BSAPCI3
PCIe 3.0 Receiver Testing Application

Installation Instructions

Overview

Use this document to get your BERTScope hardware connected and the software and drivers installed. The instrument front-panel connections for a typical PCIe test setup are shown at the end of the procedures. See your user manual for more details and for other test configurations.

The following procedures should be done in the order they are presented:

1. Make the USB and Serial Port connections.

2. Make the BERTScope to DPP Serial Port connection.

3. Load and configure the oscilloscope software.

4. Load and configure the BERTScope software.

5. Load and configure the PCIe 3.0 Automation software on your PC (this software can instead be loaded on the oscilloscope or BERTScope, but is not recommended)

Required equipment

You need the equipment and software listed below to complete these procedures.

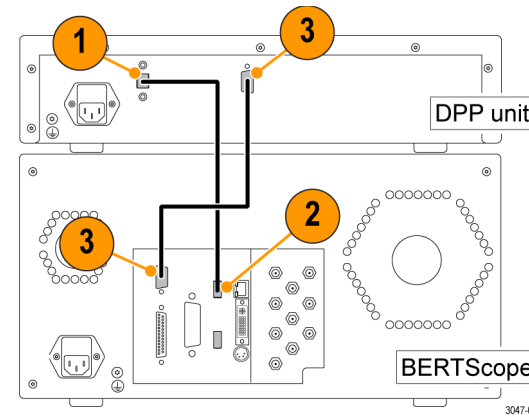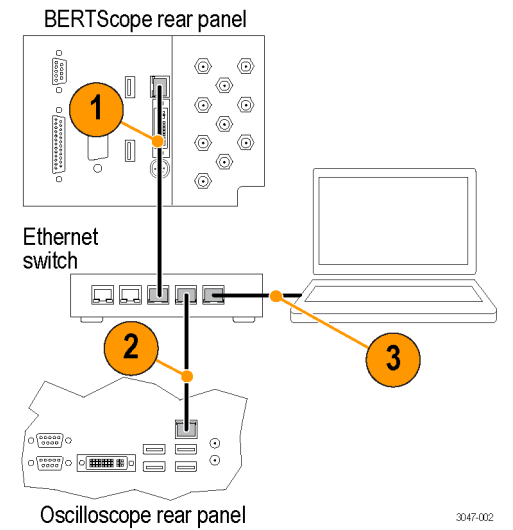| |
|---|
| DPP125C Option ECM |
| BSA BERTScope C model, with option SF installed |
| DPO/DSA/MSO71254B or above oscilloscope |
| Ethernet switch,10/100 Mbps minimum and Internet connection |
| (3) Ethernet cables |
| (1) USB cable, A–B, (standard accessory with the equipment) |
| (1) 9-pin null modem serial cable (standard accessory with equipment) |
| BSAPCI3 PCIe 3.0 Automation Software (downloadable from www.tek.com) includes Visa Socket Gateway and SigTest Server |
| SigTest tool (application software downloadable from www.PCISig.com; search SigTest tool) |
| (Recommended) PC w/Windows XP, Vista, or Windows 7 32-Bit, or Windows 7 64-Bit OS. Note: Although the BERTScope or oscilloscope can be used as the controller instead of a PC, it is not recommended. |
| (Optional) PCI Express 3.0 Receiver Test MOI for CEM spec (downloadable from www.tektronix.com; search for PCI Express 3.0 Receiver Test MOI) |

Make the USB and serial port connections

1. Insert the B end of the USB cable into the DPP unit.

2. Connect the other end of the cable into any USB-A connector on the BERTScope.

3. Connect the serial cable between the serial ports on the rear of the BERTScope and the DPP unit.

Make the Ethernet connections

The setup described here uses an Ethernet switch, but you can use your internal Ethernet network instead. Using 3 Ethernet cables, make the following Ethernet connections on the rear panels of the equipment:

