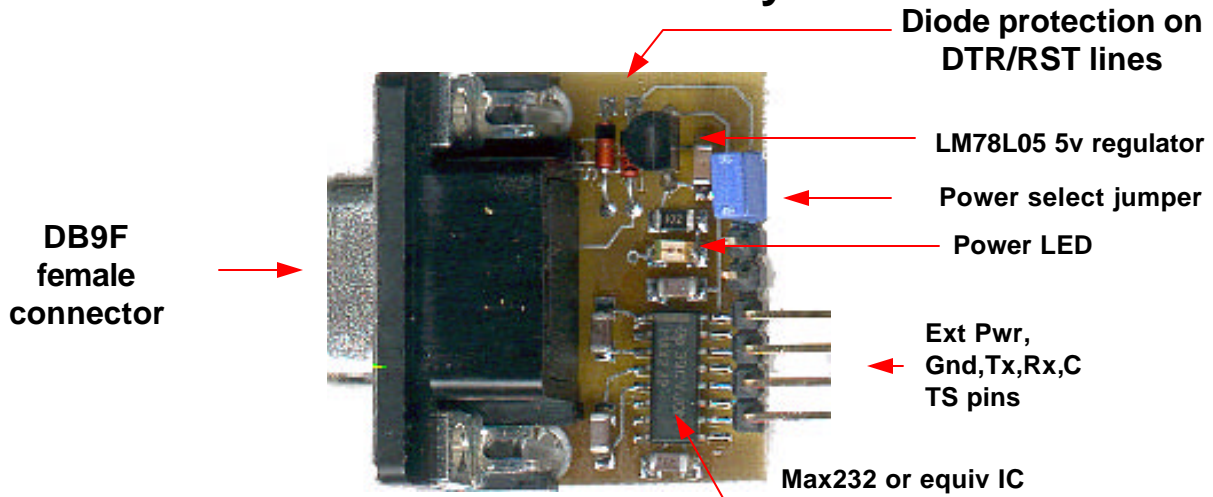


## AD232SP assembly



RS232 adapter with an on-board regulator which can, if possible, use the DTE 's (such as a PC) RTS/DTR voltage to power the Max232 IC. The RTS/DTR lines are protected with fast switching diodes. An external power supply can be used if the DTE device cannot provide sufficient power on the RTS/DTR lines. Jumper selectable. Pinouts for CTS, RX, TX, GND, plus for an external supply, if required. Includes an LED to indicate power supply. The kit mainly consists of surface mount parts. Simple to use. Connect your projects' TTL RX/Tx lines to the AD232SP and run a common ground wire between the two. When the DTE, (such as a computer with a serial port) opens a terminal application, the AD232SP will become active and the power LED will light up. **Please Note: Not all PC's may be able to provide the required voltage. In that case a 5v external supply will be required.**

Kits provided by COMPSys are designed for use by other developers and hobbyists to be incorporated in their own designs. The kits are not intended to be end user plug'n'play devices.

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:

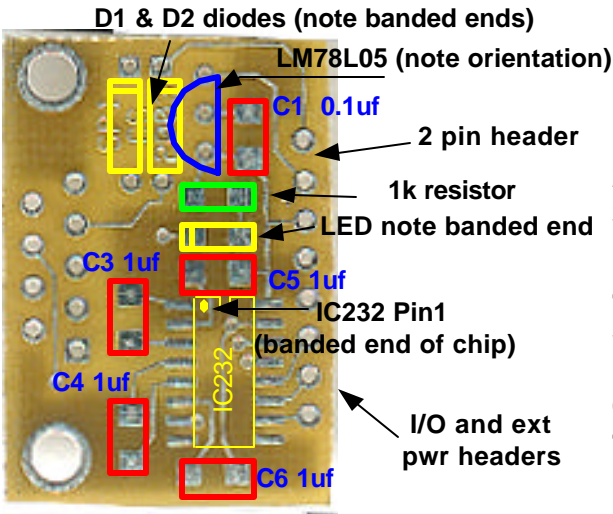
A fine point low power (25w max) soldering iron and thin solder. Ideally, 0.022" diameter (or less) silver-bearing non-corrosive rosin core should be used. In addition, narrow needle nose pliers, diagonal cutting pliers, good quality tweezers, large magnifying glass, volt-ohm meter, and a 7 to 12 vdc 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.**

