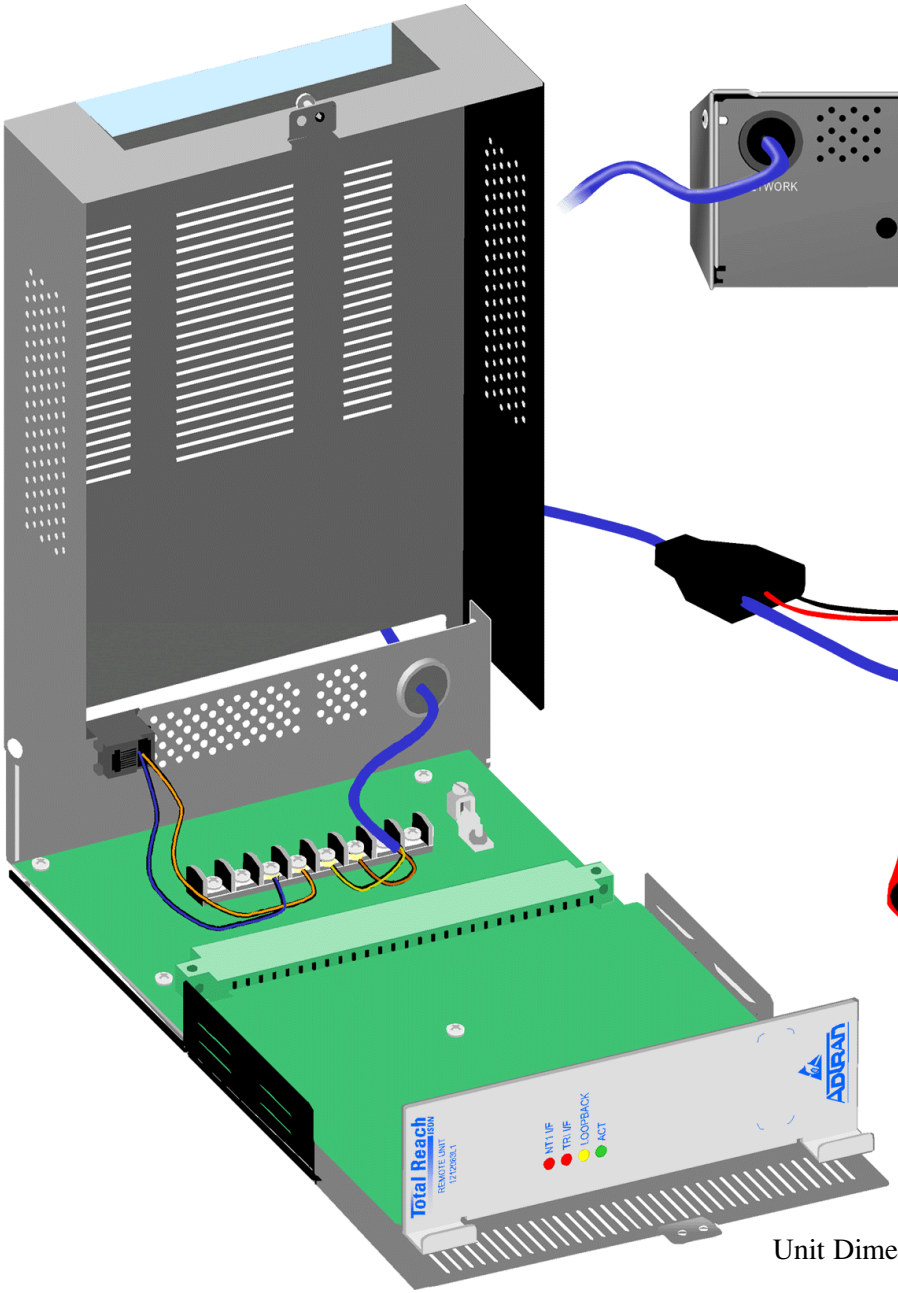
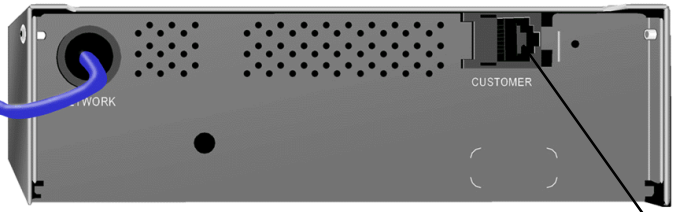
JOB AID TECHNICAL SUPPORT 800.726.8663

