



U-BR1TE

ISDN 2B1Q INTERFACE

Adtran

FEATURES

- Conforms to ANSI T1.601-1992
- Plugs into WECO D4 Channel Bank, ADTRAN BR1/8 BR1TE bank, and ACT 1241
- Designed for use in SLC-96 terminals
- Basic Rate 2B+D service
- Faceplate Bantam jacks for maintenance testing
- TR-NWT-000397 3 DS0 format and T1 facility performance monitoring
- Loopback features available on faceplate
- 18,000 ft. nominal range, mixed gauge
- U-BR1TE/MLT supports Mechanized Loop Testing

BENEFITS

- Extends range of 2-wire U-interface using T carrier
- Suitable for both Central Office and customer premises environments
- Use of D4 bank adds flexibility and extends life of D4 equipment

DESCRIPTION

The ADTRAN U-BR1TE is a device which enables transport of ISDN Basic Rate (2B+D) information over T carrier lines. This is accomplished by the insertion of the two "B" channels at 64 kbps and a single "D" channel at 16 kbps into 3 DS0 time slots. The U-BR1TE provides a standard U-interface which operates at 160 kbps full duplex over a single twisted pair of wires. The U-BR1TE may be used at both the Central Office Terminal location (COT) and the Remote Terminal location (RT). Clear Channel capabilities (B6ZS) are not required of the T1 facility if Zero Byte Suppression is enabled. The U-interface available at the U-BR1TE conforms to ANSI standards and performs all Layer 1 functions.

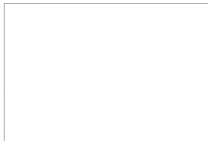
The U-BR1TE plugs into a single D4 channel slot. It occupies the time slot in which it is inserted, and the next two adjacent time slots when delivering 2B+D service. The U-BR1TE meets the ones density requirement of the T carrier through the use of zero byte substitution and associated flags in the "D" channel DS0 slot according to TR-NWT-000397.

Maintenance and testability is provided for on the U-BR1TE's front panel. A four-character display provides an indication of Loop Activation, Out-of-Service, and Test. The Select button is used with the four-character display to determine which network element is to be looped back. The B1-B2 switch determines which channel is to be looped back. The LP-CR switch determines the direction of the loopback. The Test button, which activates the unit's test features, is recessed to prevent any inadvertent operation.

The U-BR1TE/MLT contains the same capabilities as the U-BR1TE, with the addition of compatibility with Mechanized Loop Testing (MLT 3.0/ISDN) according to TR-NWT-000397, Issue 3, June 1992. When configured and installed in a SLC-96 channel bank, the U-BR1TE/MLT allows testing the local loop cable drop using an Extended Pair Gain Tester (XPGTC).

ISDN BR1/8 Bank (BR1/8)

The ADTRAN BR1/8 BR1TE bank provides an alternative means of housing the ADTRAN U-BR1TE or T-BR1TE and provides network termination for a T1 line. The BR1/8 contains eight channel slots to accommodate up to eight U-BR1TEs or T-BR1TEs. Each channel slot contains three DS0 timeslots allowing all of the channel slots to be used when delivering ISDN Basic Rate (2B+D) Service. The BR1/8 is an economical means to offer ISDN Basic Rate via T carrier. Mounting slots are provided for eight common equipment cards: a PAU, PCU, OIU-2, RU, LIU, ACU, TU, and CAU. It is available in 23-inch mounting.



APPLICATIONS

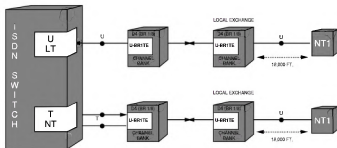
The ADTRAN U-BR1TE is suitable for use in both Central Office and customer premises environments. The use of a single wire pair for full-duplex operations greatly simplifies the administration of cable plant. The capability of the U-interface to serve mixed wire gauges, and nominal distances up to 18,000 ft. make it the universal choice for ISDN deployment.

The ADTRAN U-BR1TE is ideally suited when the need arises to extend ISDN service beyond the normal

servicing range. The ability to provide ISDN services is only limited by the range of available T carrier lines.

In instances where the 2B1Q U-interface card is not available in the digital switch, it is possible to use ADTRAN T-BR1TEs and U-BR1TEs in a mixed application. This application allows the 2B1Q T1.601-1992 U-interface to be delivered from a digital switch which does not yet support it.

U-BR1TE Applications



U-BR1TE SPECIFICATIONS

Loop Interface:

Line: 2-Wire (TIP and Ring)
 Operating Mode: Full-duplex
 Data Rate: 180 kbps total; 144 kbps available to customer
 Signal Format: 2B1Q
 Output Amplitude: 2.5 Volt, Zero-to-Peak
 Tx Source Impedance: As per ANSI T1.601-1992
 Rx Source Impedance: As per ANSI T1.601-1992
 Receiver Sensitivity: As per ANSI T1.601-1992

DS1 Facility Interface: Fully compatible with WECO D4 Channel Bank Equipment

Network Compatibility: ISDN and other digital service, according to TR-NWT-000397

Faceplate Controls and Indicators:

Controls: B1/B2 Beamer channel Select switch
 LP/CR Loop or carrier direction Select switch
 Select Scrolls through valid loopback addresses on four-character display
 Test Activates selected loopback

Indicators: Four-character display is used to select loopback address and display loopback status.

Test: Bantam test jacks for TPI 108/109 RT II or equivalent test sets

Display			Interpretation
ACTV	IN	PROG	Activation in progress, the 2-wire loop is attempting to activate.
LOOP	IS	DOWN	The 2-wire loop is not activated.
ADDR	LOOP	BACK	A distant unit with address # is in a loopback commanded from this card.
NT1	LOOP	BACK	The NT1 is in loopback as commanded from this card.
B1	LOOP	BACK	This card is currently looping back channel B1 as commanded from a far unit.
B2	LOOP	BACK	This card is currently looping back channel B2 as commanded from a far unit.
2B1Q	LOOP	BACK	This card is currently looping back all channels as commanded from a far unit.
BANK	CR	FAIL	Bank carrier fail, the channel bank is not receiving data from the T carrier.
XBET	CR	SIDE	Transmit carrier side, forcing the injection of 64 kbps data into a Beamer channel from the front panel Bantam jack into the carrier direction.
MLT	LP	SIDE	Transmit loop side, forcing the injection of 64 kbps data into a Beamer channel from the front panel Bantam jack into the loop direction.
MODE	B1	LPBK	Mode B1 loopback, manually forced the Beamer channel B1 loopback in both the network and customer directions.
MODE	B2	LPBK	Mode B2 loopback, manually forced the Beamer channel B2 loopback in both the network and customer directions.
CHKR	TEST	SET	Check test set, ensure test set Tx pins are properly inserted into faceplate Bantam jacks and configured as NEAR LOGIC.
FAIL	END	OPEN	The unit on the far end of the carrier is not present or not configured properly.

Mechanical:

Size: 4.4" H x 10" D x 1.4" W
 Weight: 10 oz.
 Mounting: Mounts in WECO D4 Channel Bank/SLC-96 terminals

Power:

Current Drain

-48 V: 40mA (in LUJNT mode)
 5V: 5mA Display OFF (normal operating mode)
 45mA Display ON

On-Card Dissipation

1.95 W maximum

ORDERING INFORMATION: The part numbers for the U-BR1TE are provided below.

Equipment	Part Number
U-BR1TE	1100020L1
U-BR1TE MLT	1100020L2
BR1/B1R1TE BANK	1150018L1

