ConnTech 2000

ConnTech 2000 Fibre Channel 1.0625 Gbs Link/BERT Tester

The **ConnTech 2000 Model FC1** Fibre Channel Tester features **BERT** testing at the single rate of 1.0625 Gbs. All you need to do is specify the data rate, frame size, and test pattern; the tester generates patterns and monitors the link for LOL, CRC, CV and bit errors. Whenever an error is detected it is displayed and logged. The log includes the total test time and test event information entered by the user at startup.

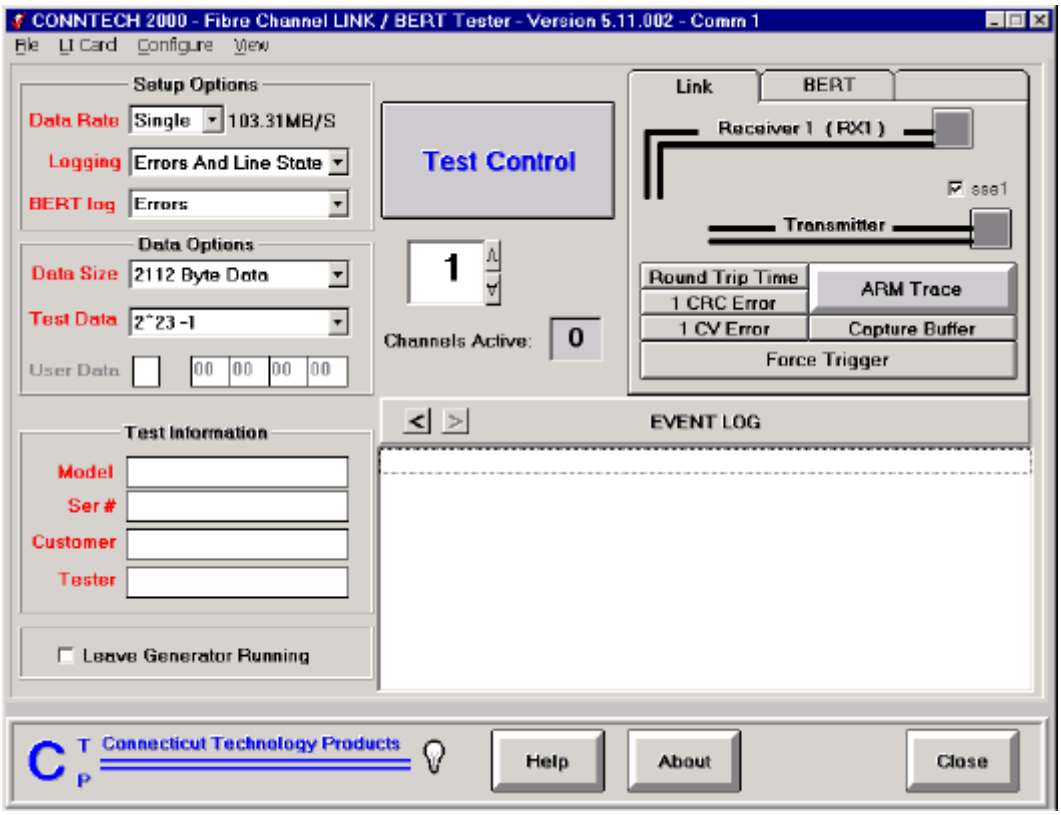
Up to sixteen ConnTech 2000's may be controlled and monitored from one PC via 10/100 Ethernet LAN interface and / or RS-232 serial port(s). Each ConnTech 2000 has it's own Link/ BERT Tester screen identified by the active channel indicator. The software also provides a summary screen where all 16 channels can be monitored simultaneously. The types of errors logged can be filtered for both BERT Testing and Link Diagnostics. Tester setup configurations can be saved to disk and re-used at any time to repeat identical tests or for use with other circuits.

Link diagnostics analyze the received signal for:

- link state errors (light/no light),
- CRC errors,
- CV errors,
- Minimum idles between frames,
- SOF and EOF delimiter errors.

While operating in the link state mode, the user may

- send a single CRC error,
- send a burst of CV errors,
- configure a Link/Bert frame,
- send a test signal (determine round trip delay time in the circuit), or
- activate an error trace capture buffer.



When activated, the 8K capture buffer monitors the received data. When a bit mismatch is detected, the word in error is displayed along with the word expected within the frame. Pre and post-store capture information is available so the user may see events prior to, and after, the captured error.

