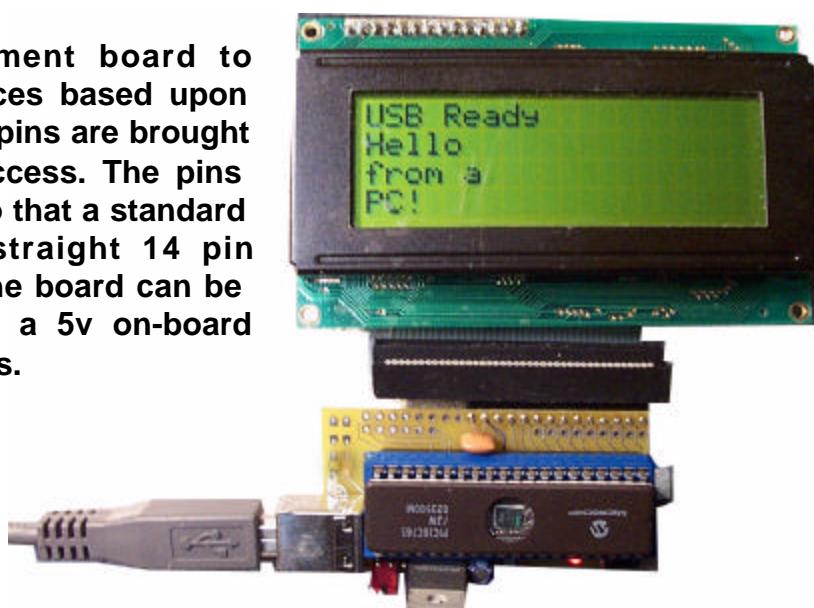
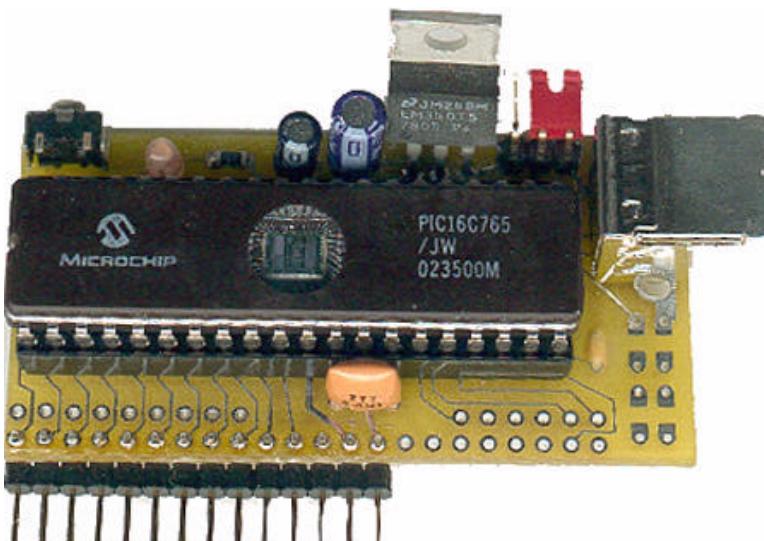


pUSB ver 1.0

An economical development board to experiment with USB devices based upon Microchip's PIC16C765. All pins are brought out to headers for easy access. The pins along the edge are setup so that a standard character LCD (with a straight 14 pin connector) can be used. The board can be powered externally (it has a 5v on-board regulator) or via the USB bus.



pUSB shown with an optional LCD display



pUSB development board

The PIC16C765 is a non-flash mcu and requires a UV light for erasure. It can be programmed using any standard PIC programmer like MELab's EPIC board or Microchip's PICStart programmer. MELab's PICBASICPro as well as Crownhill's PICBasicPlus have built-in USB routines. Since the 16C765 is low speed USB device it can easily be interfaced with Windows as a HID device and use Microsoft's native drivers. More information, code samples and Window's interface examples are available at www.lvr.com. Jan Axelson's book **USB Complete** is an excellent source for detailed USB information.

