1.2 GHz MDU Distribution Amplifiers

LHA38RMx Series

This Lindsay exclusive MDU amplifier delivers reliable performance supporting DOCSIS® 3.1 frequencies to 1.2 GHz. The unique design allows for seamless upgrade configurations from 42/54, 85/102 and 204/258 by simply exchanging plug-in filter sets, thereby future-proofing upstream bandwidth requirements.

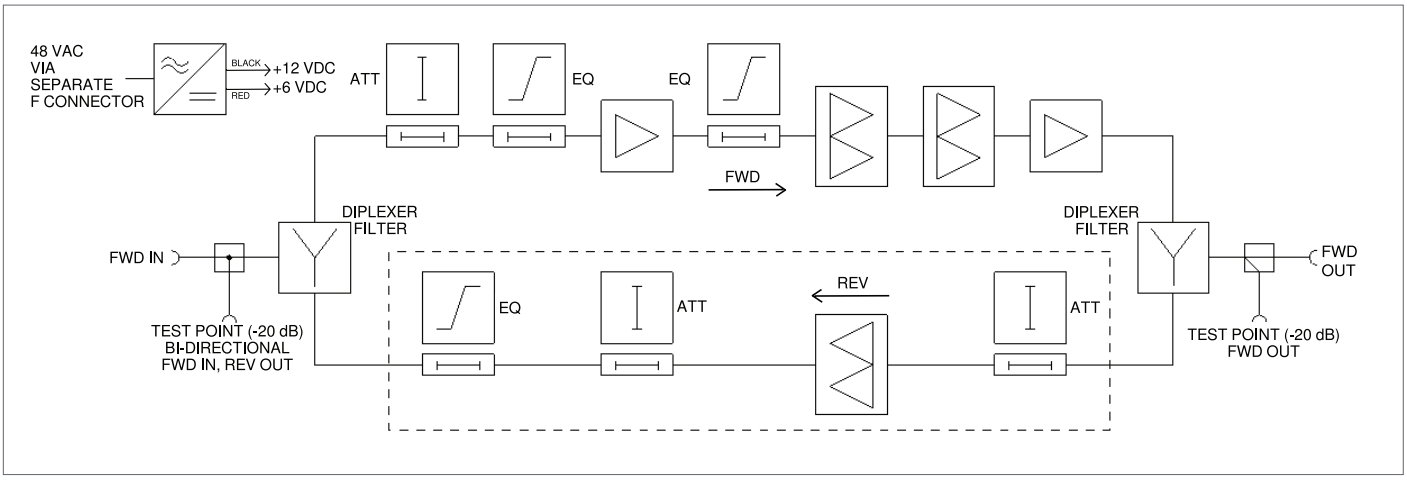
LHA38RM-A-45
(front angled view)

The LHA38RM-x-xx amplifier is designed for advanced HFC network installations in apartment buildings, hotels, schools, hospitals and similar facilities having high RF amplification requirements. Designed with high gain, this two-way, upgradeable amplifier uses the latest 1.2 GHz GaAs-FET push-pull technology to provide superior distortion performance and low noise. This amplifier can be mounted directly to a wall, and further reduces operational costs with increased heat dissipation and low power consumption. Technician-friendly, universal JXP-style pads are used for attenuator and equalizer functions in both directions, simplifying the increased response required out to 1.2 GHz.

FEATURES

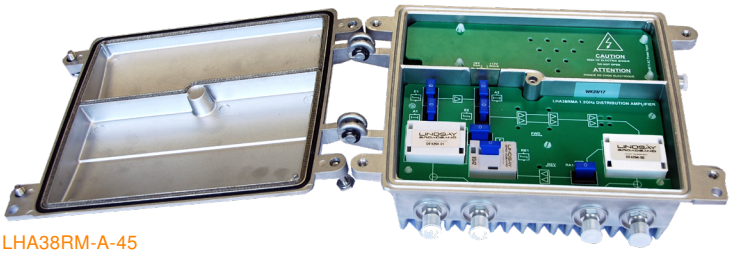
- Fully meets the requirements of DOCSIS 3.1
- Downstream frequency bandwidth extends to 1.2 GHz
- Field-replaceable filter kits with multiple diplex filter frequency split options offer seamless upgrade
- Operating Temperature: -40°C to +60°C (-40°F to +140°F)
- Forward gain 38 dB; reverse gain 24.5 dB
- -20 dB external test points
- GaAs-FET push-pull technology for high output levels with low distortions
- JXP-style plug-in controls
- SCTE compliant F-type connectors
- 6 kV surge protection on all ports
- Powering Options: HFC 40-90 VAC, 48 VAC, 15 VDC, 100-240 VAC
- Finned, diecast aluminum housing for heat dissipation