- In link diagnostic mode, the user may configure fields including the Packet Header and Trailer. These fields define SOF, Device ID, Source ID, F_CTL, Sequence ID, RX_ID, PARAMETER and EOF.
- In generator mode, the user may configure Ordered Sequence Fields, including Force Loss of Light, NOS, Idle, LR, LRR, R_RDY, and OLS, plus generate unframed jitter test patterns (DJ and RJ).
- In BERT mode, bit errors can be injected into the transmitted data stream. Errors can be sent at a rate of $10e^{-3}$ or $10e^{-6}$, or single errors generated. This feature is useful for initial test setup and link calibration.

BERT diagnostics perform a bit-by-bit comparison to find bit errors in the received data pattern. Error Count and Error Rate for the latest sample are displayed and maintained, as well as totals for all samples from the test start. Bit errors are logged as detected, and can be saved to a text file for inclusion in reports or sent to customers as test results.

Connecticut Technology Products
766 Main Street South, PO Box 734, Woodbury, CT 06798 Phone: (203) 266-9303 FAX: (203) 266-9305 Email: mktg@c2p.com

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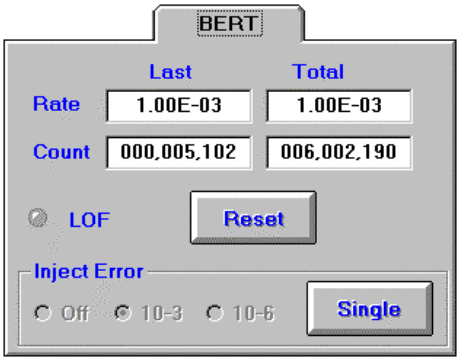
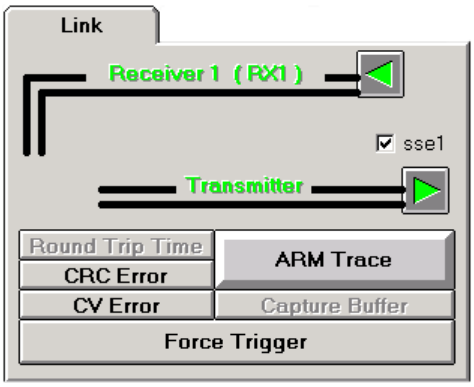
BERT Test Window

The BERT window displays the bit error count and the bit error rates for the last sample, and totals for the duration of the test. The counts and rates are logged whenever new bit errors are detected. Bit Error Logging can be turned ON or OFF. The Loss of Frame indicator comes ON when frame synchronization is lost. The BERT function stops until the frame is re-synchronized. No errors are counted while the LOF indicator is ON.



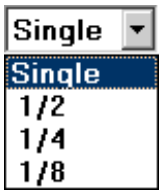


Link Diagnostics Window

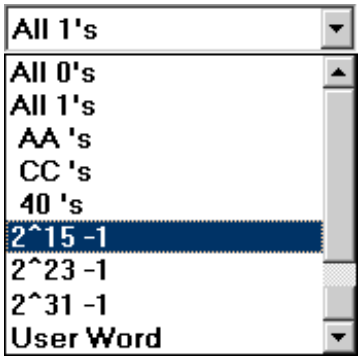
Link Diagnostics displays the Link State of the receiver. The Link window allows the user to initiate a round-trip time measurement, insert a CRC error into the data stream, insert CV errors or capture and display bit errors found within the frame, showing both the expected bits and the bits actually received.

Order:
Assembly: ConnTech 2000 model FC1 swl (850nm) or lwl (1310nm)
Module Upgrade: CBA0021 swl (850 nm) or lwl (1310 nm)

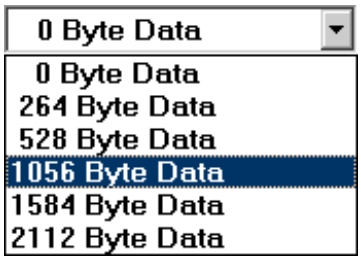
Data Rates



Test Patterns



Frame Sizes



BERT Analyzer

Monitors Loss of Frame
Error Generation at 103.3 MBs
- Single Errors
- 10^{-6} Bit Error Rate
- 10^{-3} Bit Error Rate

Bit Error Count, Rate logging.

Link State Detection

Light / No Light
Data / No Data

Link Error Detection

CRC errors
Code violations
Minimum Idles between frames
Delimiter errors (SOF, EOF)

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