



6543 Front Panel



6543 Rear Panel

DESCRIPTION

The ADTRAN 6543 SHDSL 2-Wire/4-Wire Line Terminating Unit (LTU) provides an interface between the SHDSL network and the Data Terminal Equipment (DTE), for applications such as LAN-to-LAN bridging, Frame Relay circuit and PABX termination. The 6543 works with the SHDSL NTU in a point-to-point limited distance configuration.

COMPLIANCE

EN 300 386-2; IEC 60950/EN 60950/AS NZS60950; S016; S043.2; ITU K.21 Enhanced; Telstra 1555

FEATURES

The 6543 is housed in a stand-alone plastic case having the features listed below:

- ◆ Eight LED indicators and four recessed pushbuttons on the front panel (refer to the tables below)
- ◆ SHDSL Line Aggregate Data Rate is 200 kbps to 2.056 Mbps ($N \times 64 \text{ kbps} + 8 \text{ kbps}$, where $N = 3$ to 32). In 2-wire mode, 8 kbps of bandwidth is required for overhead framing.
- ◆ Payload Data Rate is 192 kbps to 2.048 Mbps ($N \times 64 \text{ kbps}$, where $N = 3$ to 32)
- ◆ Service Data Rate is 64 kbps to 2.048 Mbps ($N \times 64 \text{ kbps}$, where $N = 1$ to 32)
- ◆ Provides bad splice protection using the ADTRAN proprietary Runtime TScan™ 2.0 splice protection feature (for more information on this feature and how to locally manage TScan, refer to the *SHDSL Line Terminating Unit (LTU) Installation and Maintenance Practice*, P/N 61230011L1-5)

Pushbutton Functionality

| Pushbutton | Description |
|--------------------|---|
| PORT SELECT | Press the SELECT button to sequentially select active ports in the following order: Nx64k port, G.703 port, SHDSL port, and then cycle back to “No Port.” |
| LOCAL LOOP/ERR INJ | With a port selected, and a BERT (Bit Error Rate Test) is not in progress, press this button to initiate or terminate a local loop on the selected port. If a BERT is in progress, press the button again to inject a single bit error. |
| REMOTE LOOP | With the SHDSL port selected, press the button to either place or remove a remote loop on the port. This is done by sending a EOC request message to the NTU. If the G.703 port (with only one service defined) is selected, press the button to place/remove a remote loop on the single data service of that port. This is done by sending respective inband loop up or loop down patterns to the far end (in the associated data service timeslots). |
| BERT | If a port is selected, and there are no local loops, press the button to start or stop a BERT on the selected port. |

LED Indicator Functionality

| Label | Status | Description |
|--------|----------|---|
| PWR | ○ Off | Unit is not powered |
| | ● Green | Unit is powered |
| SHDSL | ○ Off | Unit is powered off |
| | ● Green | Port is trained; no active alarms |
| | ● Yellow | Port is trained with a minor active alarm ⁽¹⁾ |
| | ● Red | Port is attempting to or is trained with a major alarm ⁽²⁾ |
| G.703 | ○ Off | Port is not active |
| | ● Green | Active Port with no active alarm |
| | ● Yellow | Active Port with a minor alarm ⁽³⁾ |
| | ● Red | Active Port with a major alarm ⁽⁴⁾ |
| NTU PR | ○ Off | NTU is not present |
| | ● Green | NTU is present |
| PRGM | ○ Off | Firmware is not being programmed |
| | ● Green | Local unit firmware is being locally programmed |
| | ● Yellow | Remote unit firmware is being locally programmed |
| | ● Red | Local unit firmware is being remotely programmed |
| LLOOP | ○ Off | No local loop is active |
| | ● Yellow | Active Local Loopback on the selected port |
| | ● Red | Active Local Loop on one or more ports or services (when no port is selected) |
| RLOOP | ○ Off | Remote Loop is not active |
| | ● Yellow | Active Remote Loopback on the selected port (when determined via established EOC) |
| | ● Red | Active Remote Loop on one or more ports or services (when no port is selected) |
| BERT | ○ Off | BERT is not active |
| | ● Green | Active BERT and the test pattern detector is synchronized with no received bit errors |
| | ● Yellow | Active BERT and one or more test pattern bit errors have been received |
| | ● Red | Active BERT but the test pattern detector is not synchronized |

¹ Minor SHDSL port alarms are CRC errors, Loop Attenuation Threshold Alarm, SNR Margin Threshold Alarm, Segment Anomaly, and any ES, SES, UAS, CVC, and LOSWS 15-Minute Threshold Alarm.

