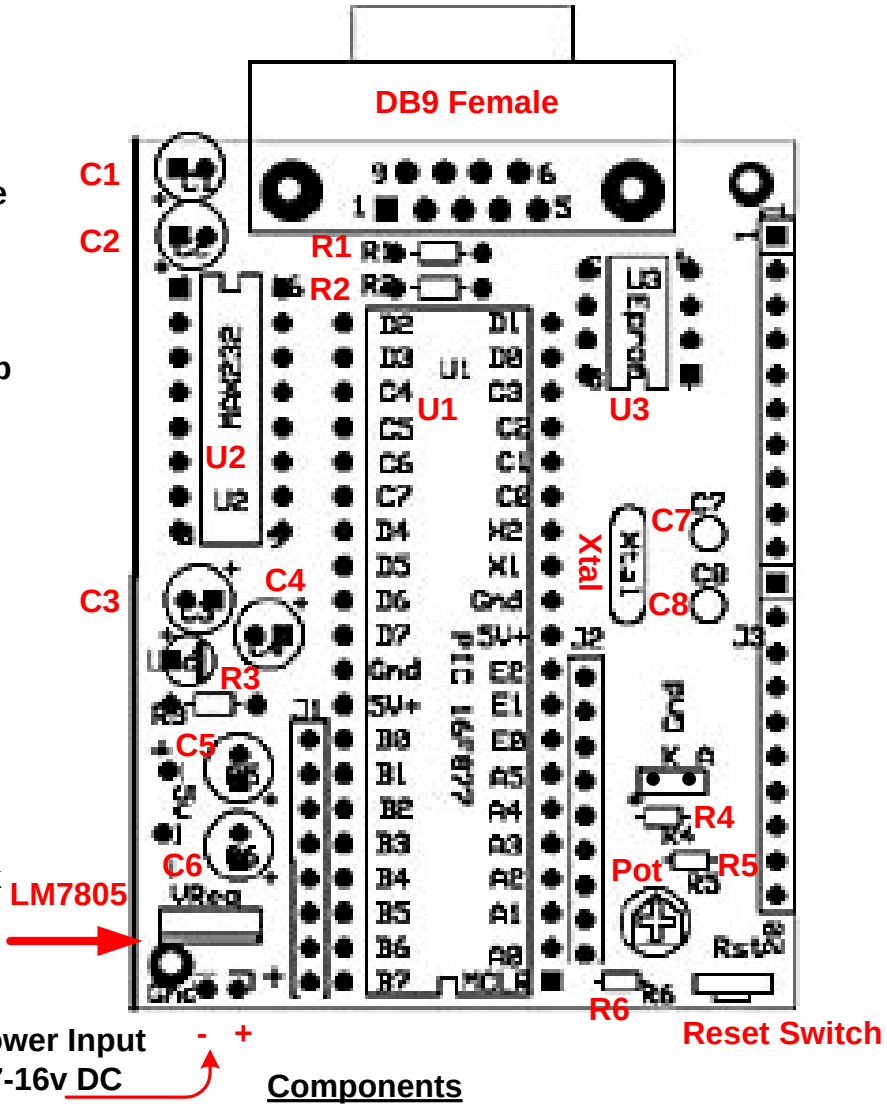
GLiPIC Board Ver. C Layout

Note: **Observe electrolytic capacitor, and led polarity. Square pad on pcb indicates +**

Note: **IC Orientation, pcb square pad is pin 1, the notched end of the IC. U2 and U3 face downward, whereas U2 the MAx232 faces upward.**

