239 H4R

CLEI: T1R5YP3D_ _

STATUS LEDs

LP1/LP2 NET	○ Off	No span power present
	● Solid Green	Synchronized with an SNR margin greater than the user defined SNR Margin Alarm Threshold
	✳ Fast Blinking Green	(Blinking 3 times per second) Attempting to synchronize with the H4TU-C
	✳ Slow Blinking Green	(Blinking 1 time per second) Synchronized with an SNR margin greater than the user defined SNR Margin Alarm Threshold and the pulse attenuation is greater than the user defined Loop Attenuation Alarm Threshold
	● Solid Yellow	Synchronized with an SNR margin greater than 0 dB but less than the user defined SNR Margin Alarm Threshold
	✳ Slow Blinking Yellow	Synchronized with an SNR margin greater than 0 dB but less than the user defined SNR Margin Alarm Threshold and the pulse attenuation is greater than the user defined Loop Attenuation Alarm Threshold
	● Solid Red	Synchronized with an SNR margin of 0 dB
	✳ Slow Blinking Red	(Blinking 1 time per second) Synchronized with an SNR margin of 0 dB and the pulse attenuation is greater than the user defined Loop Attenuation Alarm Threshold
LP1/LP2 CUST	○ Off	No span power present
	● Solid Green	Synchronized with an SNR margin greater than the user defined SNR Margin Alarm Threshold
	✳ Fast Blinking Green	(Blinking 3 times per second) Attempting to synchronize with the H4TU-R
	✳ Slow Blinking Green	(Blinking 1 time per second) Synchronized with an SNR margin greater than the user defined SNR Margin Alarm Threshold and the pulse attenuation is greater than the user defined Loop Attenuation Alarm Threshold
	● Solid Yellow	Synchronized with an SNR margin greater than 0 dB but less than the user defined SNR Margin Alarm Threshold
	✳ Slow Blinking Yellow	Synchronized with an SNR margin greater than 0 dB but less than the user defined SNR Margin Alarm Threshold and the pulse attenuation is greater than the user defined Loop Attenuation Alarm Threshold
	● Solid Red	Synchronized with an SNR margin of 0 dB
	✳ Slow Blinking Red	(Blinking 1 time per second) Synchronized with an SNR margin of 0 dB and the pulse attenuation is greater than the user defined Loop Attenuation Alarm Threshold
LL/RL	● Green	Indicates a loopback at the H4R toward the H4TU-R is active
	● Yellow	Indicates a loopback at the H4R toward the H4TU-C is active
	✳ Blinking Yellow	Armed but not in loopback.

CARD EDGE PIN ASSIGNMENTS

Pin No.	Designation	Description	Pin No.	Designation	Description
1	GND	Ground	7	NC	No Connection
2	NC	No Connection	8	T	Network Loop 2 Tip
3	T1	Customer Loop 1 Tip	9	R	Network Loop 2 Ring
4	R1	Customer Loop 1 Ring	10	GND	Ground
5	T1	Network Loop 1 Tip	11	T	Customer Loop 2 Tip
6	R1	Network Loop 1 Ring	12	R	Customer Loop 2 Ring

LOOPBACK AND CONTROL CODES

Refer to the Installation and Maintenance Practice of the H4TU-C or H4TU-R used in the circuit for a list of loopback codes.

CAUTION!
SUBJECT TO ELECTROSTATIC DAMAGE OR DECREASE IN RELIABILITY.
HANDLING PRECAUTIONS REQUIRED.

■ For a complete Installation and Maintenance Practice (P/N 61221445L1-5) faxback: (877) 457-5007, faxback Document 755. Please have your fax number ready. ■

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61221445L1-22B

HDSL4 LOOP SPECIFICATIONS FOR OPTIMUM OPERATION

***NOTE**: The H4TU-Cs P/N 1221401L6, 1221403L6, 1221404L6 **support only one H4R** in the HDSL4 circuit.*

- HDSL4 circuit containing no H4Rs will reach up to 16 kft on the local loop (24 AWG)
- HDSL4 circuit containing one H4R will reach up to 16 kft on the first segment and 15 kft on the second segment (24 AWG).
- HDSL4 circuit containing two H4Rs will reach to 13.5 kft on the first segment, 14 kft on the second segment, and 15 kft on the third segment (24 AWG). *

NOTE: Refer to the H4TU-C or H4TU-R Installation and Maintenance Practice, Section HDSL4, Deployment Guidelines, for other loop parameters including Insertion Loss, Pulse Attenuation, and Resistance Budgets for span powering

*This is one example of a circuit with 2 H4Rs. Other loop length configurations are possible in compliance with loop resistance restraints. Refer to the H4R Installation and Maintenance Practice, Section HDSL4 Deployment Guidelines, for other loop parameters including Insertion Loss, Pulse Attenuation, and Resistance Budgets for span powering.

UNIT RESISTANCE

Measurements are with no power applied

The H4R Tip-to-Ring resistance is approximately 6 Ω for each pair.