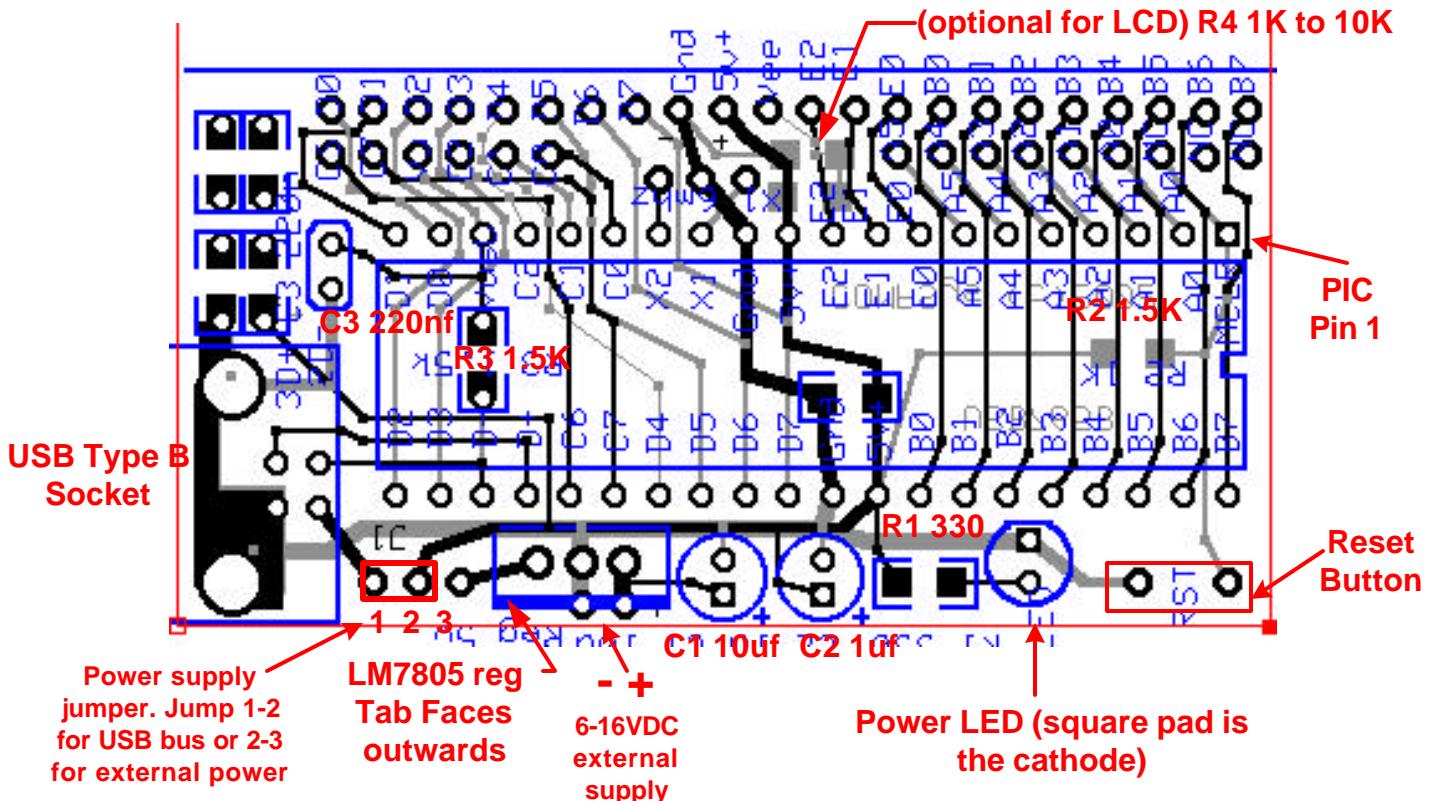
PLEASE NOTE: If a product is being designed for commercial use, the USB standard requires that each USB device sold on the market has its unique Vendor and Product ID. These numbers (like the MAC addresses of a network card) have to be obtained from the USB Organization for a fee. Please check the www.usb.org website for more details. However, to simply experiment with as a non-marketed item any ID number can be used.

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 is a trademark name of Microchip Corporation

Printed Circuit Board Layout



IMPORTANT

Please be aware that all kits provided by COMPSys are designed for use by other developers and hobbyists as models that can be incorporated in their own designs. The kits are not intended to be end user plug'n'play devices and can serve little purpose unless the user has the capability, tools and software required to program microcontrollers.

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 plier, 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.