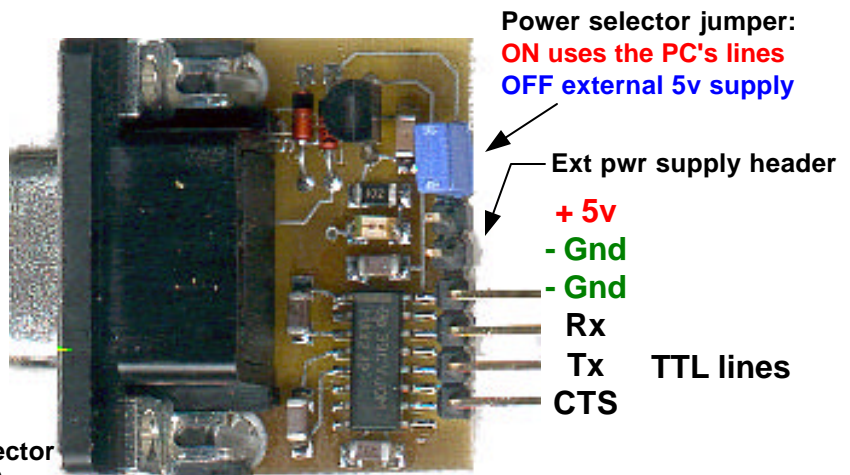
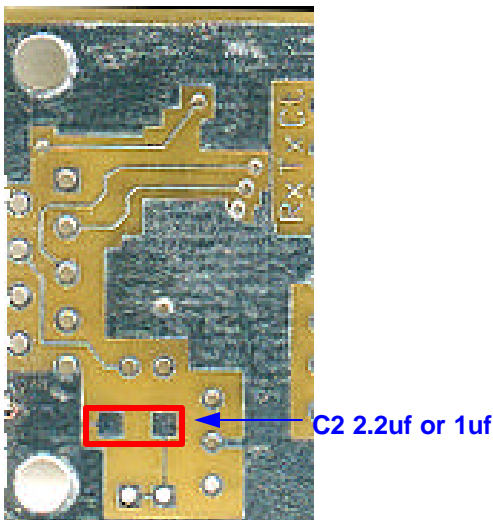
### Disclaimer and Terms of Agreement

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 .

# AD232SP assembly

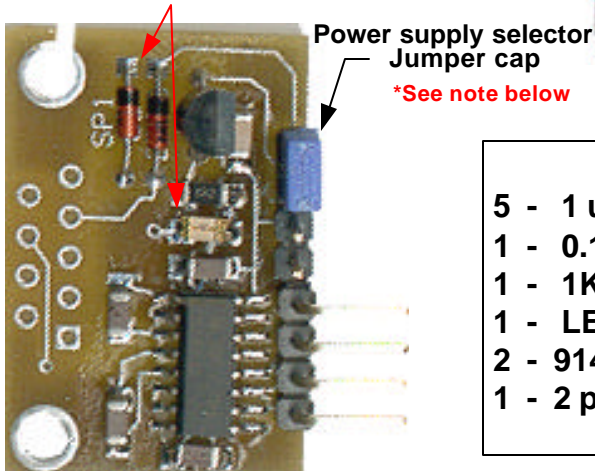


1. Carefully prep the capacitor, resistor and LED pads with a small drop of solder.
2. Mount all the capacitors and resistor on top side
3. Mount the LED. NOTE: The cathode (-) end has a dark band and faces towards the DB9 connector.
4. Mount the 1K resistor
5. Carefully orient and mount the IC232. Note Pin 1 is at the banded end (beveled edge) of the IC
6. On the back side of the pcb, mount capacitor C2
7. Orient and mount the 2 diodes, observe the banded end (cathode).
8. Mount LM78L05 Observe orientation of the LM78L05 IC (flat end faces out towards C1)
9. Double check all components for solder splashes, bridges etc.
10. Mount the DB9 socket (top side of the pcb) and the headers



