HDSL4 239 H4R Repeater

JOBAID
61223445L2-22A
0610

HDSL4
239 H4R
P/N: 1223445L2
CLEI: T1R6U89D_ _

LED STATUS INDICATORS

Label	Indication	Description
LP1/LP2 NET	○ Off	No span power is present
	● Solid Green	Synchronized with an Signal-to-Noise Ratio (SNR) margin greater than the SNR Margin Alarm Threshold
	✸ Fast Flashing Green	Flashing three times per second indicates attempt to synchronize with the H4TU-C
	✸ Slow Flashing Green	Flashing once per second indicates synchronization with a SNR margin greater than the SNR Margin Alarm Threshold; attenuation is greater than the user recommended Loop Attenuation Alarm Threshold
	● Solid Yellow	Synchronized with a SNR margin greater than 0 dB, but less than the SNR Margin Alarm Threshold
	✸ Flashing Yellow	Synchronized with a SNR margin greater than 0 dB, but less than the SNR Margin Alarm Threshold; attenuation is greater than the Loop Attenuation Alarm Threshold
	● Solid Red	Synchronized with a SNR margin of 0 dB
	✸ Flashing Red	Flashing once per second indicates synchronization with a SNR margin of 0 dB; attenuation is greater than the Loop Attenuation Alarm Threshold
LP1/LP2 CUST	○ Off	No span power is present
	● Solid Green	Synchronized with an Signal-to-Noise Ratio (SNR) margin greater than the SNR Margin Alarm Threshold
	✸ Fast Flashing Green	Flashing three times per second indicates attempt to synchronize with the H4TU-R
	✸ Slow Flashing Green	Flashing once per second indicates synchronization with a SNR margin greater than the SNR Margin Alarm Threshold; attenuation is greater than the Loop Attenuation Alarm Threshold
	● Solid Yellow	Synchronized with a SNR margin greater than 0 dB, but less than the SNR Margin Alarm Threshold
	✸ Flashing Yellow	Synchronized with a SNR margin greater than 0 dB, but less than the SNR Margin Alarm Threshold; attenuation is greater than the Loop Attenuation Alarm Threshold
	● Solid Red	Synchronized with a SNR margin of 0 dB
	✸ Flashing Red	Flashing once per second indicates synchronization with a SNR margin of 0 dB; attenuation is greater than the Loop Attenuation Alarm Threshold
LL/RL	● Solid Green	A loopback is active at the H4R towards the H4TU-R
	● Solid Yellow	A loopback is active at the H4R towards the H4TU-C
	✸ Flashing Yellow	H4R is armed but not in loopback

H4R CARD EDGE PIN ASSIGNMENTS

Pin	Designation	Description	Pin	Designation	Description
1	GND	Ground	7	NC	No Connect
2	NC	No Connect	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

239 H4R RESISTANCE

Tip-to-Ring resistance is approximately 6 Ω for each pair (with no power applied).

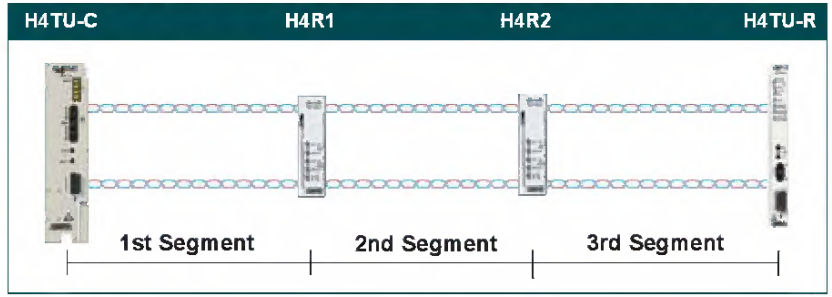
LOOPBACK AND CONTROL CODES

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

HDSL4 LOOP SPECIFICATIONS FOR OPTIMUM OPERATION

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

Refer to the H4TU-C or H4TU-R Installation and Maintenance Practice for loop parameters, including Attenuation and Resistance Budgets for span powering.



COMPLIANCE

The 239 H4R complies with UL 60950, Third Edition. The 239 H4R is intended for installation in restricted access locations only. Ensure chassis ground is properly connected.

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

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

For more information, refer to the Installation and Maintenance Practice (P/N 61223445L2-5) available online at www.adtran.com.

