

Motorola's STARLINE® series line extender, model SLE100\*-\*R, is a high performing and reliable bi-directional amplifier solution for today's advanced HFC networks. The SLE100\*-\*R has been designed to optimally balance performance, functionality, and cost effectiveness. This two-way capable single active output amplifier offers high gain, high output levels, ergonomic plug-in accessories, leading distortion performance, two diplex filter options, and an optional second output via a modular splitter or directional coupler. The SLE100\*-\*R also allows future optional features such as automatic gain control via the SLE-ADU-\* and SLE-BODE plug-ins, ingress control switching, and status monitoring.

*The SLE100\*-\*R is a cost-effective addition to Motorola's line of high performing RF amplifier products for use in today's advanced HFC networks.*

The SLE100\*-\*R has a forward bandwidth of 1003 MHz and provides minimum full gains of either 37 dB or 42 dB, depending on the model selected. If the optional automatic gain control is selected, the SLE100\*-\*R provides operational gains of 30.5 dB or 35.5 dB. The amplifier deploys enhanced Gallium Arsenide hybrid technology that provides improved distortion performance in CTB and CSO performance over traditional Gallium Arsenide technology. The amplifier is easily set-up via ergonomically designed modular gain and equalization controls. It uses common Motorola STARLINE amplifier accessories such as the SFE Forward Equalizer, SRE Return Equalizer, and the JXP-\*B Breakaway Attenuators.

The SLE100\*-\*R provides an interstage slope of 9 dB and can be configured for three frequency splits. The amplifier comes standard with an active return path that provides 24 dB of station gain. To add to its reliability and performance, the SLE100\*-\*R is housed within a chromated aluminum die-cast housing.



**BENEFITS INCLUDE:**

- 1003 MHz E-GaAs power doubling technology
- 35 dB and 40 dB forward gain models without SLE-BODE control
- 28 dB and 32 dB forward operational gain with optional SLE-BODE control
- Ergonomic modular plug-ins for gain and equalization control
- Reverse path gain of 24 dB
- 65/85 MHz (A-Split), 42/54 MHz (K-Split), and 55/70 MHz (J-Split) frequency splits can be supported via modular diplex filters – additional frequency splits may be supported
- Supports automatic gain control via separate modular plug-in
- Internal modular splitter (SP) is available for a second output
- Modular power supply design for rapid field service
- 10 Ampere continuous AC bypass
- All directional coupler -20 dB test points
- Robust die cast aluminum housing for efficient thermal and environmental performance
- Ability to support optional ingress control and HMS compliant status monitoring via customer request
- ROHS Compliant

Specifications are subject to change without notice. Rev. 8

## SLE100\*-\*-R SPECIFICATIONS

### RF PERFORMANCE - Forward

Passband Frequency	.54 to 1003 MHz (Dependent upon split)	
Gain (w/o SLE-BODE) <sup>1</sup>	.37 dB or 42 dB (Dependent upon model)	
Operational Gain (w/ SLE-BODE) <sup>1</sup>	.34 dB or 39 dB	
Noise Figure	.9 dB/10 dB ( $F_{min}/1003$ MHz)	
Interstage Slope	.9 dB ( $F_{min}$ to 1003 MHz)	
Reference Frequency	.1003/550/52 MHz	
Output Level(s)	.44dBmV (at 550 MHz) with 12 dB total slope	
Channel Loading	.79 NTSC Analog	
	.450 MHz QAM Digital (-6 dB analog)	
CTB <sup>2</sup>	.62.4 dBc	
CSO <sup>2</sup>	.68.5 dBc	
Flatness	.± 1.0 dB $F_{minforward}$ to 1003 MHz	
Return Loss	.15 dB minimum	

### RF PERFORMANCE - Reverse

Passband Frequency	5 to 65 MHz (A - Split)	5 to 42 MHz (K - Split)	5 to 65 MHz (J - Split)
Gain	.24 dB		
Noise Figure <sup>2</sup>	.6.5 dB		