ADTRAN 2nd Generation Total Reach ISDN Test Unit





Rear View

Standard RJ-48
Pins 4,5 "U"
to Test Set

Alligator Clips

Protector Block Connector
and Cap

ADTRAN Part Number	4212.083TEST
CLEI CODE	DDRPPLP1AA

Unit Dimensions: 6" × 9 3/4" × 2"

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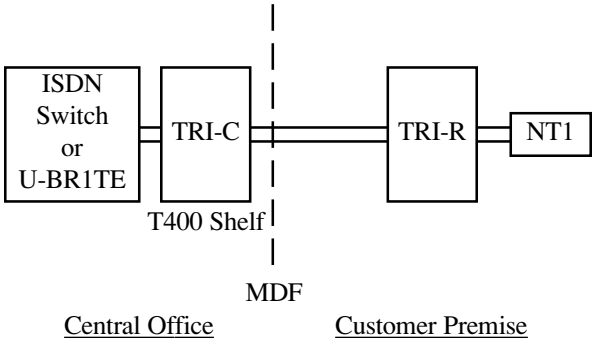
ADTRAN Total Reach ISDN Installation/Troubleshooting Job Aid

TOTAL REACH ISDN INSTALLATION TIPS (1ST GEN/ 2ND GEN)

1. Complete CO wiring from the ISDN switch (or U-BR1TE) and the OSP cable pair to the connecting block of the T400 shelf housing the Total Reach ISDN CO unit (TRI-C) and verify that the U-BR1TE (if used) has been placed.
2. Verify ISDN translations are complete.
3. Complete wiring at customer premise to the Total Reach ISDN Remote unit (TRI-R) as shown on unit. If the T400 mechanics TRI-R unit is utilized wire per T400 housing directions.
4. Proper circuit operation – LED indications are as follows.
   a. With customer connected the TRI-C and the TRI-R will have only the **POWER** and **ACT** LEDs illuminated (1st generation) or the **ACT** LED illuminated (2nd generation).
   b. Without the customer connected, 1st generation – the TRI-C **POWER** LED only will be illuminated. The **ACT** LED will be flashing since the ISDN switch has not seen the activation bit from the NT1.
   c. Without the customer connected, 1st generation – the TRI-R **POWER** and **NT1 SYNC LOSS** LEDs will be illuminated. The **ACT** LED will not be illuminated since the ISDN switch has not seen the activation bit from the NT1. 2nd generation – the **NT1/F** LED will be illuminated.
   d. Since the technician's test set emulates a NT1, proper circuit operation can be verified even if the customer is not connected. Connect the test set on the customer side of the TRI-R unit and if the TRI-C and TRI-R LEDs illuminate as listed in 4a above, the circuit is operating properly.
5. See TRI-C and TRI-R troubleshooting tips for explanation of other LEDs.
6. Total Reach ISDN employs SC-PAM line coding between the TRI-C and TRI-R. To isolate, simply connect the TRI Test Unit or a spare TRI-R unit at the frame (or any intermediate point between the CO and the customer) and test as listed in 4d above.



TRI-C TROUBLESHOOTING TIPS (1ST GEN)

NTWK Sync Loss: Illuminated if unit does not have sync to ISDN Switch (and U-BR1TEs if utilized). With the TRI-C removed, an ISDN test set can be attached to pins 41/47 of the T400 shelf slot or to the CO side of the T400 shelf connecting block. If calls can be placed from this point a runs error-free, wiring is correct to TRI-C Replace TRI-C.

NTWK CRC: Illumination indicates errors between TRI-C and Switch or U-BR1TEs. Troubleshoot as listed above.