FUNCTIONAL SCHEMATIC



SPECIFICATIONS

Parameter		Specification	
		Forward	Reverse
Bandwidth (1)		54-1220 MHz	5-42 MHz
		102-1220 MHz	5-85 MHz
		258-1220 MHz	5-204 MHz
Technology		GaAs	
Average Full Gain (5)		38 dB	24.5 dB
			24.5 dB
			22 dB
Flatness		< +/-1 dB	
Return Loss	In	-16 dB (< 1 GHz)	-14 dB
	Out	-14 dB (1-1.2 GHz)	
Test Points	Fwd In/Rev Out (bi-directional)	-20 dB	-20 dB
	Fwd Out/Rev In (bi-directional)	-20 dB	-20 dB
Gain Control	JXP Plug-In (2)	In/Mid	In/Out
Slope Control	JXP Plug-In (2) (3) (4)	In/Mid	Out
Forward Distortions: 40/50 dBmV output level (77 NTSC analog channels plus 111 equivalent digital SC-256-QAM channels to 1218 MHz)			
CTB	On CH 78	-67 dBc	
CSO	On CH 78	-69 dBc	
XMOD	On CH 2	-73 dBc	
CIN		-57 dBc	
Forward Distortions: 36/46 dBmV output level (77 NTSC analog channels plus 111 equivalent digital SC-256-QAM channels to 1218 MHz)			
CTB	On CH 78	-83 dBc	
CSO	On CH 78	-74 dBc	
XMOD	On CH 2	-80 dBc	
CIN		-70 dBc	
Reverse Distortions: 52 dBmv flat output, 2 CH according to ANSI SCTE 1152006			
DTO @ 7 MHz			-68 dBc
DSO @ 6 MHz			-75 dBc
XMOD on T10			-66 dBc
Noise Figure	With 0 dB Jumpers	6 dB (< 1 GHz)	6 dB
		7 dB (1-1.2 GHz)	
Recommended RF Input Level		9 dBmV (single)	
		13 dBmV (cascaded)	
Group Delay	CH 2 (55, 25-58.83 MHz)	< 35 ns	
	CH 98 (109, 25-112.83 MHz)		
	CH 15 (259, 25-263.08 MHz)		
	204-203 MHz / 84-85 MHz / 41-42 MHz / 5-6 MHz		< 30 ns



LHA38RM-A-45
(open view)

JXP pads

Plug-in filter modules
(front angled views)

SPECIFICATIONS CONT'D.

Power, Environmental & Physical	
Hum Modulation	-80 dBc
RFI Isolation	-100 dBc
Surge Withstand	IEEE C62.41-Cat B3, Combination Wave, 6 kV, 3 kA
Powering	15 VDC / 48 VAC / 100-240 VAC / HFC 40-90 VAC
Power Consumption	15 W
Enclosure	IP54 category, diecast aluminum
Operating Temperature	-40°C to +60°C (-40°F to +140°F)
Dimensions (H x W x D)	7.0"H x 9.5"W x 3.3"D (17.8H x 24.1W x 8.4D cm)
Weight	4.9 lb (2.2 kg)

NOTES:

(1) Band selection by on-site plug-in diplex filters & plug-in return path EQs
(2) Universal JXP-type pads. 0 dB jumper pads are factory default
(3) Onboard EQ circuit on forward path. Slope (dB) is selected via universal JXP-style plug-in pads
(4) Plug-in EQ board on return path. Slope (dB) is selected via universal JXP-style plug-in pads
(5) Minimum gain at 102 & 258 MHz is 36.5 dB

ORDERING INFORMATION

		Power Socket Type		Frequency Range
LHA38RM	-	x	-	xx
		A = 48 VAC		45 = 5-42 MHz / 54-1220 MHz
		B = 15 VDC (transformer)		81 = 5-85 MHz / 102-1220 MHz
		C = 100-240 VAC (N. America)		22 = 5-204 MHz / 258-1220 MHz
		D = 100-240 VAC (Europe)		
		E = 40-90 VAC (HFC-powered)		

Optional Accessories

Part #	Description
Filter Kit 42/54 MHz	Filter kit consisting of two diplex filter modules & one return EQ module for 42/54 MHz frequency range
Filter Kit 85/102 MHz	Filter kit consisting of two diplex filter modules & one return EQ module for 85/102 MHz frequency range
Filter Kit 204/258 MHz	Filter kit consisting of two diplex filter modules & one return EQ module for 204/258 MHz frequency range
6506-056	15 VDC wall transformer with North America plug
6506-056E	15 VDC wall transformer with European plug
JXP-xx	JXP-style fixed attenuator/EQ (xx = dB value; available values = 00,01,02,03,04,05,06,07,08,09,10,11,12,13,14,15,16,17,18,19,20)

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