Note: **LM7805 Heat Sink Tab is towards the edge of the pcb**



Components

C6 10uf Electrolytic Capacitors

C1-C5 1uf Electrolytic Capacitors

C7,C8 22pf ceramic capacitors

R3 330 Ohm 1/8 watt resistor

R4 10 Ohm 1/4 watt resistor

R1,R2 10K Ohm 1/8 watt resistors

R6 1K Ohm 1/8 watt resistor

R5 100 Ohm 1/8 watt resistor

Pot 20K Ohm potentiometer, horizontal mount

U1 PIC 16F877-20

U2 MAX 232

U3 24LCxx I2C EEprom

Xtal 20 MHz half size crystal

Reset switch normally open momentary, vertical mount

DB9 PCB female socket right angle pins

20 pin female header

9 pin female header

8 pin female header

2 pin male connector

2 pin male right angle connector

40 pin IC socket

16 pin IC socket

8 pin IC Socket

1 Led

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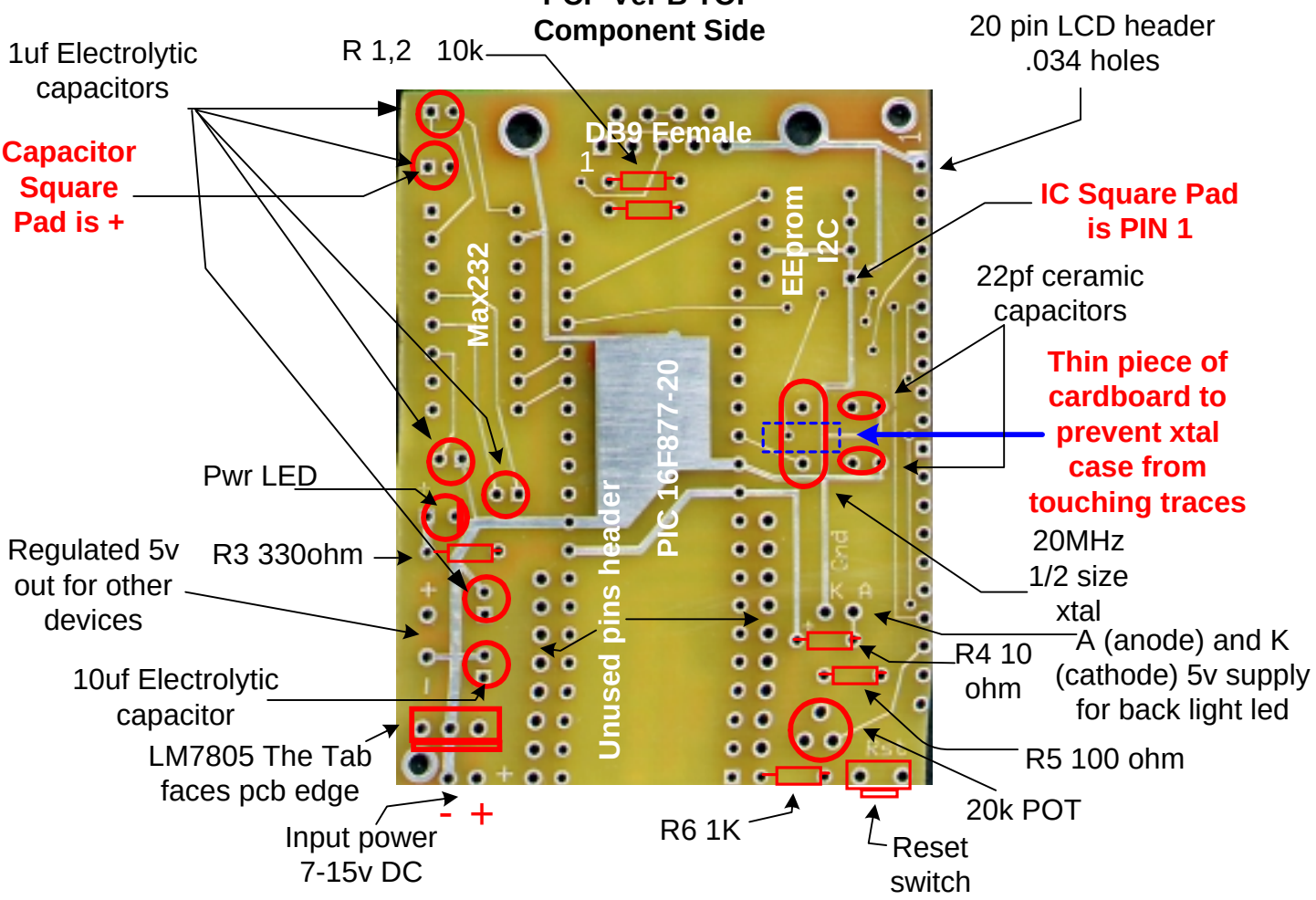
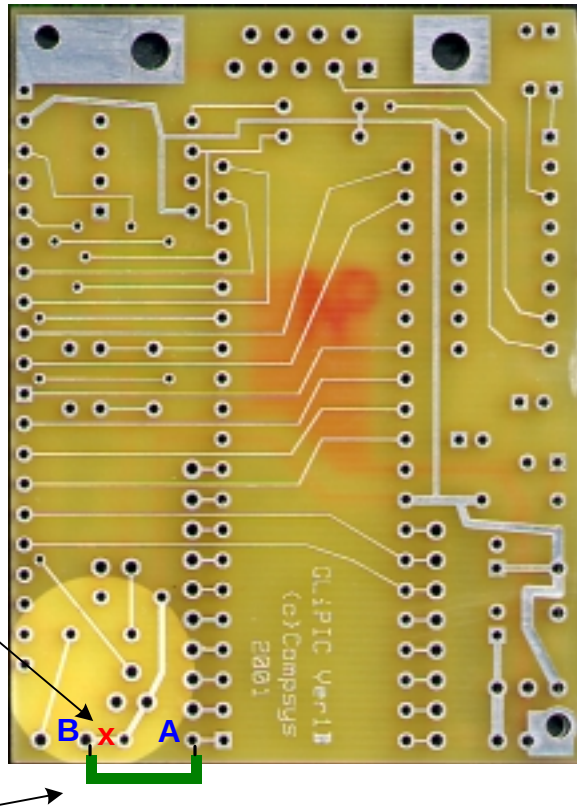
PCP Ver B TOP Component Side



