T400 SHDSL 2-Wire/4-Wire NTU, Span or DC Powered

SHDSL T400 SHDSL 2-Wire/4-Wire NTU P/N: 1230035L1

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DESCRIPTION

The ADTRAN T400 SHDSL 2-Wire/4-Wire NTU (P/N 1230035L1) functions as an interface between the SHDSL network and the Data Terminal Equipment for applications such as LAN-to-LAN bridging, Frame Relay circuit, and PABX termination. The NTU functions as a remote unit to the ADTRAN Total Access[®] 3000 multiservice platform.

FEATURES

The T400 SHDSL 2-Wire/4-Wire NTU has the features listed below:

- Eight LED indicators and four recessed pushbuttons on the front panel, described in the tables below
- Local management port
- ◆ 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 2-Wire/4-Wire NTU Product Series Installation and Maintenance Practice*, P/N 61230001L1-5)

PUSHBUTTON FUNCTIONALITY

Pushbutton	Description
PORT SELECT	Press the SELECT button to sequentially select active ports in the following order: 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, then press this button to initiate or terminate a local loop on the selected port. If a BERT is in progress, press the button to inject a single bit error.
REMOTE LOOP	With the SHDSL port selected, press this button to place or to remove a remote loop on the port. This is done by sending a EOC request message to the LTU (or NTU in campus mode). If the G.703 port (with only one service defined) is selected, press the button to place or remove a remote loop on the single data service of the selected 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 this button to start or to stop a BERT on the selected port.

COMPLIANCE

The T400 SHDSL 2-Wire/4-Wire NTU complies with the following international standards:

- EN 300 386-2
- ◆ IEC 60950/EN 60950/AS NZS60950
- ♦ S016
- ♦ S043.2
- TBR12
- ♦ TBR13
- ITU G991
 ETSI 300-019

LED INDICATORS

SHDSLOffUnit is powered off•GreenPort is trained; no active alarms•YellowPort is trained with a minor active alarm (1)•RedPort is not active•RedPort is not active•GreenActive Port with no active alarm•YellowActive Port with no active alarm•YellowActive Port with no active alarm•YellowActive Port with a minor alarm (3)•RedActive Port with a major alarm (4)SPN PWROffUnit is not SHDSL span powered•Unit is sot SHDSL span powered•OffUnit is not locally DC powered•GreenUnit is locally DC powered•OffFirmware is not being programmed Local unit firmware is being locally programmed
 Yellow Red Port is trained with a minor active alarm ⁽¹⁾ 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⁾ SPN PWR Off Green Unit is not SHDSL span powered DC Off Green Unit is not locally DC powered PWR Off Firmware is not being programmed Local unit firmware is being locally programmed
Image: Port is attempting to or is trained with a major alarm (2) G.703 Off Port is not active Image: Port is not active Off Port is not active Image: Port is not active Active Port with no active alarm Image: Port is not active Active Port with a minor alarm (3) Image: Port is not active Port with a major alarm (4) Image: Port is not SHDSL span powered Image: Port is not Image: Port is not Image: Port is Not SHDSL span powered Image: Port is not Image: Port is not Image: Port is not locally DC powered Image: Port is not Image: Port is not Image: Port is not being programmed Image: Port is Port is not Image: Port is not being programmed Image: Port is Port is Port is not Image: Port is not Image: Port is not Image: Port is Po
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) SPN PWR Off Unit is not SHDSL span powered DC PWR Off Unit is not locally DC powered PRGM Off Firmware is not being programmed Incal unit firmware is being locally programmed Local unit firmware is being locally programmed
• Green Active Port with no active alarm • Yellow Active Port with a minor alarm (3) • Red Active Port with a major alarm (4) SPN PWR • Off Unit is not SHDSL span powered DC PWR • Off Unit is not locally DC powered PRGM • Off Firmware is not being programmed Local unit firmware is being locally programmed Local unit firmware is being locally programmed
 Yellow Red Active Port with a minor alarm ⁽³⁾ Active Port with a major alarm ⁽⁴⁾ SPN PWR Off Unit is not SHDSL span powered Green Unit is SHDSL span powered DC Off Unit is not locally DC powered Green Unit is locally DC powered PRGM Off Firmware is not being programmed Local unit firmware is being locally programmed
 Red Active Port with a major alarm ⁽⁴⁾ SPN Off Unit is not SHDSL span powered Unit is SHDSL span powered DC Off Unit is not locally DC powered Oreen Unit is locally DC powered PRGM Off Off Firmware is not being programmed Local unit firmware is being locally programmed
SPN PWR Off Green Unit is not SHDSL span powered Unit is SHDSL span powered DC PWR Off Green Unit is not locally DC powered Unit is locally DC powered PRGM Off Green Firmware is not being programmed Local unit firmware is being locally programmed
PWR • Green Unit is SHDSL span powered DC PWR • Off Unit is not locally DC powered PRGM • Off Firmware is not being programmed Present • Off Firmware is not being programmed Local unit firmware is being locally programmed Local unit firmware is being locally programmed
DC PWR Off Green Unit is not locally DC powered Unit is locally DC powered PRGM Off Green Firmware is not being programmed Local unit firmware is being locally programmed
PWR Green Unit is locally DC powered PRGM Off Firmware is not being programmed Green Local unit firmware is being locally programmed
PRGM O Off Firmware is not being programmed • Green Local unit firmware is being locally 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 O 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 O 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 O 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

 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.
- Minor G703 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.