1. Insert an Ethernet cable into the Ethernet Switch. Connect the other end of the cable into the BERTScope.

2. Insert another Ethernet cable into the Ethernet Switch. Connect the other end of the cable into the oscilloscope.

3. Insert a third Ethernet cable into the Ethernet Switch. Connect the other end of the cable into the Ethernet port on your computer.
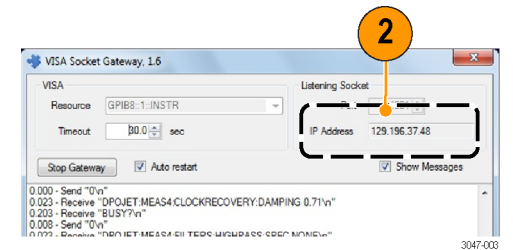

Load and configure the software and drivers

The BERTScope and oscilloscope must be loaded with application software. The PCIe 3.0 Automation software should be loaded on a separate PC.

Oscilloscope Software

1. Load Visa Socket Gateway on the oscilloscope. This software must be running on the oscilloscope to allow communication between the instruments.

2. Record the IP address; it is used later in the *Windows PC Software* setup procedure.
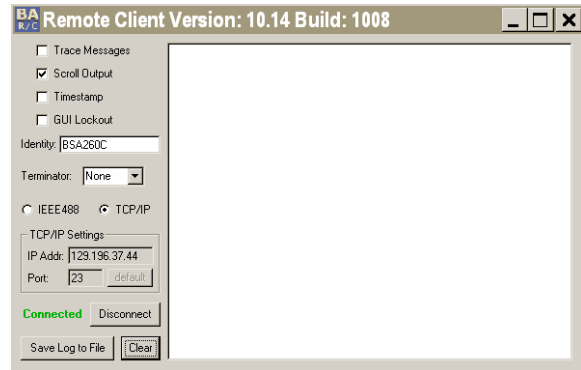

3. Load the SigTest application software on the oscilloscope.

4. Load the SigTest Server software on the oscilloscope. This software must be running on the oscilloscope to allow communication to the SigTest application.

5. Record the IP address of the SigTest application; it is used later in the *Windows PC Software* setup procedure.

Tektronix

BERTScope software

Enable the Remote Client on the BERTScope:

1. Click Start > Programs > BERTScope > Remote Client.

2. Select TCP-IP and then record the IP address; it is used later in the *Windows PC Software* setup procedure.
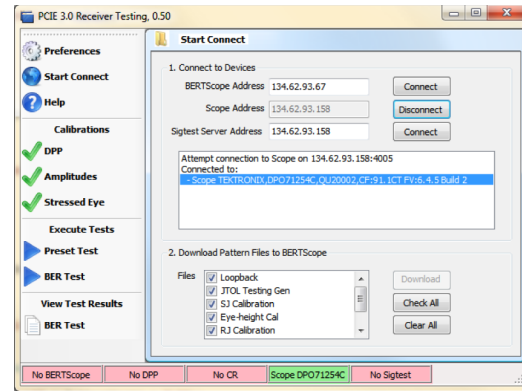

Windows PC software

For best system performance, load the PCIe 3.0 Automation Software on an external PC or laptop computer.

