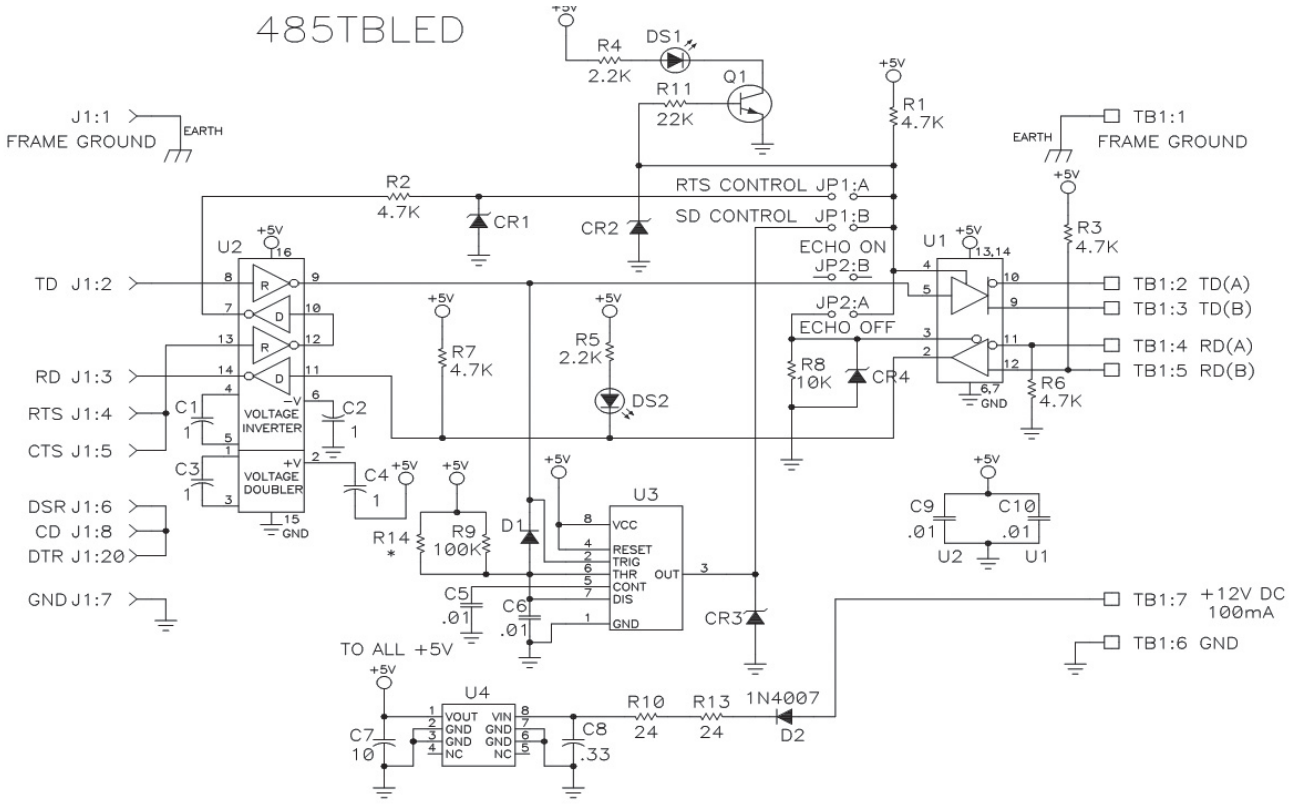
5 | 485TBLED Schematic



Recommended Accessories

12 VDC Power Supply, 6 W, Int'l AC Input, 2.5mm Plug
SMI6-12-V-ST

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1-888-948-2248 | Europe: **+353 91 792444**
advantech-bb.com

707 Dayton Road | PO Box 1040 | Ottawa, IL 61350
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www.advantech-bb.com | E-mail: support@advantech-bb.com

QUICK START GUIDE

Model 485TBLED

RS-232 to RS-485 Converter

Before you begin, be sure you have the following:

+ 485TBLED RS-232/RS-485 Converter
+ 12VDC Power Supply (required, sold separately)

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Product Overview

1 Getting Started

The 485TBLED converts unbalanced, full-duplex RS-232 signals to balanced, full or half-duplex RS-422 or RS-485 signals. RS-485 is an enhanced version of the RS-422 Standard. It allows multiple drivers and receivers on a two-wire or four-wire system.

The RS-232 port, configured as a DCE port, has a female DB25 connector with pins 2 (TD input), 3 (RD output), and 7 (Signal Ground) supported. Pins 4 (RTS) and 5 (CTS) are tied together; pins 6 (DSR), 8 (CD) and 20 (DTR) are also tied together. Pins 1 (Frame Ground) and 7 (Signal Ground) are connected straight through to the RS-485 terminal blocks.

The RS-485 terminal blocks support Transmit Data (A-) and (B+), Receive Data (A-) and (B+), Frame Ground, Signal Ground, and +12 VDC input. See Schematic.

2 LEDs

The 485TBLED has two LEDs: the Transmit Data LED indicates when the RS-485 driver is Enabled; the Receive Data LED shows data appearing at pin 3 of the RS-232 port. These LEDs are useful for determining if data is getting through the converter.

Note that the TD LED indicates that the RS-485 driver is enabled. Data must be present on pin 2 of the RS-232 side for data to be transmitted out of the RS-485 side. If no data is present, no data will be transmitted even though the TD LED is illuminated.

3 Flow Control

The 485TBLED uses two different methods to enable the RS-485 driver - either by toggling Request to Send (pin 4) of the RS-232 side, or by automatic sensing of data on the Transmit Data (pin 2) of the RS-232 side. This option is user selectable by setting push-on jumpers located next to the terminal blocks (see Figure 1). Removing both sets of jumpers completely can constantly-enable the RS-485 driver and receiver. This makes the 485TBLED act like an RS-422 converter.

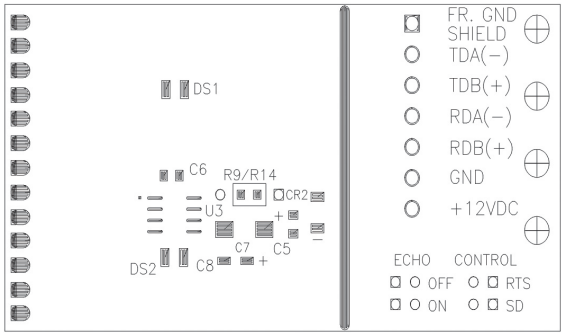

Figure 1. Flow Control - Terminal Block

4 Baud Rate

There is a timing component on the converter, resistor R9 (see Figure 1). This component is part of the automatic sensing circuit and affects the baud rate at which the converter can be used in a two-wire setup. This component, is factory selected to allow the converter to run at 9600 baud or higher.

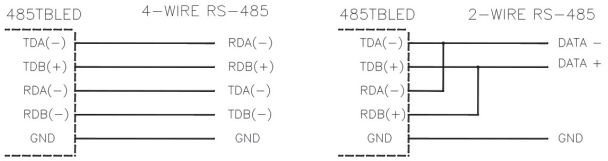

Figure 2. How to Interconnect Two 485TBLED Converters Using 4-Wire and 2- Wire

The Echo jumper is used in the two-wire mode and allows you to prevent data being sent from the RS-232 port from being echoed back to the RS-232 port. Up to 32 receivers can be driven by any one RS-485 driver, allowing you to put together large systems with many drop points. If you are using termination resistors, they should be located at opposite ends of the system.