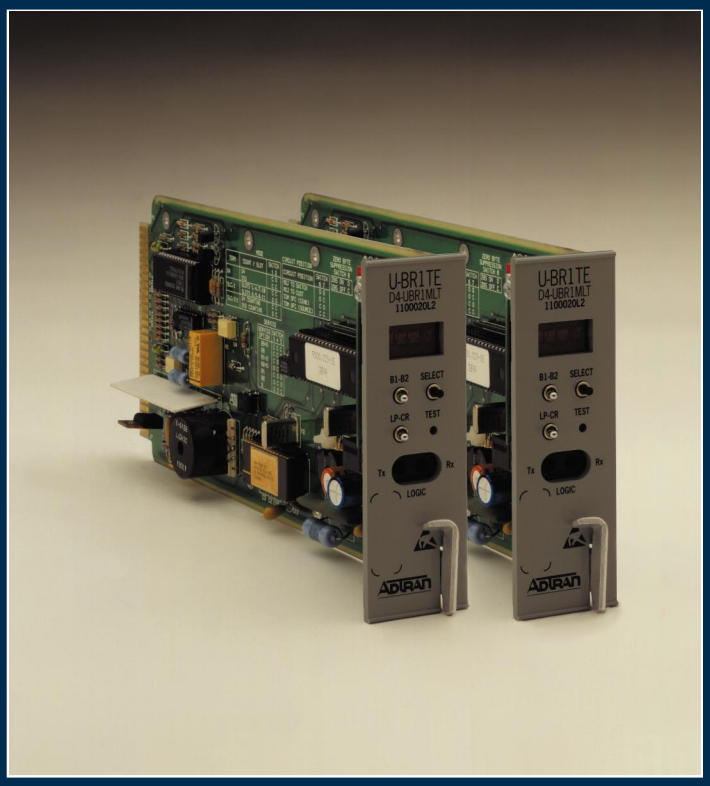



# U-BR1TE

## ISDN 2B1Q INTERFACE

ADTRAN

# U-BR1TE

## 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 (B8ZS) 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.

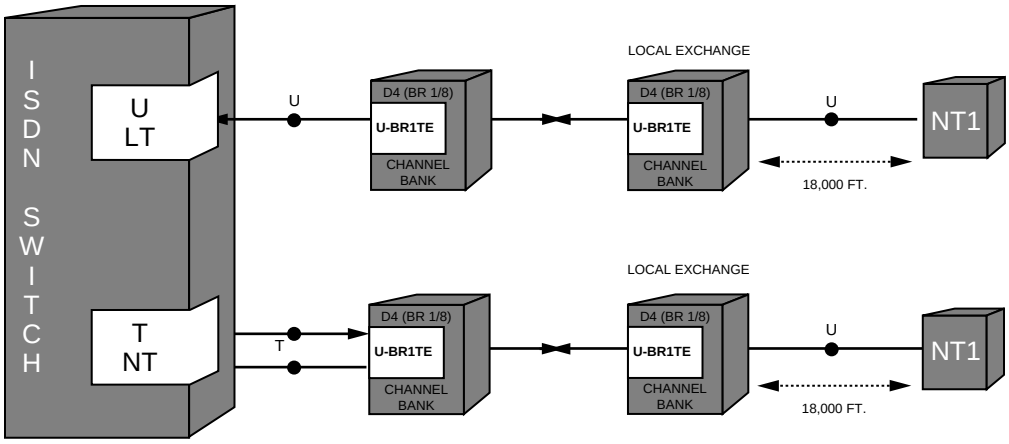
## APPLICATIONS

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: | 160 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 | Bearer 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. |
| ADR# | 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. |
| 2B+D | 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. |
| XMIT | CR | SIDE | Transmit carrier side, forcing the injection of 64 kbps data into a Bearer channel from the front panel Bantam jack into the carrier direction. |
| XMIT | LP | SIDE | Transmit loop side, forcing the injection of 64 kbps data into a Bearer channel from the front panel Bantam jack into the loop direction. |
| MADE | B1 | LPBK | Made B1 loopback, manually forced the Bearer channel B1 loopback in both the network and customer directions. |
| MADE | B2 | LPBK | Made B2 loopback, manually forced the Bearer channel B2 loopback in both the network and customer directions. |
| CHCK | TEST | SET | Check test set, ensure test set Tx probe is properly inserted into faceplate Bantam jack and configured as NEAR LOGIC. |
| FAR | 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** | **On-Card Dissipation** |
|---|---|
| -48 V: 40*m*A (in LUNT mode) | 1.95 W maximum |
| 5V: 5*m*A Display OFF (normal operating mode) | |
| 45*m*A Display ON | |

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

| Equipment | Part Number |
|---|---|
| U-BR1TE | 1100020L1 |
| U-BR1TE MLT | 1100020L2 |
| BR1/8 BR1TE BANK | 1150018L1 |

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