

## Reverse Amplifier – 5-LER91

For Philips®/Magnavox® System Amplifiers and Line Extenders



The Broadband International® 5-LER91 series return amplifier is a linear reverse amplifier that supports the full integration of two-way telecommunications in existing Phillips/Magnavox Network Amplifiers and Line Extenders. Multiple options are available from 33-65 MHz with two different output gain blocks. The hybrid-based gain block improves return path distortions and noise contribution much more effectively than the older discrete component models.

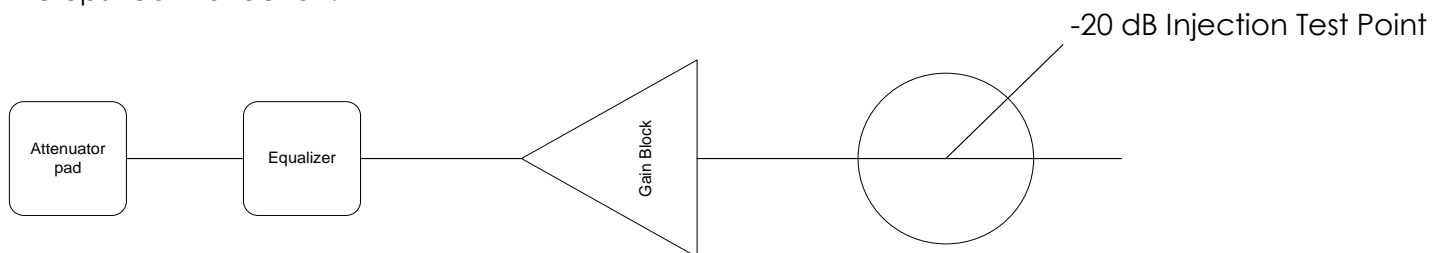
Gain and equalization are controlled by changing attenuators and equalizers to achieve the desired outputs. The Broadband International® 5-LER91 is available in two different configurations. The Injection Test Point (IP) version can be utilized to inject signal in the reverse path upstream direction to sweep or align the reverse path. The Test Point (TP) version can be utilized to measure upstream signal levels and noise/distortion contributions.



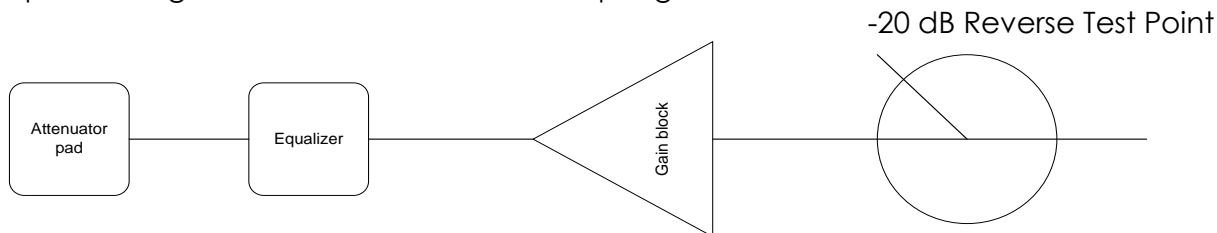
PARAMETER	SPECIFICATION (Part #405628-I or T)	Unit
Passband	5-65 MHz	MHz
Flatness	+/- 0.6	dB
Minimum Full Gain (in fixture) <sup>1</sup>	25	dB
Operating Gain (in amplifier) <sup>2</sup>	Varies based on the amplifier	dB
Slope –Plug-in equalizer controlled	0-12 available in 1 dB steps	dB
Injection Test Point or Test Point	-20	dB
Operating level rating <sup>3</sup>	40-50	dB
Return Loss- Input/output	-16	dB
Noise Figure (worst case)	3.1	dB
DC Voltage (B+)	+24	Vdc
Current Draw	135	mA
Distortion ( @ O/P rated level) <sup>4</sup>	50	dB
CTB - (7 ch. flat; VO=50 dBmV)	66	dBc
XMOD – (7 ch. flat; VO=50 dBmV)	57	dBc
CSO - (7 ch. flat; VO=50 dBmV)	70	dBc

## 5-LER91 Functional Block Diagrams

The Injection Test Point (IP) version can be utilized to inject carrier generators signals or sweep signal in the upstream direction.



The Test Point (TP) version can be deployed to measure signal levels and performance of the upstream signal flow before the reverse input gain block.



### Notes

- <sup>1</sup> Does not include the loss associated with the passive network inside the amplifier
- <sup>2</sup> Gain will vary based on the type of amplifier the 5-LER91 is installed in for amplification
- <sup>3</sup> Levels based on 20 dB input in a line extender amplifier
- <sup>4</sup> Distortion numbers stated at full gain with 0 dB EQ/PAD and stated as worst case



## 5-LER91 SERIES REVERSE AMPS – Available Products

OEM P.N.	BBI P.N.	Values
5-LER91-33/24-I	405324-I	33MHz/I.P.20dB Typical Operational Gain
5-LER91-33/28-I	405328-I	33MHz/I.P.24dB Typical Operational Gain
5-LER91-33/24-T	405324-T	33MHz/T.P.20dB Typical Operational Gain
5-LER91-33/28-T	405328-T	33MHz/T.P.24dB Typical Operational Gain
5-LER91-40/24-I	405424-I	40MHz/I.P.20dB Typical Operational Gain
5-LER91-40/28-I	405428-I	40MHz/I.P.24dB Typical Operational Gain
5-LER91-40/24-T	405424-T	40MHz/T.P.20dB Typical Operational Gain
5-LER91-40/28-T	405428-T	40MHz/T.P.24dB Typical Operational Gain
5-LER91-55/24-I	405524-I	55MHz/I.P.20dB Typical Operational Gain
5-LER91-55/28-I	405528-I	55MHz/I.P.24dB Typical Operational Gain
5-LER91-55/24-T	405524-T	55MHz/T.P.20dB Typical Operational Gain
5-LER91-55/28-T	405528-T	55MHz/T.P.24dB Typical Operational Gain
5-LER91-65/24-I	405624-I	65MHz/I.P.20dB Typical Operational Gain
5-LER91-65/28-I	405628-I	65MHz/I.P.24dB Typical Operational Gain
5-LER91-65/24-T	405624-T	65MHz/T.P.20dB Typical Operational Gain
5-LER91-65/28-T	405628-T	65MHz/T.P.24dB Typical Operational Gain

Typical Operational Gain stated in a Line Extender module with 0 dB pad/equalizer. Refer to the OEM installation manual for proper selection of the 5-LER91 reverse amplifier in all Network Amplifiers and Line Extenders.