

3192 H2TU-C

GLE TH38AA...



LED STATUS

- DL**
- Off No synchronization between H2TU-C and H2TU-R on the loop.
 - Red Poor signal quality on the loop (>10⁻⁷ BER).
 - Yellow Marginal signal quality on the loop (>3 dB margin above 10⁻⁷ BER).
 - Green Good signal quality on the loop (>3 dB margin above 10⁻⁷ BER).
- DLK**
- Off Network side DSK signal is absent or it is in a format that does not match the provisioning of the H2TU-A circuit.
 - Blinking Regular Violation (RPV), frame bit error (DF mode) or CRC error (DSF mode) detected at DSK-1 signal.
 - Solid Network side DSK signal is present and synchronized.
- ALM**
- Off No alarm condition detected.
 - Red Detected local alarm condition (H2TU-C) or locally and remotely (H2TU-C and H2TU-R).
 - Yellow Detected remote alarm condition (H2TU-R).
 - Off Unit is not in loopback or alarm state.
 - Yellow Active local bidirectional loopback from the H2TU-C toward the customer and the network.
 - Blinking Unit is armed but not in active loopback condition.

BANTAM JACKS

MON

- Provides a nonintrusive tap to monitor characteristics of the DSK signal
- TX — monitors signal being received from the network
- RX — monitors signal being transmitted to the network

EQ

- Provides an intrusive signal interrupting access point to the data stream
- TX — accesses the data stream being transmitted toward the customer
- RX — accesses the data stream being received from the customer

RS-232 DB-9 CONNECTOR

- Used to access the HDSL2 utilities menu tree via VT100 emulation software such as terminal, HyperTerminal — Private Edition and ProComm Plus.
- There are two types of terminal emulation modes, Manual and Real-Time. To toggle between the two, type "CTRL" and "T". To update the screen while in Manual Mode, press the space bar 3 times. Real-Time Update Mode is the default mode.
- Provision terminal port as follows:

Data Rate — 1.2 kbps to 19.2 kbps
Asynchronous Data Format — eight data bits, no parity (none), one stop bit, and no flow control.

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

WARRANTY

Warranty for Carrier Network products manufactured by ADTRAN and supplied under Buyer's order for use in the U.S. is one (1) year. For a complete copy of ADTRAN's U.S. Carrier Network Equipment Warranty, (877) 457-5907, Document #014.

■ For complete Installation and Maintenance: (877) 457-5907, Document # 700. Please have your fax number available. ■

CIRCUIT BOARD 5-POSITION ROTARY SWITCH

Sets the DSK-1 Line Build Out (LBO). (Default settings are in bold.)

- 0 — 0-133 feet of LBO
- 133 — 133-266 feet of LBO
- 266 — 266-399 feet of LBO
- 399 — 399-532 feet of LBO
- 532 — 532-665 feet of LBO

CIRCUIT BOARD 6-POSITION DIP SWITCH

Provisions the anti. (Default settings are in bold.)

- SW1-1
- Selects line coding to AMI or B8ZS
- SW1-2
- Selects T1 framing to FRAMED or UNFRAMED¹
- SW1-3
- Selects T1 framing to SF or ESF
- SW1-4
- ENABLES or DISABLES the NUI loopback
- SW1-5
- ENABLES or DISABLES the loopback time out²
- SW1-6
- ENABLES or DISABLES shelf alarm feature.

¹ UNFRAMED operation ignores the setting of SW1-3

² Default timeout setting is 30 minutes when loopback time out is ENABLED

COMPLIANCE CODES

This product is intended to be installed in an enclosure with an Installation Code (IC) of "R" or "T" and is Restricted Access Location only. Up to -300 Vdc may be present on telecommunications wiring. The DSK-1 interface is intended for connection to intra-building wiring only.

Code	Input	Output
Installation Code (IC)	A	A
Telecommunications Code (TC)	X	X
Power Code (PC)	F	G

INDICATIONS AND PROBABLE CAUSES

Front Panel or Circuit Parameters Indicate Abnormal Operation

Connect a terminal or PC to the RS-232C (DB-9) craft interface, located on the faceplate. The terminal must be VT100 or compatible and set for 1.2 to 19.2 kbps, 8 data bits, no parity, 1 stop bit, and no flow control. Select "3" from the ADTRAN HDSL2 Main Menu Screen and "2" from the Span Status Screen.

- Is signal quality fluctuating (this would occur when real-time mode is active)?
- Is ATTEN (pulse attenuation) > 30 dB?
- Are there any errors counting on the ES, SLS, or DMS registers?

If the above conditions do not exist, the circuit should provide quality service; however, if any of the above conditions exist, cable problems or excessive loss situation is probable and more detailed cable testing should be done to verify all HDSL2 Loop Specifications are met. These conditions may also reflect intermittent cable faults or excessive noise impairments. If intermittent faults or noise impairments are suspected, select "3" from the HDSL2 Main Menu to review the Performance History Screen.

Front Panel Indications Under Normal Operation

- DSL ● Green
DSX ● Green
ALM ○ Off
LOS ○ Off

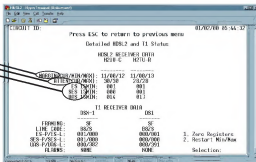
Circuit Parameters Under Normal Operation

- LOS ≤ 30 dB
- Good signal quality with no fluctuation
- All HDSL2 Deployment Guidelines are met

HDSL2 DEPLOYMENT GUIDELINES

- Cable pairs must be non-loaded
- Total bridged tap < 2.5 kHz
- No single bridged tap > 2 kHz
- 180 kHz insertion loss ≤ 35 dB
- Pulse attenuation (see on HDSL2 Span Status Screen) ≤ 30 dB
- Maximum loop resistance is 960 Ω
- Impulse noise < 30 dBm as measured using a 30 kHz filter
- Wideband noise ≤ 31 dBm as measured using a 30 kHz filter

For more information regarding deployment guidelines and applications, reference ADTRAN's Supplemental Deployment Information for HDSL2/HDSL2, P/N 0122110061.1-10.



HDSL2 Loopback Control Codes		
Name	Code	Comments
Arming (In-band)	1000	Signal sent In-band or over DSF data link. HDSL2 elements in alarmed state make transition to armed state. Detection of either code results in Smartloop, P18 loopback is enabled.
Arming (DSF)	0001 00 10 1111 1111 (12 TF Hex)	Signal sent In-band. HDSL2 elements in armed state make transition to loop-up state. Loop-up state timeout is programmable from the K270-C.
Armed (In-band)	1001 0011 1000 0000 (0742 Hex)	Signal sent In-band. HDSL2 elements in armed state make transition to armed state.
Armed (DSF)	0001 0000 1111 1111 (040F Hex)	Signal sent In-band or over DSF data link. HDSL2 elements in armed state make transition to alarmed state.
Arming Time out	N/A	2 Hours
Loopup Time out	N/A	HDSL2 element in loopup makes transition to armed state. Programmable from K270-C: None, 30, 60, or 120 minutes.
Loopback Time out	1001 0011 1000 0000 (0742 Hex)	Signal sent In-band. Sets Loopback Timeout to NONE. Timeout will return to previous value when pattern is received. Arming pattern (0100) must precede this pattern.
Span Power Enable	0001 0011 0100 0111 (0707 Hex)	Signal sent In-band. Disables span powering of registers. Span power will return when pattern is received. Arming pattern (0100) must precede this pattern.