² Major SHDSL port alarms are LOS, LOSW, or Segment Defect.

³ Minor G.703 port alarms are Rx RAI, Frame Slip, CRC-4 errors, LBER, and any ES, SES, UAS, and CVC 15-Minute Threshold Alarm.

⁴ Major G.703 port alarms are LOS, LOF, LOMF, Rx AIS, or HBER.

| | | |
|------------------------|---|---|
| Main Menu | 1. Unit Information | <ul style="list-style-type: none"> 1. LTU 2. NTU |
| | 1. Unit Options | <ul style="list-style-type: none"> 1. Cross-Connect Map 2. Clock Source 3. Circuit ID 4. Date and Time 5. Restore Factory Defaults 6. Upgrade Firmware 7. Local Management 8. Change Password |
| 2. Provisioning | 2. SHDSL Options | <ul style="list-style-type: none"> 1. Internal Clock 2. G.703 Rx Clock 3. SHDSL Rx Clock 1. Interface Mode 2. Payload Rate (kbps)* 3. SNR Margin Alarm Threshold (dB) 4. Loop Attenuation Alarm Threshold (dB) 5. Outage Auto-Retrain 6. PM Thresholds |
| | 3. G.703 Options | <ul style="list-style-type: none"> 1. ISDN-PRA V3 2. G.704-CRC-4 Multiframe 3. Timeslot Idle Pattern 4. Spare Bits Insertion to Span 5. Spare Bits Pattern to Span 6. Spare Bits Insertion 7. Spare Bits Pattern 8. RAI Generation 9. E-bit Generation 10. PM Threshold |
| 4. Test Options | 1. SHDSL Port | <ul style="list-style-type: none"> 1. Disabled 2. Enabled |
| | 2. SHDSL Local Loopback | <ul style="list-style-type: none"> 1. Disabled 2. Enabled |
| 3. Status | 1. Loopback Types | <ul style="list-style-type: none"> 1. SHDSL Loopback 2. G.703 Loopback 3. G.703 Services Loopback |
| | 2. Inband Loopback Options | <ul style="list-style-type: none"> 1. Dual Sided 2. Transparent 3. Nontransparent |
| 4. Test | 1. Inband Loopback Protocol | <ul style="list-style-type: none"> 1. PN127 2. V.54 |
| | 2. G.703 Services In-band Pattern Detection | <ul style="list-style-type: none"> 1. Disabled 2. Enabled |
| 5. Performance History | 3. Loopback Timeout (Min) | <ul style="list-style-type: none"> 0. Disabled 1-999. Time out in Minutes |
| | 4. BERT TX Pattern | <ul style="list-style-type: none"> 1. ALT 2. 2047 3. 2E15-1 4. QRSS |
| 6. TSCAN | 5. BERT TX Pattern Polarity | <ul style="list-style-type: none"> 1. Normal 2. Inverted |
| | 6. Pushbuttons (All) | <ul style="list-style-type: none"> 1. Disabled 2. Enabled |
| 7. Terminal Mode | 7. SHDSL Port Select Pushbutton | <ul style="list-style-type: none"> 1. Disabled 2. Enabled |
| | 1. SHDSL Port | <ul style="list-style-type: none"> 1. Dual Sided 2. Customer Transparent 3. Customer Non-Transparent 4. Network Transparent 5. Network Non-Transparent |
| 6. TSCAN | 2. SHDSL Remote Loopback | <ul style="list-style-type: none"> 1. Local Loopback 2. Remote Inband Loopback 3. BERT |
| | 2. 24-Hour Counts | <ul style="list-style-type: none"> 1. SHDSL Port 2. G.703 Port 3. Reset All |
| 7. Terminal Mode | Local Management | <ul style="list-style-type: none"> 1. Resistant Bad Splice Detector 2. 24-Hour Counts |
| | Remote Virtual Terminal Management | <ul style="list-style-type: none"> 1. Local Loopback 2. Remote Inband Loopback 3. BERT |

*4-wire mode: 192 kbps to 2.304 Mbps (N x 64 kbps, where N=3 to 36)