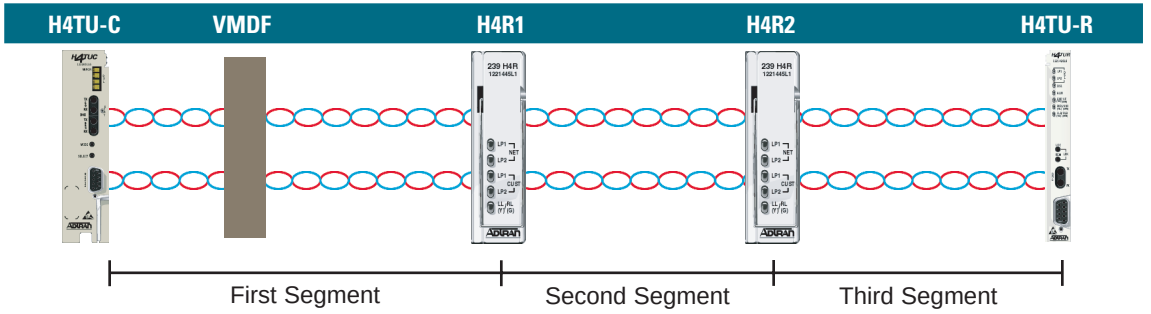
COMPLIANCE

This product complies with UL 60950, third edition. It is intended for installation in restricted access locations only and in equipment with a Type "B" or "E" installation code. Ensure chassis ground is properly connected.

Code	Input	Output
Power Code (PC)	C	C
Telecommunication Code (TC)	X	X
Installation Code (IC)	A	–

WARRANTY

Warranty for Carrier Networks products manufactured by ADTRAN and supplied under Buyer's order for use in the U.S. is ten (10) years. For a complete copy of ADTRAN's *U.S. and Canada Carrier Networks Equipment Warranty* (P/N 60000087-10): call (877) 457-5007, faxback Document 414.



239 H4R Capacity Guidelines for ADTRAN Housings

PART No.	Description	CLEI CODE	Slot	Stub	H4R Capacity Above Ground	H4R Capacity Below Ground	Material
1150027L1	239/439 Housing	DDM0ABA1MA	4	Air	4	4	Stainless/Poly
1150027L2	239/439 Housing	DDM0BBA1MA	4	Gel	4	4	Stainless/Poly
1152010L3	239/439 Housing	DDM0BAE1RA	2	Gel	2	2	Polymer
1152010L4	239/439 Housing	DDM0AAE1RA	2	Air	2	2	Polymer
1150057L1	Universal Housing	DDM0DA01RA	4	Air	4	4	Stainless Steel
1150057L2	Universal Housing	DDM0CA01RA	4	Gel	4	4	Stainless Steel
1150058L1	Universal Housing	DDM0EE01RA	8	Air	8	8	Stainless Steel
1150058L2	Universal Housing	DDM0FE01RA	8	Gel	8	8	Stainless Steel
1190816L1	16-Slot BG Housing	DDM0ES0IRA	16	Air	16	16	Stainless Steel
1190816L2	16-Slot AG Housing	DDM0FS0IRA	16	Gel	16	16	Stainless Steel
1190816L3	16-Slot AG Housing	DDM0MS01RA	16	Air	16	16	Stainless Steel

239 H4R Capacity Guidelines for Other Housings

Manufacturer	Description	Manufacturer's Part Number	Slot	Stub	H4R Capacity Above Ground	H4R Capacity Below Ground	Material
ADC	Radiator II	SPX-HRXC-30-AG-016GT	16	Air	16	16	Stainless Steel
ADC	Radiator II	SPX-HRXC-30-BG-016GT	16	Gel	16	16	Stainless Steel
ADC	Radiator	SPX-HRXC-30-B1	8	Air	8	8	Stainless Steel
Circa Telecom	HDSL-12A	760005	12	Air	12	12	Polymer
Circa Telecom	HDSL-12B	760006	12	Gel	12	12	Polymer
Arris	Keptel® Inter Link™ 809	RF809A3-XXX or RF809B3-XXX	12	Gel	8 [1]	N/A	Polymer
Arris	Keptel® Inter Link™ 818/819	RF819A1 or RF819A2	25	Air	12 [2]	16 [3, 4]	Polymer
Arris	Keptel® Inter Link™ 818/819	RF819B1 or RF819B2	25	Gel	12 [2]	16 [3, 4]	Polymer
Arris	Keptel® Inter Link™ 820 Family	RF820AX or RF820BX	2-8	Air	Full	Full	Polymer
Arris	Keptel® Inter Link™ 820 Family	RF820AX or RF820BX	2-8	Gel	Full	Full	Polymer

[1] The recommended 8 slot assignments for above ground installation are as follows: 1, 3, 4, 6, 7, 9, 10, 12.

[2] The recommended 12 slot assignments for above ground installation are as follows: Chamber 1: 1, 4, 7, 8, 11, 14 and Chamber 2: 15, 17, 19, 20, 23, 25

[3] For 16 slot use, the ambient air temperature measured 1 ft away and parallel to the housing should not exceed 115°F (46.1°C).

[4] The recommended 16 slot assignments for below ground installation are as follows: Chamber 1: 1, 3, 5, 7, 8, 10, 12, 14 and Chamber 2: 15, 16, 18, 19, 20, 22, 24, 25