Reference Frequency	.40 MHz
Output Level	.41 dBmV
Channel Loading	.4 NTSC analog
XMOD	.65 dBc
STB	.75 dBc
SSO	.77 dBc
Flatness	.± 1.0 dB $F_{minreverse}$ to $F_{maxreverse}$
Return Loss	.15 dB

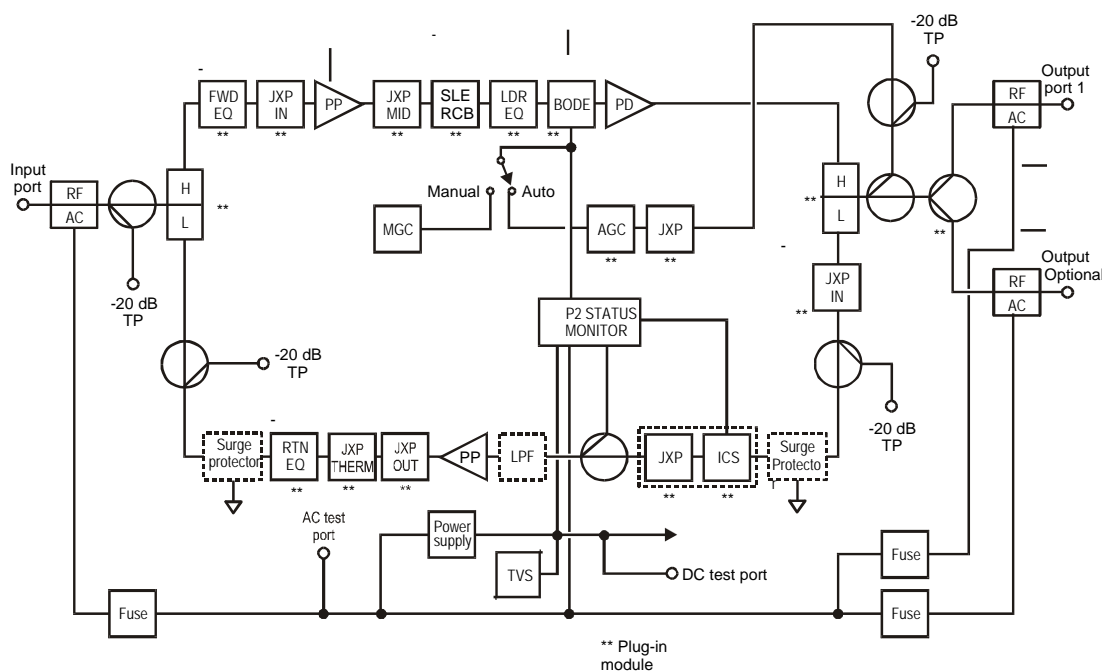
### GENERAL

AC Input Voltage	.27-90 VAC
AC Bypass Current	.10 A
AC Current Draw <sup>3</sup>	
@ 90 VAC	.0.63 A
@ 75 VAC	.0.68 A
@ 60 VAC	.0.82 A
@ 53 VAC	.0.97 A
@ 45 VAC	.1.00 A
@ 38 VAC	.1.13 A
@ 27 VAC	.1.6 A
Connector Type	.5/8-24 UNEF
Operating Temperature	.-40 to +60 °C (-40 to +140 °F)
Dimensions	.10.75 in x 8.0 in x 4.5 in (LxWxD)
	.273 mm x 203 mm x 114 mm
Weight	.7.0 lb (3.2 kg)