Completed Assembly

Note: Banded ends



Partially Assembled

## PARTS LIST

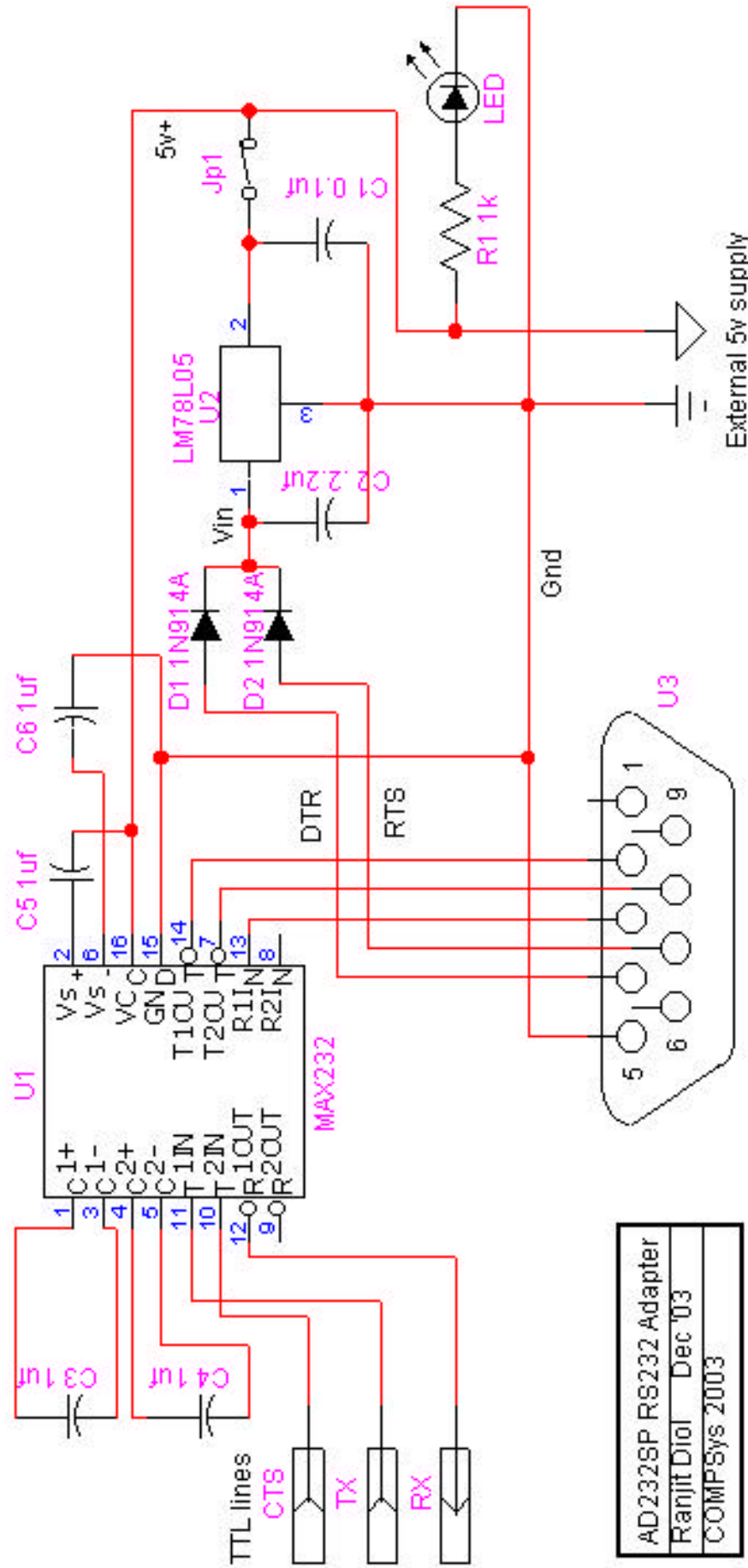
5 - 1 uf SMD capacitors	1 - IC232 SOIC chip
1 - 0.1 uf SMD capacitor	1 - LM78L05 5v reg
1 - 1K SMD resistor	1 - DB9F connector
1 - LED SMD	1 - double sided PCB
2 - 914A or 4148 diodes	1 - 6 pin header
1 - 2 pin jumper/header	

## **IMPORTANT!**

***Remove the jumper cap if using external power!  
Otherwise there is a risk of damaging the board or the PC's serial port.***

# AD232SP schematic

AD232SP



AD232SP RS232 Adapter  
 Ranjit Diol Dec '03  
 COMPSys 2003

Subject to change without notice