

Excellent Integrated System Limited

Stocking Distributor

Click to view price, real time Inventory, Delivery & Lifecycle Information:

[B&B Electronics](#)
[485PTBR](#)

For any questions, you can email us directly:

sales@integrated-circuit.com



Model: 485PTBR

RS-232 to RS-485 Converter

CE

Description

The 485PTBR converts unbalanced RS-232 signals to balanced, full or half-duplex RS-485 signals. RS-485 is an enhanced version of the RS-422 Standard. It allows multiple drivers and receivers on a two-wire system. The RS-232 port has a female DB-9 connector with pins 2(RD), 3(TD), and 5(SG) supported. Pins 7(RTS) and 8(CTS) are tied together. Also pins 6(DSR), 1(CD), and 4(DTR) are tied together, but not passed through the converter. The RS-485 port has an 8-position pluggable terminal block connector.

Baud Rate

The 485PTBR can accept baud rates from 300 baud to 115.2K baud. In order to change the baud rate on the 485PTBR a resistor and possibly a capacitor must be changed. By looking up the selected baud rate on Table 1 the resistor and capacitor value can be determined. Remove R3 and C7 from the printed circuit board. Place new components in the R2 and C6 locations. See Figure 1 and 2 for resistor and capacitor locations.

Biassing Resistors

The biasing resistors R5 and R7 can also be altered. The 485PTBR comes standard with 4.7K biasing resistors. To change the value of biasing resistors, remove R5 and R7 and replace with new value in locations R4 and R6. See Figure 1 and 2 for resistor locations.

Termination Resistor

The termination resistor location for the 485PTBR is located at R8. A termination resistor can be placed in the R8 location and a jumper wire placed from the terminal location to RD(B). We recommend a value of 100 to 120 ohm resistor for termination. See Figure 2 for termination resistor location.

Constant Receiver Enable

The 485PTBR is standard setup with the receiver disabled during transmission. The 485PTBR can be set up for constant receiver enable. When R9 is removed the receiver is in constant receive mode (four-wire). When R9 is in the circuit the 485PTBR is in half-duplex mode (two-wire). See Figure 1 for jumper location.

Data Line Polarity

The polarity of the two RS-485 lines must be correct. With no data being sent, the RS-232 line should be negative and the RS-485 "A" terminal should be negative with respect to the "B" terminal. If your equipment uses a "+" and "-" naming scheme, in most cases the "A" line will be connected to the "-" and the "B" line will be connected to the "+".

| Table 1 | | | |
|--|-----------|---------------------|----------------------|
| COMPONENT REPLACEMENTS FOR CHANGING BAUD RATE TIMEOUTS | | | |
| Baud Rate | Time (ms) | Resistor (R3) (ohm) | Capacitor (C7) (mfd) |
| 300 | 33.3 | 330K | 0.1 |
| 600 | 16.6 | 160K | 0.1 |
| 1200 | 8.33 | 820K | 0.01 |
| 2400 | 4.16 | 430K | 0.01 |
| 4800 | 2.08 | 200K | 0.01 |
| 9600 | 1.04 | 100K | 0.01 |
| 19200 | .520 | 56K | 0.01 |
| 38400 | .260 | 27K | 0.01 |
| 57600 | .176 | 16K | 0.01 |
| 115200 | .0868 | 8.2K | 0.01 |

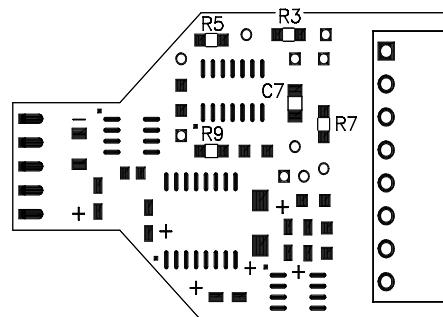


Figure 1. PC Board Layout - Top

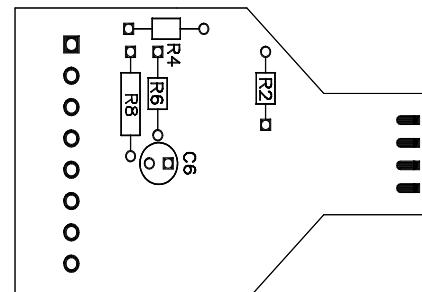


Figure 2. PC Board Layout - Bottom

