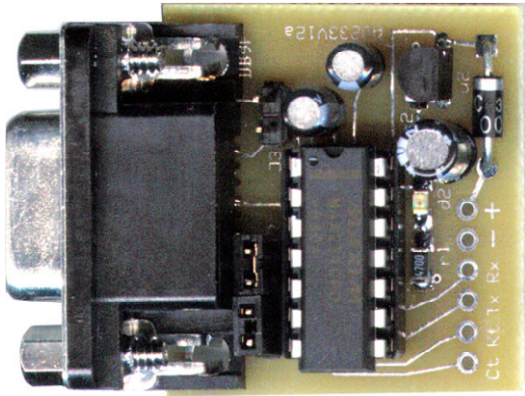


# AD231 12V Rev 1

An RS232 adapter with an on-board voltage regulator, protection diode and an LED indicator. The adapter can be configured with or without CTS/RTS handshake lines. It will run off a 7 to 14 vdc power supply and provides a -12v to +12v RS232 line signal.

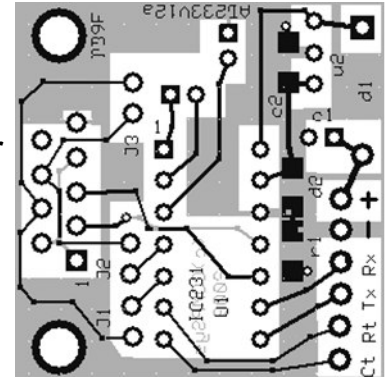
**Do Not Reverse Polarity**



- ← 7-14vdc max
- ← Gnd
- Rx (In)
- ← Tx (out)
- Rts (in)
- ← Cts (out)

## Parts List

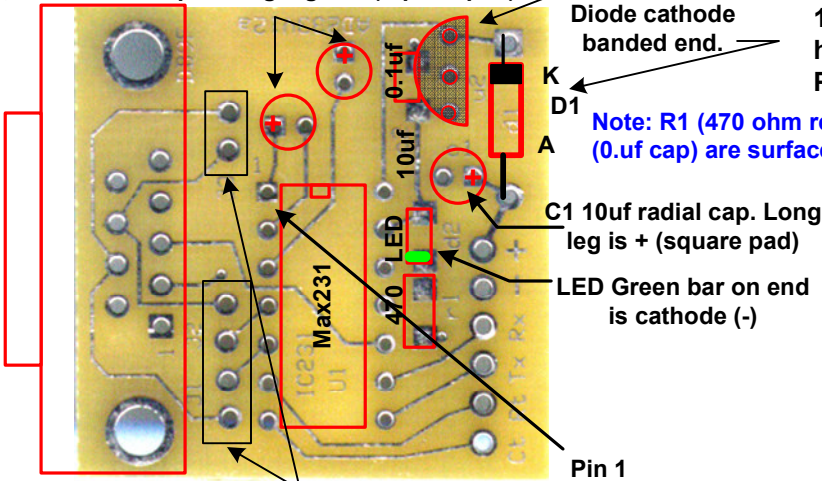
- C1 10uf radial cap
- C2 0.1uf SMD cap
- C3,C4 1uf radial caps
- R1 470 ohm SMD resistor
- D1 1N4001 Diode
- D2 LED
- U1 Max231 IC (or equiv)
- U2 LM78L05 regulator
- DB9F socket
- 14 pin IC socket
- header pins
- Printed Circuit board



PCB layout

LM78L05 regulator. Flat side faces outwards.

C3,4 1uf radial caps. Long leg is + (square pad)



Diode cathode banded end.

K

A

Note: R1 (470 ohm resistor), D2 (LED) and C2 (0.1uf cap) are surface mount devices (SMD)

C1 10uf radial cap. Long leg is + (square pad)

LED Green bar on end is cathode (-)

Pin 1

DB9 female socket

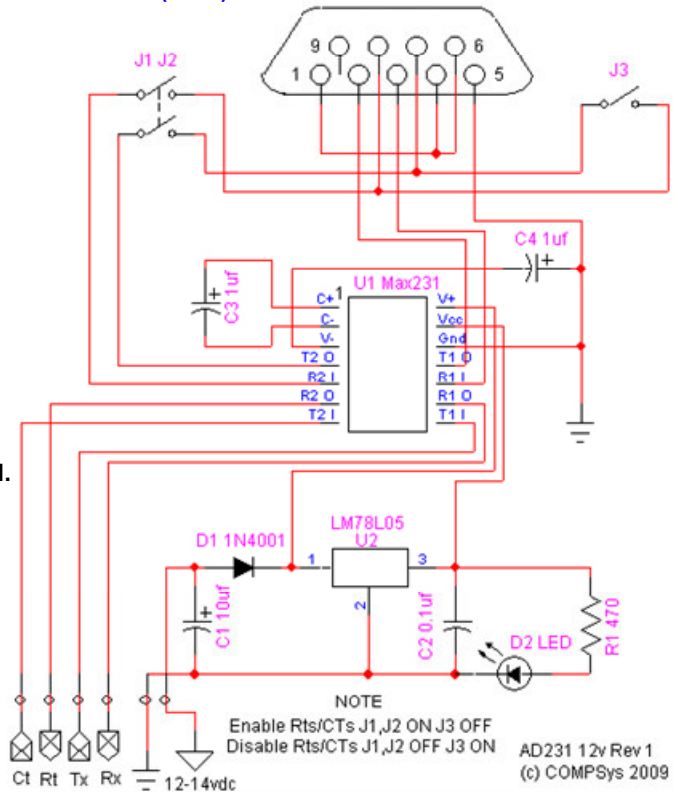
J1,J2 and J3 jumpers

## Assembly Hints

For best results, use thin silver bearing solder and a fine point soldering iron. Diagonal cutters, a tweezer and a magnifying glass will be very helpful. Assemble on a clean well lighted surface and take your time

1. Mount the SMD 470 ohm resistor, LED (observe orientation) and 0.1 uf SMD capacitor. Use a tiny amount of solder on the pads.
2. Next, mount C1 10 uf radial capacitor, D1 1N4001 diode and U2 LM78L05 regulator, and C3, C4 1 uf radial caps. Observe proper orientation of the parts as shown above.
3. Now mount the 14 pin IC socket (notched end towards pin 1), the DB9F socket and the pins for J1, J2 and J3.
4. **Double check all your work!** Before placing the IC in the socket apply 7-14 vdc to the + / - pins. The LED should light up. You can measure the regulated voltage of approx 5v on Pin 13 of the IC. If all is well, disconnect the power and place the IC in the socket. See Jumper selection chart to configure the module.

RS232 Adapter AD231 12v Rev 1  
CN1 DB9F



**Jumper Selection**  
For CTS/RTS J1, J2 ON J3 OFF  
For No handshake J1, J2 OFF J3 ON

## 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. Kits are not for commercial use and are only intended for developers and hobbyists.

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