Parts List

R1 330 resistor SMD

R2,R3 1.5k resistor SMD

R4 optional 1 to10k res SMD for LCD

C1 10uf elec rad cap

C2 1uf elec rad cap

C3 220nf ceramic cap

U1 PIC16C765

LED T1 power LED

LM 7805 5v regulator

MISC:

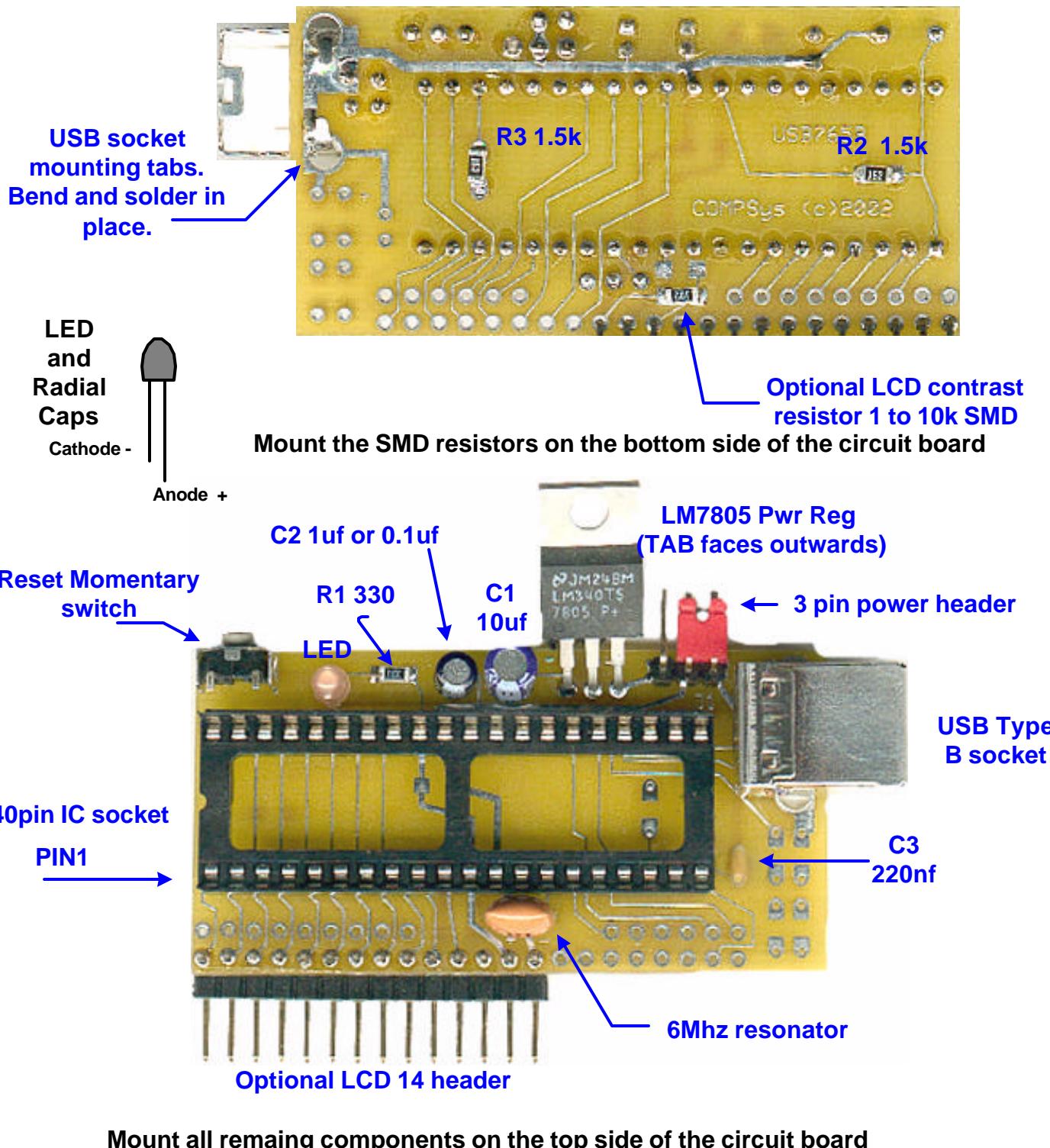
40pin IC socket

USB Type B socket

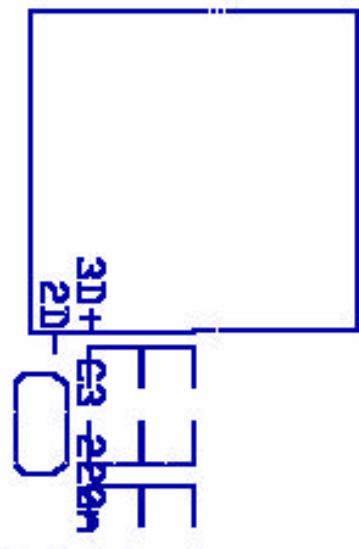
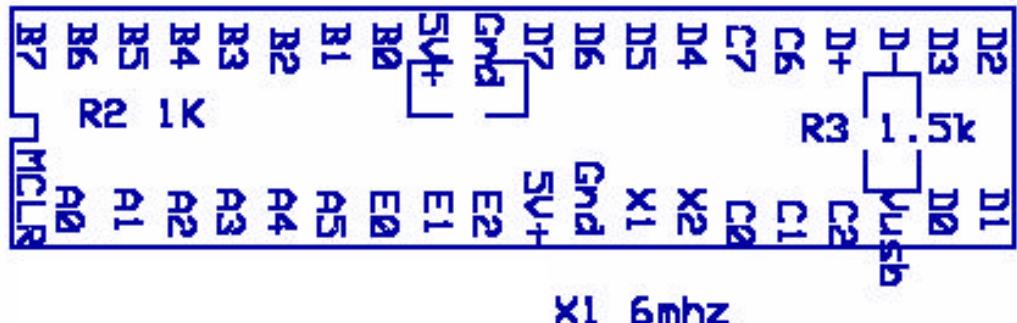
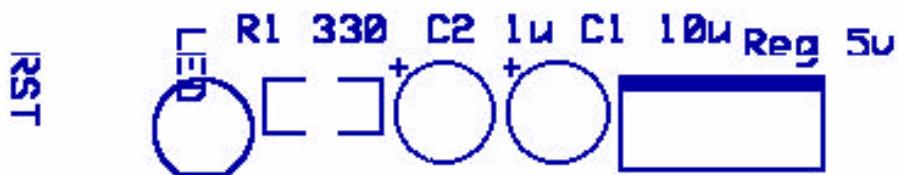
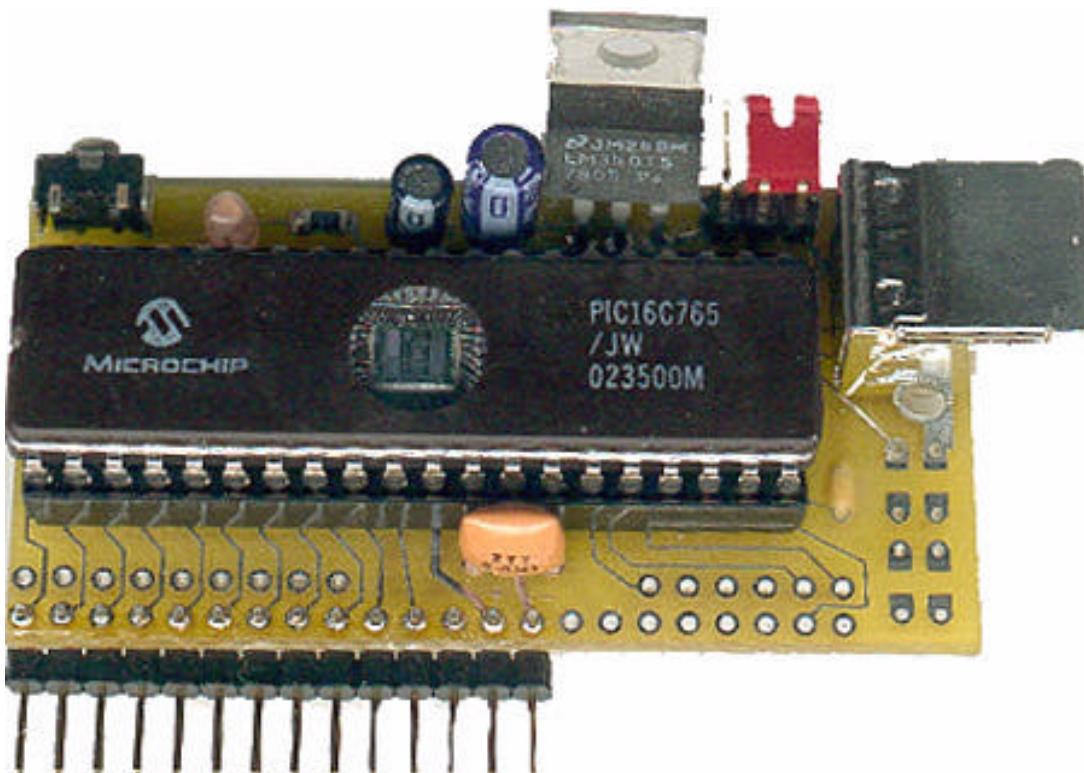
Momentary switch

