



Qg 2 TOD (Time of Day) to USB communication



Communicating with laptop or PC

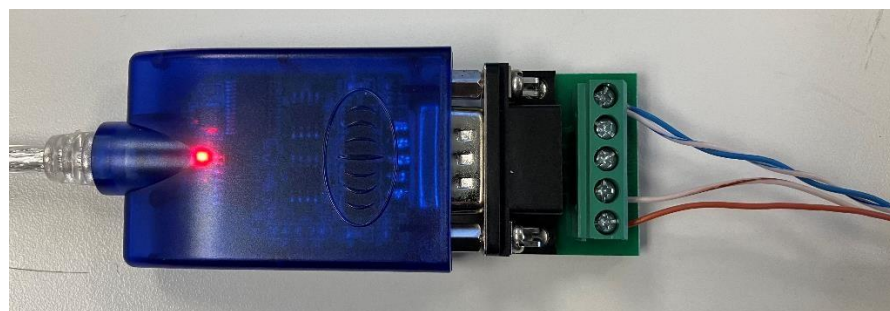
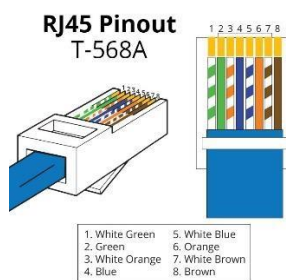
TOD / 1PPS is available from the front panel of the Qg2. The electrical format is differential signaling as described by ITU G.703 and requires a RS-422 / RS-485 to USB adapter. This electrical format is not compatible with the more common RS-232 format.

Tools Required:

Quantity	Description	Reference Picture
1	RS485 to USB convert	
1/2	Ethernet patch cable	
1	Small screwdriver	
1	Wire cutter / stripper	
1	PC with terminal program	

1.0 Hardware Procedure:

- 1.1 Cut Ethernet patch cable to desired length.
- 1.2 Remove 1.5" of the outer sheath exposing the individual conductors.
- 1.3 Select wire for pins 4, 7 and 8, strip 3/16 of insulation from wires. Blue, brown stripe, brown in attached pinout diagram.
- 1.4 Connect pin 4 to "gnd" terminal strip position.
- 1.5 Connect pin 7 to "T/R+" terminal strip position.
- 1.6 Connect pin 8 to "T/R-" terminal strip position.
- 1.7 Connect DB9 terminal strip to USB converter.



2.0 Qg 2 Setup:

- 2.1 Log into Qg2 configuration webpage.
- 2.2 Click "Interface => ToD/1PPS Output" tab
- 2.3 Set "1PPS ToD State" to "Start"
- 2.4 Note "ToD OUT Baud Rate", Terminal program will need to match this setting.
- 2.5 Click "Apply"

3.0 PC Setup

- 3.1 Open "Device Manager", click on "Ports (COM & LPT)"
- 3.2 Connect USB cable to your PC. Depending on your system you may need to install USB to serial VCP driver. The above adapter uses FTDI chip set.
- 3.3 Observe the new serial port number in Device Manager.
- 3.4 Open terminal emulator program.
- 3.5 Start a new connection to the com port above.
- 3.6 Configure for the baud rate set on the Qg2.
- 3.7 You should see data added to the screen once a second. In addition, an LED should blink on the converter when data is present.