V.24 DB-9 CONNECTOR

This connector is used to access performance monitoring data, perform loopbacks, and provision units via VT100 emulation applications, such as Hyperterminal - Private Edition.

Provision Terminal Port for VT100

When using a PC with terminal software, be sure to disable any power saving programs.

- Data Rate = 2.4 to 115.2 kbps
- Asynchronous Data Format = eight data bits, no parity (none), one stop bit

For more information, refer to the Installation and Maintenance Practice (P/N 61230001L1-5) available online at www.adtran.com. Enter the desired P/N in the search field.



MENU TREE

The menus and options accessed through the DB-9 craft port are shown on the rear panel.

1. Unit	1. LTU					
Information	2. NTU	1. Cross-Connect Map	1. Internal Clock			
1		2. Clock Source	2. G.703 Rx Clock			
1		3. Circuit ID	3. SHDSL Rx Clock			
		4. Date and Time			1. 2. Wire	
1		5. Restore Factory Defaults		1. Interface Mode	2 4-Wire	
1		6. Upgrade Firmware		2. Payload Rate (kbps) *	2. 4 1110	
1	1 Unit Options	7. Local Management	1. Disabled	3. SNR Margin	0 Disabled	
2. Provisioning		8. Change Password	2. Enabled	Alarm Threshold (dB)	1-15 Alarm Threshold	
	2. SHDSL Options			4. Loop Attenuation Alarm		
				Threshold (dB)	0. Disabled	
1	3. G.703 Options	1. ISDN-PRA V3	1. Disabled			
		2. G.704 CRC-4 Multiliraming	2. Lilabled	5. Outage Auto-Retrain	1. Disabled	
1		3. Timeslot Idle Pattern			2. Enabled	
1			UUN to FFN		1. ES 15-Minute	
1		4 Spare Bits Insertion to Span	1. Disabled		Alarm Threshold	0. Dis
1			2. Enabled	6. PM Thresholds	2. SES 15-Minute	1-900
1		5. Spare Bits Pattern to Span	00h to EEh		Alarm Inreshold	L. 500
1					3. UAS 15-Minute	
1		6 Spare Bits Insertion	1. Disabled			
			2. Enabled		Alarm Threshold	0. Dis
		7. Spare Bits Pattern			5 LOSWS 15-Minute	1-655
			John to FFN		Alarm Threshold	0 D.
1		8. RAI Generation	1. Disabled		6. OS 15-Minute	0. Dis
1		9. E-bit Generation	2. Enabled		Alarm Threshold	1-900
l i		10. ES 15-Minute Alarm Threshold	0. Disabled			
1		11. SES 15-Minute Alarm Threshold	1-900. Seconds			
1		12, UAS 15 Minute Alarm Threshold				
1			0. Disabled	1. Loopback Types		
1		13. CVC 15-Minute Alarm Threshold	1-65535, Seconds		2. Indisparent	
1	4. Test Options				5. Nontransparent	
l i	1 SUDSI Dort				1. In-band Loopback Protocol	1. PN
3. Status	1. SHDSL Polt			2. Inband Loopback Options	2. G.703 Services In-band	4 Di-
	2. G.703 Poli				Pattern Detection	1. DIS
1	3. G.703 Services					2. EII
1	4. Resel All Status			3. Loopback Timeout (Min)	1-999. Time out in Minutes	
4 Test	1. SHDSL Local Loopback	1. Dual Sided				
4. iest	2. SHDSL Remote Loopback	2. Customer Transparent		4. BERT Pattern	1. ALT	
	3. SHDSL BERT	3. Customer Non-Transparent			2.2047	
	4. G.703 Local Loopback	4. Network Transparent			3. 2E 15-1	
	5. G.703 BERT	5. Network Non-Transparent				
		1. Local Loopback		5. BERT Pattern Polarity	1. Normal	
5 Deuferment	6. G.703 Services	2 Remote Inband Loopback			2. Inverted	
5. Performance	1. SHDSL Port	3 BERT		6 Buchbuttone (All)	1. Disabled	
	2. G.703 Port	<u></u>		o. Pushbullons (All)	2. Enabled	
	3. Reset All				1 Disabled	
	,			7. SHDSL Port Select Pushbutton		
	1 Restart Bad Splice Detector					
6. TSCAN	1. Restart Bad Splice Detector				Z. Enabled	
6. TSCAN	1. Restart Bad Splice Detector 2. 24 Hour Counts				Z. Enabled	

4-wire mode: 192 kbps to 2.048 Mbps (N x 64 kbps, where N=3 to 32)
 4-wire mode: 384 kbps to 2.048 Mbps (N x 64 kbps, where N=even numbers, 6 to 32)

Warranty: ADTRAN will replace or repair this product within the warranty period if it does not meet its published specifications or fails while in service. Warranty information can be found online at <u>www.adtran.com/warranty</u>.