DCB, Inc.
2949 CR 1000 E
Dewey, Illinois
61840

217.897.6600 Tel
800.432.2638 Toll Free
217.897.8023 Fax
www.dcbnet.com

Test C37.94 with a BT-1 Bit Error Rate Test Set

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Thanks to one of DCBs great utility customers for the following.

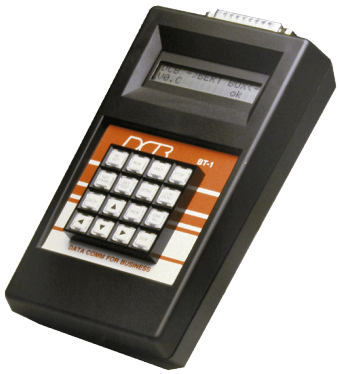
An issue between our customer utility and an interconnecting utility led to a comparative bit error rate test. Our customer has been using the BT-1 together with SEL 2894 interface convertors to test and validate error free operation of C37.94 circuits.

Circuit cards in the Pacificorp multiplexer equipment are C37.94. The circuit in question going to an interconnecting utility was tested by that organization with a test set that has a fiber optic C37.94 interface card. Would the results from a test set with a C37.94 optical interface card match the results of a BT-1 with the interface convertor?

A test was set up on a C37.94 link. The first test was measuring **round trip delay time**. A JDSU test set with a C37.94 optical card measured 4 milliseconds. The BT-1 with the interface convertor at 19.2 Kbps measured 6 ms. The difference is the serialization, deserialization of the UART used in the BT-1. At 9600 bps the echo time was 7.5 milliseconds, which is expected due to the serialization, deserialization time in the BT1 UART. A character time is about 0.5 ms at 19.2 Kbps, 1 ms at 9.6 Kbps. The BT-1 and the interface convertors add the UARTS, hence the few milliseconds. On a good or a degraded line, the JDSU and the BT-1 show **equivalent error (or non-error) rates**.

Conclusion:
For round trip delay and bit error rate testing, the BT-1 and convertors prove to be as reliable as other test equipment. https://www.dcbnet.com/datasheet/bt1.html

Interface Convertors



BT1 Test Set $995