### NOTE:

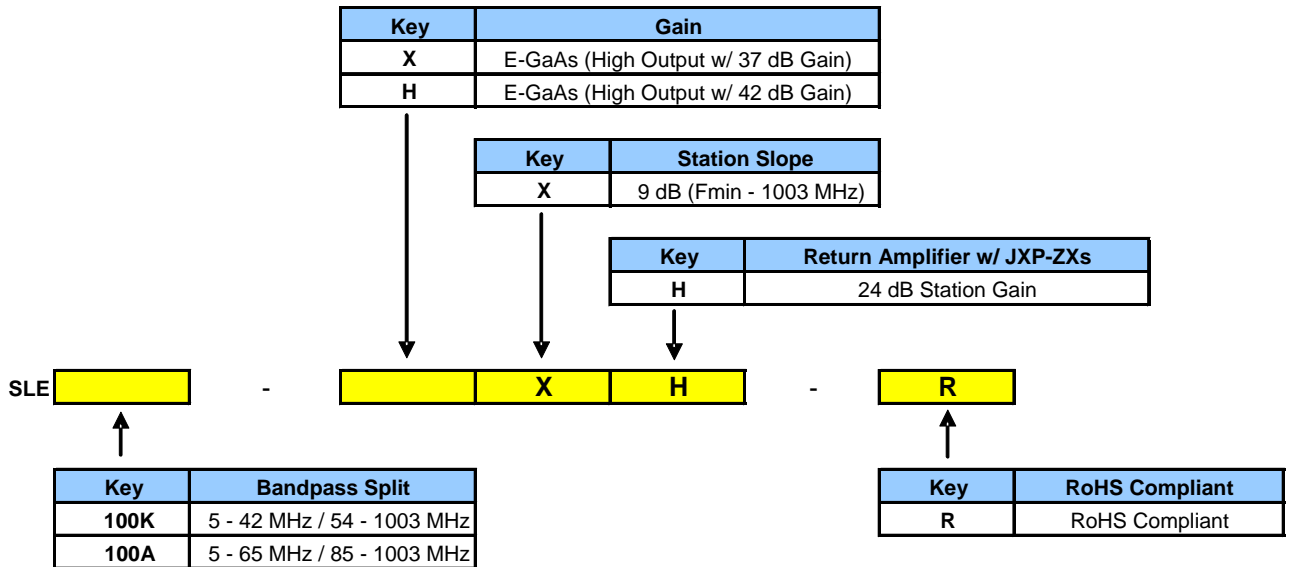
- For future use of the SLE-BODE, in conjunction with the SLE-ADU-\* or SLE-TDU, allow for an additional 7 dB of interstage insertion loss for the SLE. This may be accomplished via a JXP-7B (7 dB attenuator).
- Typical performance.
- Typical performance for quasi-square wave. Optional AGC, Status Monitoring, and/or Ingress Control Switching will increase stated current draw.

## SLE100\*-\*- BLOCK DIAGRAM



**MOTOROLA**

## SLE100\*-\*-R ORDERING INFORMATION



## SLE100\*-\*- OPTIONAL ACCESSORIES

Model	Description	Comment
<b>JXP-*B</b>	Break-Away JXP Attenuator	Available in 1 dB increments
<b>SFE-*-*</b>	STARLINE Forward Equalizer	Available in 1 dB increments
<b>SCS-*-*</b>	STARLINE Cable Simulator	Available in 1 dB increments
<b>SRE-*-*</b>	STARLINE Return Equalizer	Available in 2 dB increments
<b>SP</b>	STARLINE Splitter	
<b>DC/*</b>	STARLINE Directional Coupler	DC/* available in 8, 10, or 12 dB models
<b>SLE-BODE</b>	SLE Bode Equalizer	Required for use with SLE-ADU-* or SLE-TDU
<b>SLE-ADU-*</b>	SLE Automatic Drive Unit	For automatic gain control of SLE-BODE
<b>SLE-TDU</b>	SLE Thermal Drive Unit	For temperature control of SLE-BODE
<b>LL-SLE-HMS-*/*</b>	LIFELINE HMS Compliant Status Monitor	Requires use of SLE-LID/SM for mounting
<b>SLE-LID/SM</b>	SLE Deep Housing Cover	For use with LL-SLE-HMS-*/* transponder
<b>ICS-II</b>	Ingress Control Switch	Requires use of LL-SLE-HMS-*/* for operation

\*Note: SLE status monitor transponder and deeper housing lid are not yet available. Development on these items will begin when there is a large customer need for these items.