HEA-40-D31

1.2 GHz Headend Amplifier

Model	Bandwidth
HEA-40-D31-42	5-42 MHz / 54-1218 MHz
HEA-40-D31-85	5-85 MHz / 105-1218 MHz

CE

FEATURES

• 1.2 GHz forward bandwidth,

• GaAs/GaN Power Doubler Hybrid for high output levels with low distortions,

• Active Push Pull reverse path with seperate output, field selectable active/passive operation,

•Rack Mount - 1 EIA (1.75”) spacing, rugged aluminum chassis

•Surge protection at all ports,

• UL and CE listed power transformers.

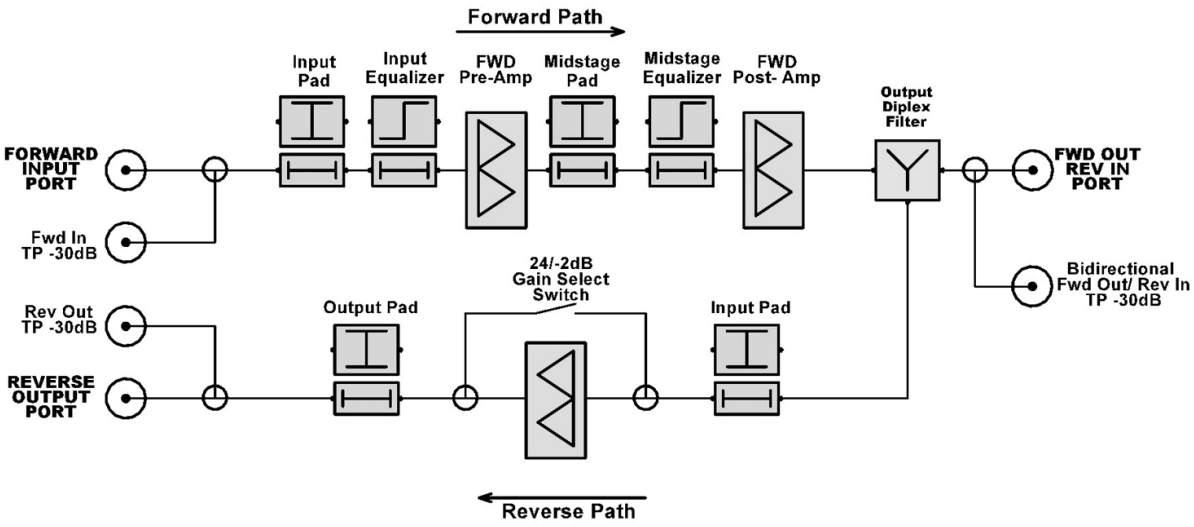


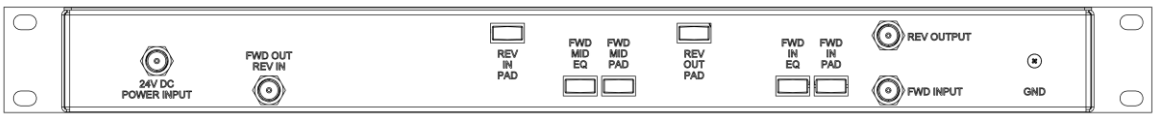
Figure 1 – Block Diagram

INSTALLATION NOTES :

1. Unpack the amplifier.
2. Mount the amplifier in the desired location in the rack. Please leave 1U rack space below and above the amplifier for proper ventilation.
3. Connect the input and output cables to the amplifier.
4. This product is shipped with default 0 dB pad for all plug-in attenuator and equalizers.
5. Before applying power to the amplifier make sure that the forward input level to the amplifier does not exceed 20 dBmV, otherwise damage to the amplifier might occur. To be on the safe side, you should select the input fixed attenuator to a max. value (e.g:20 dB) before powering the amplifier or preset forward path slope control fully clockwise. Forward input pad and equalizer plug in modules are reachable under the front panel window cover. Variable control for mid-stage equalizer is present at the front panel.
6. Ground connection is provided at the rear panel to ensure proper grounding to the amplifier.
7. Please use the power adapter supplied with the amplifier, plug the power line cord into a 115VAC/60Hz power source.

Front Panel

8. After applying power to the amplifier measure the amplifier forward output level at the 30 dB output test point. If it is very low then adjust the value of input fixed attenuator until the desired output level is reached at the highest operating frequency. Remember that the level measured at the test point is 30 dB lower than the real signal level.
9. Install a plug-in pad in order to activate the forward input equalization to adjust the output level to be flat across the full bandwidth.
10. Now adjust the mid-stage forward slope and attenuator controls to achieve as close as possible to the desired output signal level and slope.
11. Reverse gain can be set as 24dB or -2dB from the jumper settings reachable behind the front panel window.



Rear Panel

SPECIFICATIONS

Parameter	Notes	Forward		Reverse		Units
Bandwidth		54 - 1218	105 - 1218	5 - 42	5 - 85	MHz
Technology		GaAs/GaN Power Doubler Hybrid		GaAs Phemt, Push Pull		
Gain		40	40	24 / -2 Switchable	24 / -2 Switchable	dB
Return Loss		16		16		dB
Test Points, Frw IN/Rev OUT	bidirectional	-30 +/- 1.5		-30 +/- 1.5		dB
Test Points, Frw OUT/Rev IN	bidirectional	-30 +/- 1.5		-30 +/- 1.5		dB
Input Gain Control	JXP plug-in (1)	0 to 20dB in 2dB steps		0 to 18dB in 2dB steps		
Second Stage Gain Control	JXP plug-in (1)	0 to 14dB in 2dB steps		0 to 20dB in 2dB steps		
Input Slope Control	JXP plug-in (2)	0 to 18dB in 1.5dB steps		N/A		
Second Stage Slope Control	JXP plug-in (2)	0 to 12dB in 1.5dB steps		N/A		
Forward Distortions:	52 dBmV output level Channel loading: NTSC 74 analog channels, 109.25 to 547.25 MHz, +75 SC-QAM-256 digital channels, 555 to 999 MHz -6dB offset relative to the analog carrier.					
CTB		-60		N/A		dBc
CSO		-70		N/A		dBc
MER		40		N/A		dB
Cross Modulation (XMOD)		-63		-58		
Reverse Distortions:	52dBmV flat output, 2-ch according to ANSI/SCTE 115 2006					
DTO on 7MHz		N/A		-68		dBc
DSO on 6MHz		N/A		-65		dBc
Noise Figure	with 0 dB jumpers	6		6		dB
MAX RF Input Level (per channel, w/o using fixed input attenuator)	20 dBmV @ 74 analog channels, 75 SC-QAM-256 digital channels, -6dB offset relative to the analog carrier.					dBmV
Input/Output Connections		F Type				
Hum Modulation		-70				dBc
Surge Withstand		IEEE C62.41 Cat. A3 (6KV, 200A)				
Power Consumption		18				Watt
Power Requirement		Wall Power Transformer, Input = 90-240VAC , 50-60Hz, 1A				
Operating Temperature Range		-4 to +130				degF
Weight		4.85 / 2.2				lbs / kg
Dimensions (L x W x H)		19 x 9 x 1.75				inch

1. Universal 1" JXP style pads. 0dB jumper pads are factory default.
2. Universal 1" JXP plug-in equalizer. 0dB jumper pads are factory default.