



Test with  
real time traffic corruption to make sure  
your Ethernet and Fibre Channel systems  
will react and recover  
**when it counts.**



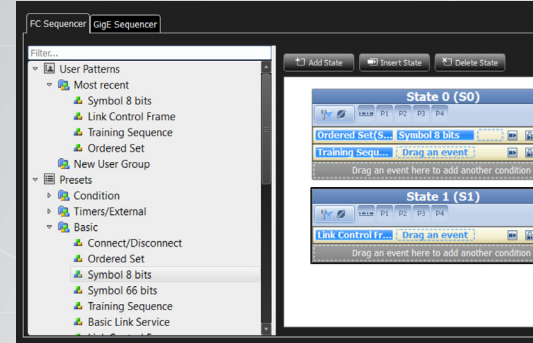
 **TELEDYNE LECROY**  
Everywhereyoulook™

The SierraNet™ family of protocol test products supports high-speed analysis for Ethernet links from 10GbE to 100GbE and Fibre Channel fabrics from 1G up to Gen 6 speeds. Initially designed for the requirements found in the SAN and NAS space, SierraNet has proven useful for rapid determination of root cause failures in various applications over Ethernet and Fibre Channel fabrics.

The SierraNet M168™ offers protocol analysis and error injection capabilities in a single low-cost platform, and supports 100% recording of all Fibre Channel and Ethernet-related traffic at full line rates on all ports, while maintaining the link integrity through non-retimed pass-through probe technology. For greater speeds and feeds, see the table to the right for other SierraNet protocol analyzers.

Index	Data	Field	Value
0001	XX XX XX XX	Ethernet	XXXXXXXXXXXXXXXX
0002	XX XX XX XX	Destination Add.	XXXXXXXXXXXX
0003	XX XX XX XX	Source Add.	XXXXXXXXXXXX
0004	89 06 XX XX	Ethernet Type	8906 : FCOE
0005	XX XX XX XX	FCoE	XXXXXXXXXXXXXXXX
0006	XX XX XX XX	Version	X
0007	XX XX XX XX	SOF	XX : Any SOF
0008	CX XX XX XX	FC	XXXXXXXXXXXXXXXX
0009	XX XX XX XX	Frame_Header	XXXXXXXXXXXXXXXX
0010	XX XX XX XX	R_CTL	CX : Any Link control
0011	XX XX XX XX	D_ID	XXXXXXXX
0012	XX XX XX XX	CS_CTL	XX
0013	XX XX XX XX	PREF	? : Any
0014	XX XX XX XX	DSCP	?X
		S_ID	XXXXXXXX
		TYPE	XX : Any
		F_CTL	XXXXXXXX
		Exchange Context	? : Any
		Sequence Cont...	? : Any

Intelligent triggering saves time and improves engineers' productivity with the ability to capture precise traffic conditions such as timing between events or changes in link state.



The Teledyne LeCroy InFusion™ Error Injector and Traffic Modifier is an error injector and traffic modification tool that allows you to verify real world fault handling for Fibre Channel systems.

InFusion can sit unobtrusively in the data path on a live system to programmatically alter or corrupt traffic, making it the ideal tool for stress-testing systems using actual workloads.

### Error Injection

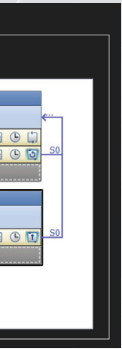
Injects CRC, disparity, 8b/10b encoding, framing, and coding errors.

### Break Link Recovery

Programmatically breaks the connection to test link recovery.

### Value Replacement

Monitors the link for specific values, patterns, or ordered sets (as low as bit level) and replaces with user-defined values on every occurrence, after a specified number of occurrences, or after a specified time interval.



The Graphical State Machine view of the advanced triggering dialog makes it easy for users to visually construct and follow even the most complex scenarios.

Feature	M168 NET-T016-168-X	M408 NET-T010-328-X	T328 HSF-T328-064-X	M328 HSF-M328-128-X	M328Q HSF-M328Q-128-X
NRZ Encoding	✓	✓	✓	✓	✓
10GE	✓	✓	✓	✓	✓
25GE			✓	✓	✓
40GE		✓	✓	✓	✓
50GE			✓	✓	✓
100GE			✓	✓	✓
1G/2G FC	✓	✓			
4G FC	✓	✓			
8G FC	✓	✓	✓	✓	✓
16G FC	✓	✓	✓	✓	✓
32G FC			✓	✓	✓
BASE-R FEC	✓	✓	✓	✓	✓
RS-FEC			✓	✓	✓
RS-544 FEC			✓	✓	✓
DAC CR / KR	✓	✓	✓	✓	✓
Optical SR / LR	✓	✓	✓	✓	✓
Passive Probe	✓	✓	✓		
Active Probe	✓	✓		✓	✓
Native QSFP		✓			✓
QSFP Breakout		✓	✓	✓	
PAM4 L1 Capable			✓		
PAM4 L2+			✓	✓	



### Packet Drop

Removes individual ordered sets or frames from the stream to verify retry behavior.

### Ordered Set Manipulation

Replaces handshaking and flow control ordered sets to help validate robustness of a design.

### Traffic Monitoring

Operates as a traffic monitor, collecting statistical data on user specified parameters. In this mode, data passes unchanged in both directions.



Phone: (800) 909-7211  
E-mail: [protocolsales@teledynelecroy.com](mailto:protocolsales@teledynelecroy.com)  
Web: [www.teledynelecroy.com](http://www.teledynelecroy.com)

