



HDSL Quick Installation Guide

Asynchronous High Bit-Rate Digital Subscriber Line T1 Interface Unit (AHT1U)
ADTRAN P/Ns 1244002L4, L5, and L6

AHT1U Provisioning Options (arrows indicate default settings)

Option	Setting	Description
DSX-1/DS1 Line Coding	Auto	The unit automatically detects the line code as B8ZS or AMI.
	➤ B8ZS	B8ZS line code enabled.
	AMI	AMI line code enabled.
DSX-1/DS1 Framing	➤ Auto	The unit automatically detects for SF or ESF framing.
	ESF	ESF framing enabled.
	SF	SF framing enabled.
	Unframed	No framing enabled.
Loopback Timeout	➤ None	No timeout of loopbacks is enabled.
	20 minutes	20 minute loopback timeout enabled.
	60 minutes	60 minute loopback timeout enabled.
	120 minutes	120 minute loopback timeout enabled.
DS1 Output Level	➤ 0 dB	DS1 signal level delivered to customer is set at 0 dB.
	-15 dB	DS1 signal level delivered to customer is set at -15 dB.
NIU Loopback	➤ Enabled	The HTU-R will respond to traditional T1 NIU loop-up and loop-down codes.
	Disabled	The HTU-R will not respond to traditional NIU loop-up and loop-down codes.
DS0 Blocking	Any combination of T1 DS0s	Individual time slot DS0 in the T1 data stream may be blocked. See Appendix II for DS0 blocking information.
	➤ No DS0 Blocking	
-135 VDC Span Powering	➤ Enabled	Enables the high voltage module onboard the HTU-C to provide -135 VDC of span powering to connecting HDSL equipment.
	Disabled	Disables -135 VDC span powering.
Single Loop Operation	➤ Enabled Disabled	Select Disabled for full T1 operation over both HDSL loops and alarm reporting for both HDSL loops.
Single Loop AIS	➤ Enabled	AIS is provided to the network when only one HDSL loop is out of synchronization, or when a signal loss is detected at the HTU-R T1 receiver. This blocks all T1 DS0s while only one HDSL loop is out of synchronization. In HDSL applications involving an HRE, an HDSL loop synchronization loss on any leg of the HDSL circuit will cause AIS. In all HDSL applications, AIS will not be generated when a loopback to the network is made at the HTU-C, HRE, or HTU-R. However, AIS will be generated to the network with an HTU-C customer loopback.
	Disabled	AIS is provided to the network when both HDSL loops are out of synchronization, or when a signal loss is detected at the HTU-R T1 receiver. This allows either DS0s 1 through 12 or 13 through 24 to be passed until full T1 bandwidth is restored. In HDSL applications involving repeaters, AIS is provided to the network when an HDSL leg in both loops is out of synchronization. In all HDSL applications, AIS will not be generated when a loopback to the network is made at the HTU-C, HRE, or HTU-R. However, AIS will be generated to the network with an HTU-C customer loopback.
Network Keep Alive	Enabled	Any condition which causes AIS to be generated toward the network (as described by Single Loop AIS option) will automatically initiate a network loopback in replacement of AIS generation. Furthermore, a network loopback will be automatically initiated while AIS conditions exist even if other HDSL elements are in network loopback.
	➤ Disabled	A network loopback is not made automatically when AIS conditions exist (as described in the Single Loop AIS section). Instead, AIS is generated under the conditions described by the Single Loop AIS option.



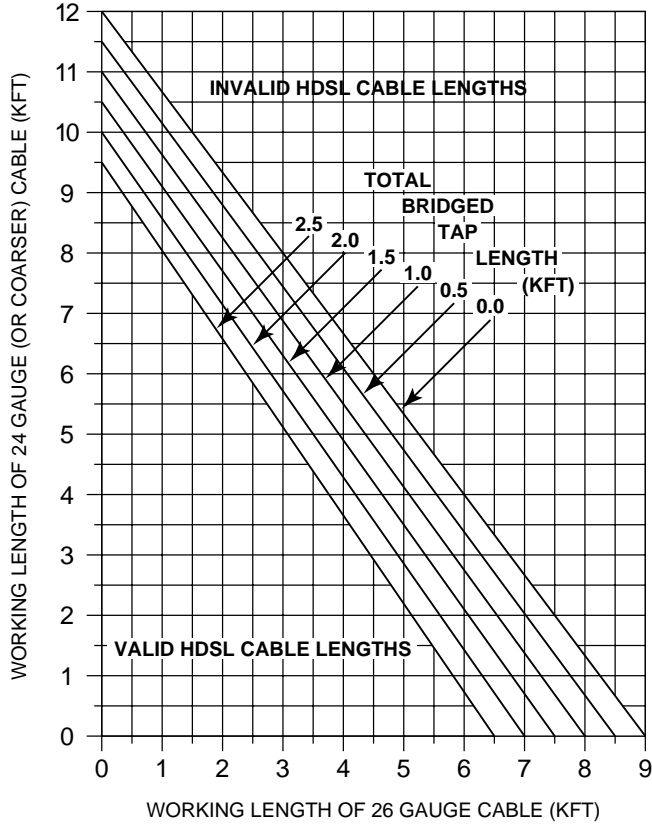
Once the AHT1U provisioning options are selected, establish a data cross-connection using the Litespan craft interface port.



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HDSL Deployment Guidelines

(CSA conformance of mixed gauge loops with bridged taps)



HDSL Loss Values

(200 kHz cable loss in dB/kft at 135Ω)

Cable Gauge	Cable Type	Temperature		
		68°	90°	120°
26	PIC	3.902	4.051	4.253
26	Pulp	4.030	4.179	4.381
24	PIC	2.863	2.957	2.083
24	Pulp	3.159	3.257	3.391
22	PIC	2.198	2.255	2.333
22	Pulp	2.483	2.450	2.629
19	PIC	1.551	1.587	1.634
19	Pulp	1.817	1.856	1.909

Loop Insertion Loss Data

Frequency (Hz)	Maximum Loss (dB)
3000	12.0
10,000	15.0
50,000	25.5
100,000	30.0
150,000	32.75
200,000	35.25



Use these approximations as guidelines only as they may vary slightly on different loops. Adhering to these guidelines should produce performance in excess of 10^{-7} BER.

Contact ADTRAN Telco Technical Support for more information on the ADTRAN Asynchronous High Bit-Rate Digital Subscriber Line T1 Interface Unit (AHT1U), P/Ns 1244002L4, L5, and L6.

ADTRAN Telco Technical Support (800) 726-8663
 Standard support hours Monday through Friday, 7 a.m. to 7 p.m. CST
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