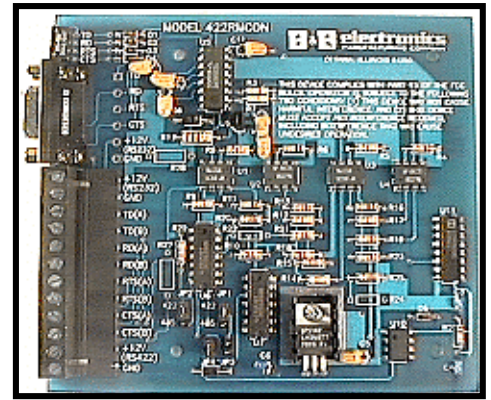


## **Optically Isolated RS-232 to RS-422/RS-485 Rack Mount or Panel Mount Converter Model 422RMCON**

### **INTRODUCTION**

The RS-232 port uses a female DB9S type of connector, and the RS-422/RS-485 port uses terminal blocks. All terminal blocks are marked on the circuit board for their appropriate function. There is an option for terminal blocks on the RS-232 side and a DB25S female connector on the RS-422/RS-485 side. Contact B&B Technical Support if you need further assistance.



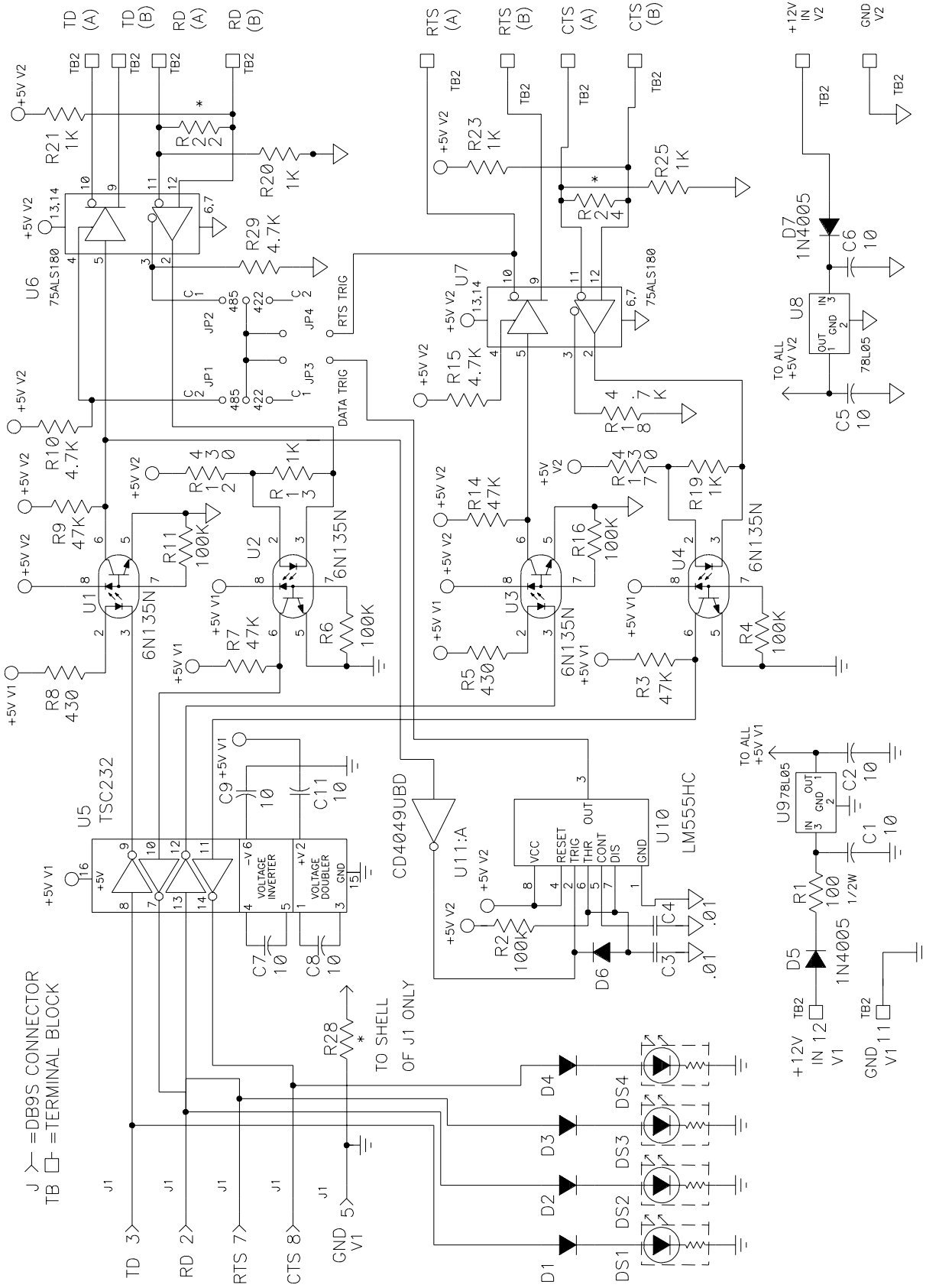
### **INTERCONNECTION OF THE 422RMCON WITH ANOTHER RS-422 DEVICE:**

1. The polarity of the two RS-422 lines must be correct. With no data being sent, the RS-232 line should be negative. The "B" terminal of the RS-422 Transmit Data line should be positive with respect to the "A" terminal.
2. The wire recommended in the RS-422 Standard is number 24 AWG copper conductor, twisted pair telephone cable with a shunt capacitance of 16pf per foot.
3. For long runs and/or high data rates, it is recommended that the wires be terminated with a resistor at the receive end. The twisted pair usually used has an impedance of about 100 ohms; therefore, a 100 ohm 1/2 watt resistor is normally used for the termination. The RS-422 side of the converter requires more power as the transmission line length is increased, and as the termination resistor value is reduced. Therefore, it may be necessary to use a termination resistor that is larger than 100 ohms.
4. The RS-422 driver has the ability to drive 10 RS-422 receivers connected in parallel. A system of multiple receivers may require some experimentation with location and size of termination resistors, line lengths, grounding, etc.

### **OPERATION AS AN RS-232 TO RS-485 CONVERTER:**

To use the Model 422RMCON as a RS-232 to RS-485 converter, jumpers JP1 and JP2 must be in the "485" position. Request To Send (RTS) on the RS-232 side is used to enable or disable the RS-485 driver. In this configuration, the receive lines on the RS-485 side are disabled while transmitting from the RS-232 side. To enable the receiver while you are transmitting ("echo back"), simply move JP2 to the "422" position. To operate the 422RMCON in a two-wire RS-485 mode, you must jumper TD(A) to RD(A), and TD(B) to RD(B).

The 422RMCON also can be configured to enable the RS-485 driver from data sensed on the RS-232 Transmit Data line. With this type of configuration, you don't need RTS to control the RS-485 driver. To use this mode, move the jumper on JP4 to JP3.



**MODEL 422RMCON**

ALL CAPACITANCE VALUES ARE MICROFARAD.

DIODES ARE 1N4148 UNLESS NOTED \* = OPTIONAL