

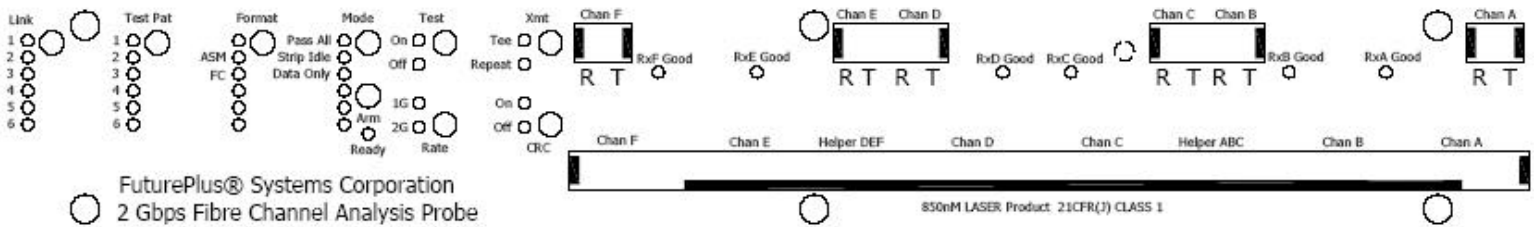
## FS4320 FibreChannel Probe Quicksheet

1. Connect the desired number of Mictor logic analyzer cables to the FS4320, per the following tables

Number of FC links probed	Number of LA pods required	Number of Cards required	Number of LA adapter cables (E5346 or E5380)
1	4	1	2
2	6	2	3
3	8	2	4
4	12	3	6
5	14	4	7
6	16	4	8

Fibre Channel link	Logic analyzer Pods	Probe connection
A, B, C	Master pod 1	Channel A odd
	Master pod 2	Channel A even
	Master pod 3	Channel B odd
	Master pod 4	Channel B even
	Expander pod 1	Channel C odd
	Expander pod 2	Channel C even
	Expander pod 3	Helper ABC odd
	Expander pod 4	Helper ABC even

2. For 167xx frames install the software using the floppy provided. Software must be installed through the system administration on the logic analyzer. For the 1680/90/900 analyzers run the .exe file located on the CD. Configuration files can be located from the logic/configs/futureplus/FS4320 directory on the 167xx frame after installation. The 1680/90/900 places a folder on the desktop during installation; simply double click the folder to access the configuration files. The configuration and protocol decoder is designed to analyze up to three FS4320 Fibre Channel links, grouped into two sets: Channels ABC and DEF. These sets are defined because the FS4320 probe generates signals on the helper channels that are associated with the channel ABC or DEF. The decoder software is dependent on the helper signals to decode the trace information contained in the channels ABC or DEF. The analyzer can be used to monitor a single channel in the group of three (ABC or DEF). The single channel can be any one of the three that make up the set, but the other connections must still be maintained in order for the labels to appear in the trace file, otherwise the decoder can not be successfully loaded from the INVASM (1670X) or Tools (1680/90/900) pull down menus.
3. Connect the power cord to the FS4320 as well as the desired number of optical Fibre Channel LC duplex type connections for Receive and Transmit.
4. Set up the front panel switches on the FS4320 per the signaling and measurement requirements. Refer the other side of this document for information on those settings.



Rx\_ Good – Green indicator for each channel that confirms probe input is receiving FC traffic.

Xmt – Selects either “Tee” or “Repeater” link topologies. Tee is a duplex mode and repeater is a simplex mode

**CRC - SHOULD ALWAYS BE IN THE “ON” POSITION.**

Rate – This switch sets the baud rate of the signals connected to the FS4320. “1G” is 1.0625Gbps and “2G” is 2.125Gbps.

Test - This switch is active when the associated LED is green. This switch causes the unit to transmit a test pattern on all transmit fibers. The type of test pattern is controlled by the “Format” switch and the “Test Pat” switch. When the unit is placed in Test mode, the “Xmt” switch should be in the “Tee” position.

Format switch in ASM position, Test Pat switch in following positions:

- Test #1 IDLE words
- Test #2 ASM packet with dummy Header fields
- Test #3-6 undefined

Format switch in FC position, Test Pat switch in following positions:

- Test #1 zero-length data packet (ZLDP)
- Test #2 FC packet with dummy Header fields
- Test #3-6 undefined

Arm – After the probe is powered on it must be “Armed” before decoding FC traffic. This insures that only complete packets are captured and decoded. When the probe is armed the “Ready” indicator will light. To capture data again, the logic analyzer should be armed, the data source reset (if possible), and the probe re-armed. This clears out any data stored in the probe and insures that a complete packet is captured.

Mode – This controls what data is passed from the probe to the logic analyzer. “Pass All” causes all data received on the input channels to be sent to the logic analyzer. “Strip Idle” invokes the probe to filter out all packets identified as Zero Data or Idle. “Data Only” mode passes payload data only. In this mode timing relationships in the probe change so that helper signals for the channels, either internally generated or passed from the rear external connector, may be sent to the logic analyzer earlier than the data is presented.

Format – This sets the format of the received data. “ASM” is an abbreviation for Anonymous Subscriber Messaging. “FC” is for Fibre Channel. There are 4 unused positions for the Format switch that are reserved for future functions.

Test Pat – This defines what internal test pattern the probe will generate.

Link – When using the FS4320 probe in order to capture as much data as possible across multiple links that were initially aligned at the source, then Channel Linking can be used. When the FS4320 FC probe “links” channels, it attempts to align the first byte in the first packet across all the channel outputs to the logic analyzer. This function helps to improve logic analyzer memory utilization in circumstances where some of the probed FC links may have data packets occurring at the same time.

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