HDSL4 239 H4R Repeater

PRICING AND AVAILABILITY 800.827.0807
TECH SUPPORT 800.726.8663
RETURN FOR REPAIR 256.963.8722
www.adtran.com
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HOUSINGS AND CAPACITIES

Part Number	Description	CLEI Code	Slots	Stub	H4R Capacity		Recommended Slot Assignments		Material
					Above Ground	Below Ground	Above Ground	Below Ground	
1150027L1	239/439 Housing	DDMOABA1MA	4	All	4	4	All	All	Stainless/Polymer
1150027L2	239/439 Housing	DDMOBBA1MA	4	Gel	4	4	All	All	Stainless/Polymer
1150057L1	Universal Housing	DDMODA01RA	4	All	4	4	All	All	Stainless Steel
1150057L1	Universal Housing	DDMODA01RA	4	Gel	4	4	All	All	Stainless Steel
1150058L1	Universal Housing	DDMOEE01RA	8	All	8	8	All	All	Stainless Steel
1150058L2	Universal Housing	DDMOFE01RA	8	Gel	8	8	All	All	Stainless Steel

Manufacturer	Description	Manufacturer's Part Number	Slots	H4R Capacity		Recommended Slot Assignments		Material
				Above Ground	Below Ground	Above Ground	Below Ground	
ADC®	Radiator II	SPX-HRXC-30-AG-016GT	16	16	16	All	All	Stainless Steel
ADC	Radiator	SPX-HRXC-30-B1	8	8	8	All	All	Stainless Steel
Circa Telecom®	HDSL-12A	760005	12	12	12	All	All	Stainless Steel
Circa Telecom	HDSL-12B	760006	12	12	12	All	All	Stainless Steel
Arris®/Lucent®/AT&T®	Keptel® Inter Link™ 809	RF809A3-XXX or RF809B3-XXX	12	8	N/A	1, 3, 4, 6 7, 9, 10, 12	N/A	Polymer
Arris/Lucent/AT&T	Keptel Inter Link 818/819	RF819A1 or RF819A2 RF819B1 or RF819B2	25	12	16 *	Chamber 1: 1, 4, 7, 8, 11, 14 Chamber 2: 15, 17, 19, 20, 23, 25	Chamber 1: 1, 3, 5, 7, 8, 10, 12, 14 Chamber 2: 15, 16, 18, 19, 20, 22, 24, 25	Polymer
Arris	Keptel Inter Link 819 Family	AT819B1U or AT819A1U	12	8	8	2, 3, 5, 6, 8, 9, 11, 12	2, 3, 5, 6, 8, 9, 11, 12	Polymer
Arris/Lucent/AT&T	Keptel Inter Link 820 Family	RF820AX or RF820BX	2 to 8	Full	Full	All	All	Polymer
Charles Industries	G21 Series	6212050002xx	25	12	N/A	1,2,4,6,7,8,9,11,13,15,18,24	N/A	Stainless Steel
Charles Industries	G21 Series	6212040002xx	12	6	N/A	1,3,4,6,8,11	N/A	Stainless Steel

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

FEATURES

TScan

The 239 H4R incorporates the TScan™ feature, which allows for remote retrieval of circuit diagnostics and performance of advanced fault location. For more information, refer to the Installation and Maintenance practice.

Fast Retrain

Fast Retrain is an ADTRAN-proprietary feature that minimizes downtime due to an intermittent impairment (bad splice, noise burst, etc.).

When such impairments occur after achieving HDSL synchronization, Fast Retrain is invoked to restore service within 5 to 7 seconds. This short retrain time allows for reduced downtime compared to the traditional 25 to 30 second retrain duration.

NOTE: For proper functionality, install Fast Retrain capable units on both ends of the circuit. Failure of a Fast Retrain attempt initiates the traditional (25-30 second) retrain.

Fault Bridging

The Fault Bridging feature minimizes downtime due to intermittent impairments that appear on the cable pair, for example, from a Ground Fault Interrupt (GFI), short, micro-interruption, bad splice, or noise burst. This feature allows the DSL transceivers to maintain synchronization during an interruption, thus avoiding a 25 to 30-second retrain. Depending on the type of impairment, interruptions up to 200 ms can be bridged.

Bad Splice Detection

The Runtime TScan bad splice detection feature is an ADTRAN-proprietary non-intrusive method for detection of anomalies (bad splices) in the copper plant. This feature non-intrusively monitors the cable pair during runtime for the presence of bad splices that can potentially impact service.

Poor cable splices are often undetected by normal testing methods. Often, these splices present no problem for the data transmission equipment until oxidation with the splice itself causes a rapid impedance change, which can cause errors, signal margin fluctuation, and retrain of the DSL transceivers. The splice detection feature is accessed from the Troubleshooting Screen through the craft access port.