Power supply jumper header pins

pUSB assembly notes

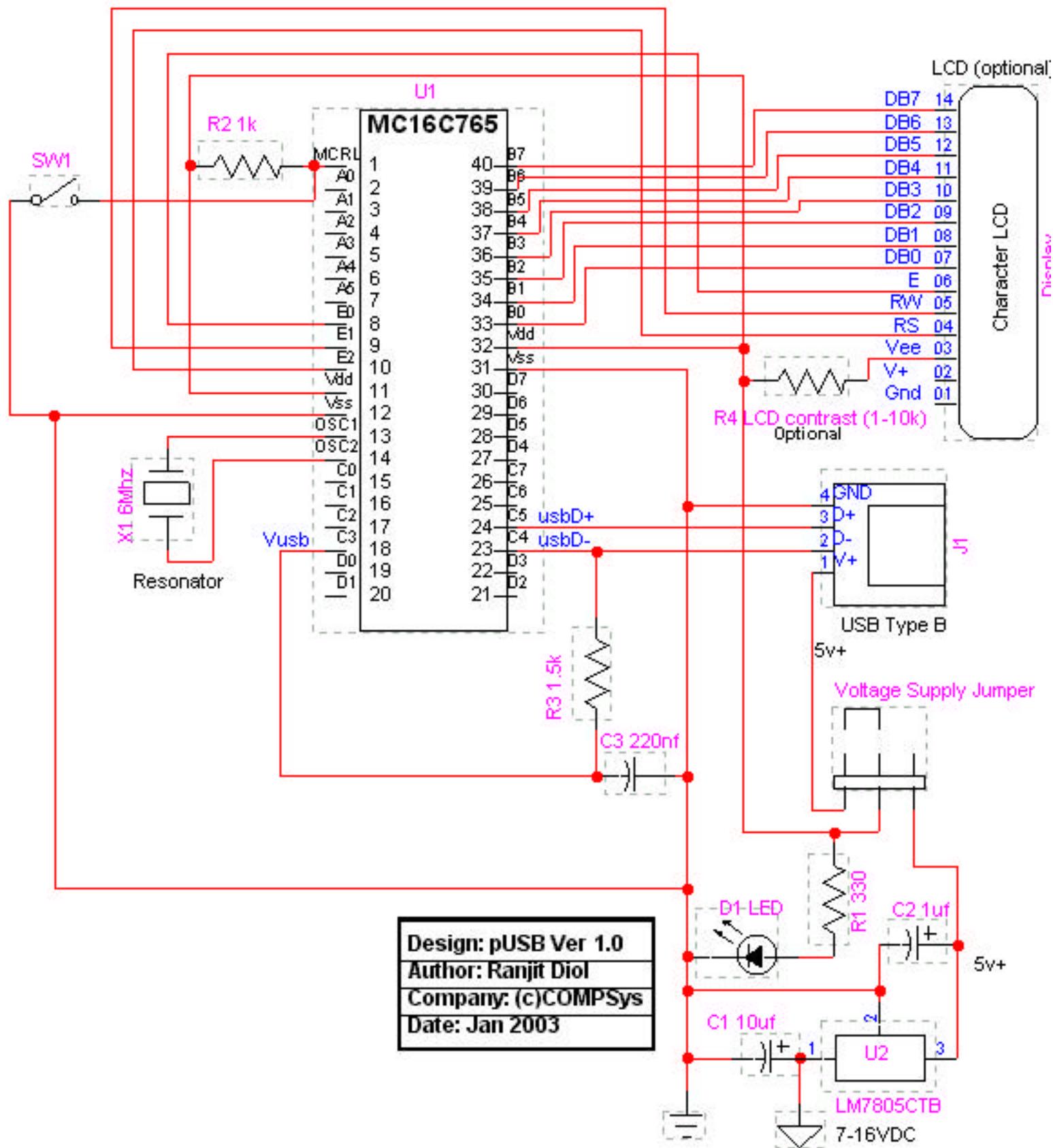


pUSB assembled



Pin Headers

pUSB Schematic



Note: Recent changes or modifications may not be reflected in this drawing