

Quick-Start Guide

For Agilent 16700 and 16900 Series Logic Analyzers

FS4400 PCI Express Analysis Probe

March 06, 2007

Table of Contents

Agilent 16900 Series.....	2
Agilent 16700 Series.....	4



PCI-Express State Analysis Probe - FS4400

1680/90 - 1680x - 1690x - Quick Start Instructions

It is strongly recommended that the user carefully follow the User Manual the first time the probe is used on a new PCIe link.

Step 1 Software Installation – Execute the three files (*FS1132.exe*, *FS44xx Probe Mgr.exe*, *Transviewer.exe*) that are on the FS1132 CD provided. An *FS4400-FS1132* folder will be created on your desktop. Refer to the FS4400 User manual for more detailed information.

Step 2. Execute the configuration file that matches your probing cable, desired data decode format (8b or 10b), and target configuration. Then use the *General Purpose Probe* feature in the *Overview* section of the Logic Analyzer application to connect the logic analyzer cables to the FS4400 probe.

Step 3. Attach the probing cable, and the reference Cable if desired, to the probe and to the target system. Attach the USB cable from the probe to the PC where the Probe Manager application has been installed.

Step 4. Power up the logic analyzer, the PC where the Probe Manager application resides (if not on the 16900), the FS4400 probe, and the target system in this order.

Step 5. Make sure to install the FS4400 USB drivers from the enclosed CD when prompted.

8b mode configuration files. Refer to the User Manual for 10b mode configuration files

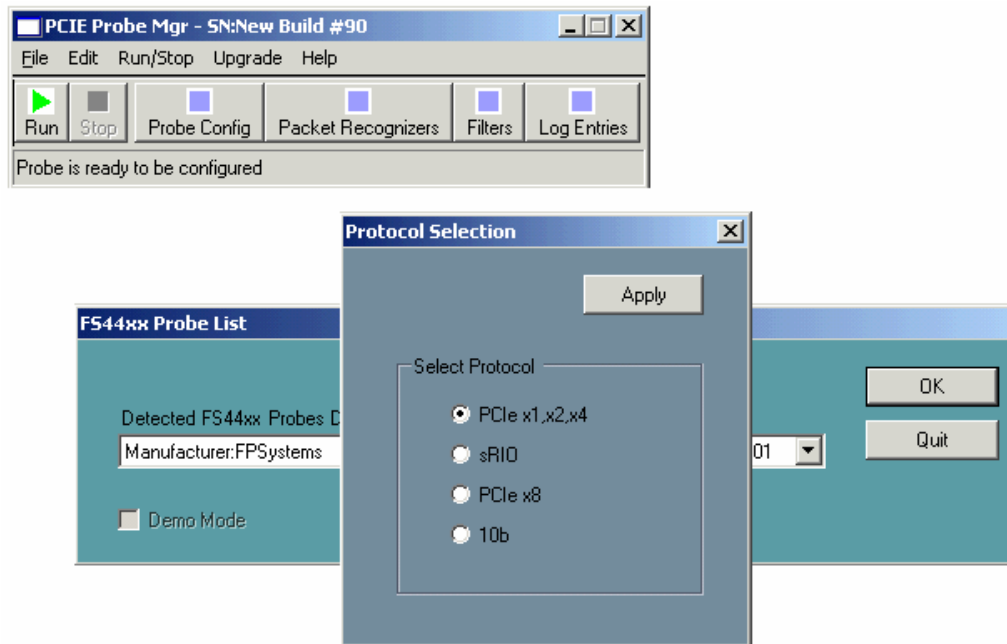
169xx Analyzer	X1 Mode using Mid-Bus or Express		X1 Mode using Interposer		X2 or X4 Mode using Mid-Bus or Express		X2 or X4 Mode using Interposer	
	1 way	2 way	1 way	2 way	1 way	2 way	1 way	2 way
1675x, 16910/1	PE440_9	PE440_10	PE440_9	PE440_11	PE440_12	PE440_13	PE440_12	PE440_14
16753-6 or 1695x	PE440_15	PE440_16	PE440_15	PE440_17	PE440_15	PE440_16	PE440_15	PE440_17
16760	PE440_20	PE440_21	PE440_20	PE440_22	N/A		N/A	
16740/1/2	PE440_9	PE440_10	PE440_9	PE440_11	N/A		N/A	
1680/90	PE440_23	PE440_24	PE440_23	PE440_25	N/A		N/A	
1680x	PE440_54	PE440_50	PE440_54	PE440_51	PE440_54	PE440_50	PE440_54	PE440_51