TR Sync Loss: Illuminated if the unit does not have sync to the TRI-R unit. Also illuminated if the unit does not have sync to Switch or U-BR1TE. If **NTWK Sync Loss** LED is off, problem is on the customer side of the TRI-C. Verify connectivity to the TRI-R. Also, look for load coils, excessive bridge taps, excessive cable length and excessive loss. Connect TRI-R at frame to isolate outside of CO. The TRI-R can also be connected at intermediate points in the span to further isolate. Cable should not exceed 52 dB of loss at 20 kHz. Maximum DC resistance is 2000 ohms.

TR CRC: Illumination indicates receipt of NEBE from TRI-R. Troubleshoot as listed above.

TR Margin: Illumination indicates that the pulse attenuation received exceeds 58 dB at 20 kHz. This is only an informational LED. If none of the above LEDs are illuminated, circuit is working properly.

Loopback: Illuminated when the TRI-C has been put into a loopback either locally or from a test center: one flash per second for B1 loopback, two flashes per second for B2 loopback, and solid for 2B+D.

ACT: Illumination indicates exchange of activation bit between switch and customer's NT1 (or test set). This is the normal operation. Flashing indicates activation bit has been sent from one side only, either switch or customer.

Power: Illuminated if TRI-C is receiving 48 volts on proper pins. If not, check voltage on T400 shelf.

TRI-C TROUBLESHOOTING TIPS (1ST GEN/2ND GEN)

NT1 Sync Loss: Illuminated (1st generation) or **NT1 I/F-** Illuminated (2nd generation) if unit does not have sync to customer (or test set). Check wiring between TRI-R and customer.

NT1 CRC: Illumination (1st generation) or **NT1 I/F-** Flashing (2nd generation) indicates receipt of NEBE from customer (or test set). Check wiring between TRI-R and customer.

TR Sync Loss: Illuminated (1st generation) or **NT1 I/F-** Illuminated (2nd generation) if the unit does not have sync to the TRI-C unit. Also illuminated if TRI-C unit does not have sync to switch or U-BR1TE. If **NTWK Sync Loss** LED is off at TRI-C, then problem is between TRI-C and TRI-R. Verify connectivity to the TRI-C. Also, look for load coils, excessive bridge taps, excessive cable length and excessive loss. Connect TRI-R at frame to isolate outside of CO. The TRI-R can also be connected at intermediate points in the span to further isolate. Cable should not exceed 52 dB of loss at 20 kHz. Maximum DC resistance is 2000 Ω.

TR CRC: Illumination (1st generation) or **NT1 I/F-** Flashing (2nd generation) indicates errors between TRI-C and TRI-R. Troubleshoot as listed above.

TR Margin: Illumination indicates that the pulse attenuation received exceeds 58 dB at 20 kHz. This is only an informational LED. If none of the above LEDs are illuminated, circuit is working properly. LED removed from 2nd generation.

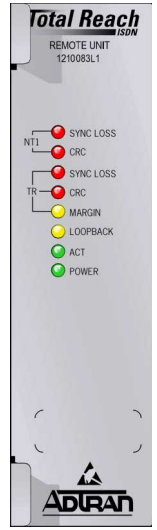
Loopback: Illuminated when the TRI-R has been put into a loopback either from the TRI-C or from a test center. One flash per second for B1 loopback, 2 flashes per second for B2 loopback, solid for 2B+D.

ACT: Illumination indicates exchange of activation bit between switch and customer's NT1 (or test set). This is the normal operation. Flashing indicates activation bit has been sent from one side only, either switch or customer.

Power: Illumination indicates that the unit is receiving power over the span from the TRI-C. If LED is off, measure voltage across Tip/Ring coming into the TRI-R. If 140-190 volts are present, check wiring of TRI-R housing. If no voltage is present, check for power at the TRI-C. If voltage is present at the TRI-C check connectivity between the TRI-C and the TRI-R. LED removed from 2nd generation.

ADTRAN Technical Support:
1-800-726-8663

1st generation Remote Unit



2nd generation Remote Unit

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