1. Install the PCIe 3.0 Automation Software on the PC.

NOTE. Check with your Tektronix Sales Representative for any later versions of the PCIe 3.0 Automation Software.
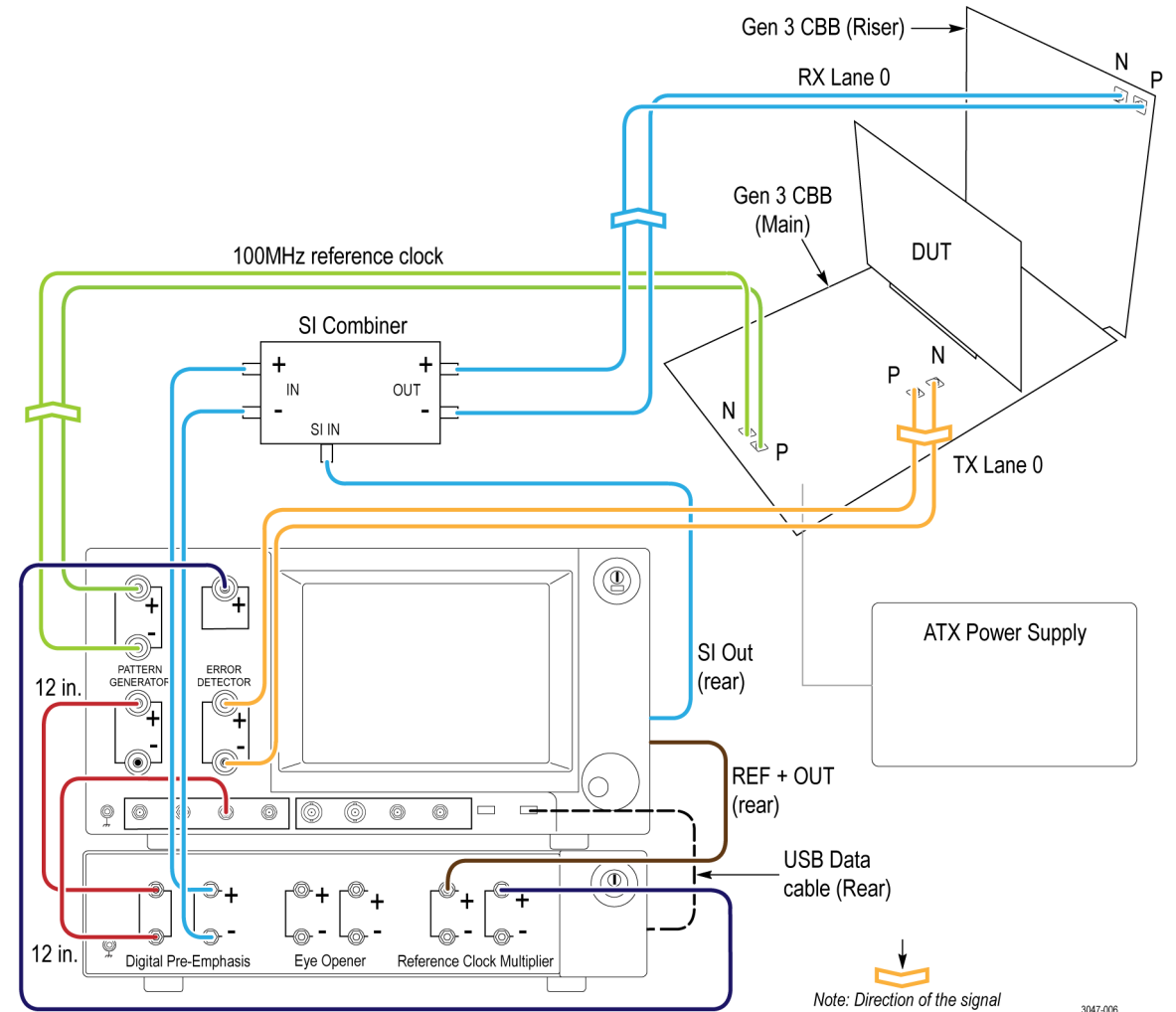
2. Once installed, open the application and click Preferences.

3. Open the window for each instrument and enter the IP address as instructed in steps 4 and 5.

4. Enter the BERTScope IP address in the Address field for the BERTScope.

5. Enter the oscilloscope IP address in the Address fields for both the oscilloscope and SigTest server.

6. Click Start Connect. The Start Connect window appears.

7. Click Connect for all three entries. The red tabs at the bottom of the window change to green when connected.

8. If the BERTScope is being used for the first time for PCIe testing, check all of the boxes for the data pattern files in the lower half of the Start Connect window, and then click Download.

Typical test setup

The signal connections for a typical PCIe 3.0 test setup are shown below. For details about the fixtures, adapters, and other equipment required for this setup, see your user manual. The manual also includes information about setting up and using other test configurations.

Note: Direction of the signal

3047-006

www.tektronix.com