169xx Analyzer	X8 Mode using Interposer		X8 Mode using Mid-Bus	
	1 way	2 way	1 way	2 way
1675x, 16910/1	PE440_29	PE440_28	PE440_29	PE440_30
16753-6 or 1695x	PE440_27	PE440_26	PE440_27	PE440_31
1680x	PE440_52	PE440_53	PE440_52	PE440_55

Refer to the User Manual for more information on configuration files.

Probe Manager

This Windows based application controls the configuration and operation of the FS4400 probe. The Probe Manager application detects all FS4400 probes that are connected to the USB bus and starts up with the device selection window which allows the user to select which probe will be controlled and which FPGA file will be loaded.



The Probe Manager application is organized into 4 sections, each having their own dialogue window.

- Probe Configuration – Covers the type of probe cable used and basic aspects of the link being probed.
- Packet Recognizers – Provides access to the registers used to set 3 Packet Recognizers provided per Link which may be used to specify packet based triggering parameters.
- Filters – Allows the user to specify the types of packets to be filtered.
- Log Entries – Captures and displays run time probe status in a log file.

The Help button provides version information for the software and the currently loaded FPGA file.

The Upgrade button allows updating of the currently loaded FPGA code.

Refer to the User Manual for more information on the Probe Manager.

Logic Analyzer Setup

The configuration files include some basic logic analyzer Trigger settings using the Event codes and the Default Store bit. This allows the user to easily set-up the analyzer to trigger on any event, just one specific event, or a combination of events.

Probe LED Indicators

Link A or B Signal LED color	Meaning
Green	Link OK
Dark	Loss of Signal
Orange	8b10b Data Error
Red	Receiver Fault: Lost Lock, Lost Sync, FIFO Over/ Under run (See details in Log)

Link A or B Data LED color	Meaning
Green	Data clocking Into Analyzer
Dark	No Data clocking into Analyzer
Orange	8b10b Data Error, Framing, Idle or Alignment Error
Red	Processor Clock Error (stop and re-run probe)

For Technical Support call 603-471-2734

For Sales information call 719-278-3540

Or please visit our web site at www.futureplus.com



PCI-Express State Analysis Probe - FS4400

16700 - Quick Start Instructions

It is strongly recommended that the user carefully follow the User Manual the first time the probe is used on a new PCIe link.

Step 1 Software Installation - Refer to the User Manual for the steps required to install the Protocol Decoder on the 16700 logic analyzer, the Probe Manager software and required USB drivers on a Windows-based system, and also for the Off-line installation of the Windows-based Protocol Decoder and Transaction Viewer software.

These steps only need to be performed once.

Step 2. Connect the logic analysis cards to the FS4400.

<u>Logic Analyzer</u>	<u>FS4400</u>	<u>Comment</u>
Master Pod 1	A1	J clock first link
Master Pod 2	A2	
Master Pod 3	A3	
Master Pod 4	A4	
Expander Pod 1	B1	J clock second link
Expander Pod 2	B2	
Expander Pod 3	B3	
Expander Pod 4	B4	

Step 3. Attach the probing cable, and Reference Clock cable if desired, to the probe and to the target system. Attach the USB cable from the probe to the PC where the Probe Manager application has been installed.

Step 4. Power up the logic analyzer, the PC where the Probe Manager application resides, the FS4400 probe, and the target system in this order.

Step 5. Load the logic analyzer with the appropriate configuration file from the logic/configs/FuturePlus/FS4400 directory. See chart below for the correct 8b mode configuration file to load.