PCB Ver B Bottom



Ver B Modification required so that the PIC reset works correctly

- **Cut trace a "x" location**
- **Install insulated jumper from point "A" to point "B"**

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Construction

Assembling the components is pretty much straightforward. However, as you are aware, this is a very small pcb with parts close to each other. Therefore, **careful soldering becomes a must! A 15 watt pencil soldering iron** with a fine (.03) tip will work just fine. **Take your time** and don't rush -- or you will be faced with some very tricky desoldering tasks!

Below are the steps to follow, it is important that certain parts be placed in a certain order which makes the job much easier. Use IC sockets if you can, it is cheap insurance!

Check ↘

Recommended Steps to follow:

- ☐ Position the pcb with the large silver block facing up (the GLiPIC logo will be on the bottom) and the DB9 socket area on the top. As shown on the previous page.
- ☐ Notice that PIC (U1) and the EEprom (U3) have their notches pointing down. The Max232 (U2) has its notch facing up.
- ☐ Place the IC sockets in their respectable locations and solder in place. It does not require much solder since all holes on the board are vias.
- ☐ Inspect for any bridges and double check that all pins have been soldered.
- ☐ Position, place and solder all 6 resistors.
- ☐ Position the crystal in its place. **Wedge a thin piece of cardboard** between the crystal and the board to prevent the case from shorting nearby traces. Then solder it in place.
- ☐ Position the two tiny ceramic capacitors (polarity is not an issue) and solder them.
- ☐ Place the 3 pin POT in position and solder it.
- ☐ Place the 2 pin momentary switch in position with the button facing outward and solder it.
- ☐ Place the remaining 6 electrolytic capacitors in their respective locations and please observe their polarity! **The square pcb pad is the positive lead**.
- ☐ Place and solder the power led. **Observe polarity!**
- ☐ Place the 3 pin LM7805 in position. **Make sure that the metal heat sink tab is towards the edge of the pcb** and solder it.
- ☐ Optional: Place a 2 pin power supply header in the holes near the metal tab, one is marked with a +. Right angle pins make it easier to connect/disconnect the external power.
- ☐ Double check all soldering connections carefully!
- ☐ **Do not insert the IC's as yet.**
- ☐ Connect a DC voltage (7-15 volts) to the + pin and ground pin. If all is well, the power led should light up. If not double check connections, polarity etc. **Do not proceed until a 5 volt reading is established,** a good place to check is the large ground plate in the middle of the PIC socket and the positive wide trace just below that.
- ☐ Optional: Insert headers for the unused pins on both sides of U1, the lcd back light (A,K) and the 5v+ supply holes next to the power led.
- ☐ Insert and solder the header for the lcd display. This header may be male or female depending on your configuration.
- ☐ Insert and solder a DB9 socket in the area provided.
- ☐ Insert the IC's in their respective sockets, again, noting that their notches are in the correct order.
- ↘ **Congratulations** -the assembly is now complete!

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