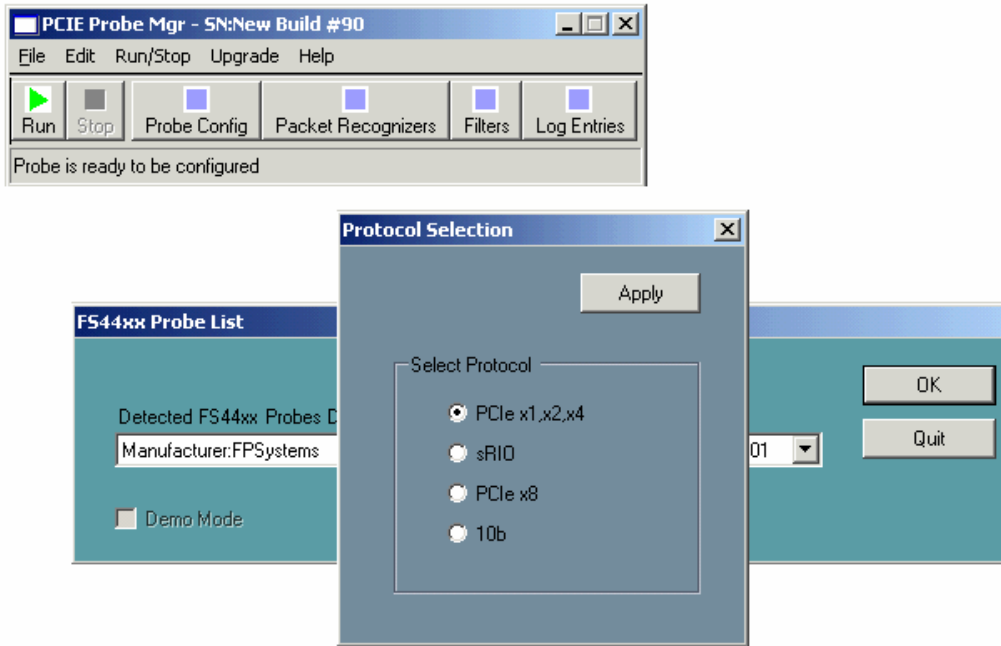
PCIe 8b mode configuration files. Refer to the User Manual for 10b mode configuration files

167xx Analyzer	PCIe x1	PCIe x2 or x4	PCIe x8
16715/6/7 or 16750/1/2	PE440_1	PE440_2	PE440_4
16753-6	PE440_5	PE440_5	PE440_6
16760	PE440_3	NA	N/A
16740/1/2	PE440_1	NA	N/A

Refer to the User Manual for more information on configuration files.

Probe Manager

This Windows based application controls the configuration and operation of the FS4400 probe. The Probe Manager application detects all FS4400 probes that are connected to the USB bus and starts up with the device selection window which allows the user to select which probe will be controlled and which FPGA file will be loaded.



The Probe Manager application is organized into 4 sections, each having their own dialogue window.

- Probe Configuration – Covers the type of probe cable used and basic aspects of the link being probed.
- Packet Recognizers – Provides access to the registers used to set 3 Packet Recognizers provided per Link which may be used to specify packet based triggering parameters.
- Filters – Allows the user to specify the types of packets to be filtered.
- Log Entries – Captures and displays run time probe status in a log file.

The Help button provides version information for the software and the currently loaded FPGA file.

The Upgrade button allows updating of the currently loaded FPGA code.

Refer to the User Manual for more information on the Probe Manager.

Analyzer Setup

The configuration files include some basic logic analyzer Trigger settings using the Event codes and the Default Store bit.

This allows the user to easily set-up the analyzer to trigger on any event, just one specific event, or a combination of events.

Probe LED Indicators

Link A or B Signal LED color	Meaning
Green	Link OK
Dark	Loss of Signal
Orange	8b10b Data Error
Red	Receiver Fault: Lost Lock, Lost Sync, FIFO Over/ Under run (See details in Log)

Link A or B Data LED color	Meaning
Green	Data clocking Into Analyzer
Dark	No Data clocking into Analyzer
Orange	8b10b Data Error, Framing, Idle or Alignment Error
Red	Processor Clock Error (stop and re-run probe)

For Technical Support call 603-471-2734

For Sales information call 719-278-3540

Or please visit our web site at www.futureplus.com