

# 1.2 GHz High Output, Bi-Directional Line Extender

## LBLE120A SERIES

LINDSAY  
BROADBAND

Lindsay's LBLE120A high output 1.2 GHz bi-directional broadband line extender is perfect for low cost per mile HFC deployments. The LBLE120A device is an outdoor-hardened distribution amplifier with single output, multiple diplex filter options and the latest GaAs hybrid technology to provide superior performance to 1.2 GHz.

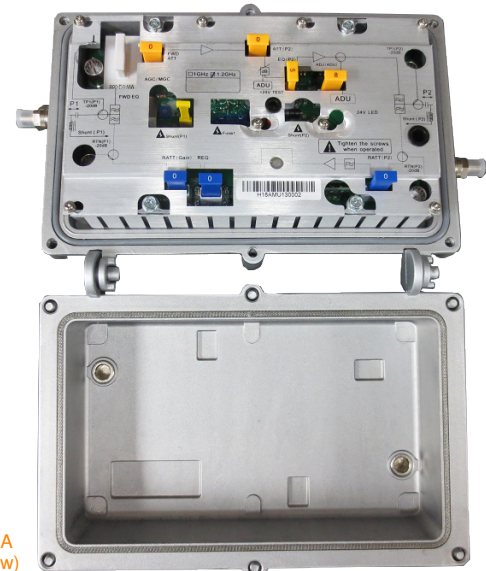
The LBLE120A line extender comes with a composite power, full band detect AGC in forward direction that will provide stable output with changing environmental conditions. The LBLE120A device comes with a 40–90 VAC HFC input switched mode power supply in a 15 PSI pressure tested housing. The LBLE120A line extender has sockets for JXP-style plug-in attenuators and EQs. Input and midstage attenuators and EQs are used for forward bandwidth equalization and balancing. An input attenuator plus an output attenuator and EQ are used for reverse path equalization and balancing. Universal JXP-style pads (JXP attenuators) are applicable for both attenuator and equalizer functions. The forward input EQ is the only custom type EQ used in the line extender.



LBLE120A  
(front view)

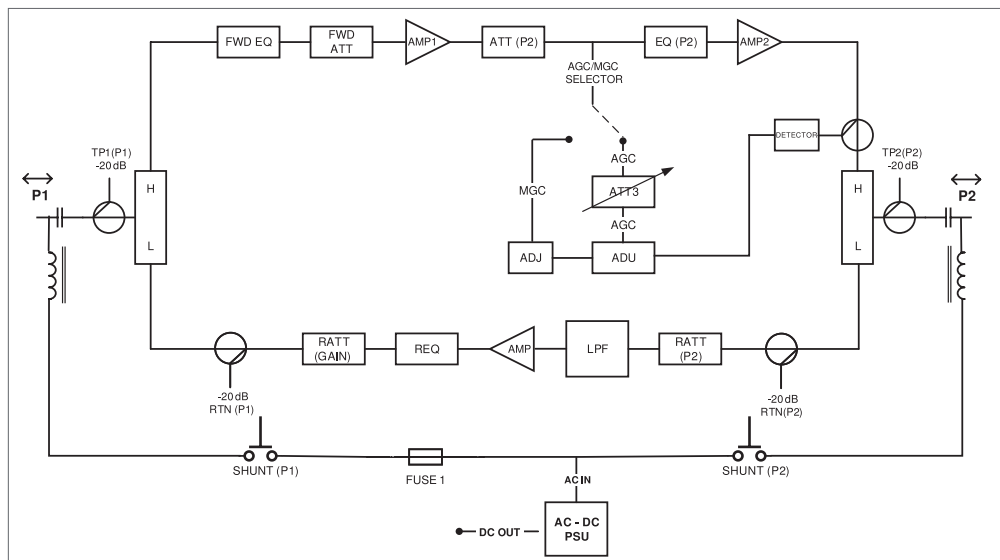
### FEATURES

- 1.2 GHz performance with multiple diplex filter options
- 41 dB max gain in forward
- 22 dB max gain in reverse
- GaAs hybrid technology
- User-selectable AGC & MGC mode in forward direction
- Low power consumption
- 40-90 VAC HFC power supply
- Externally accessible -20 dB test points
- Superior heat dissipation
- Operating temperature: -40°C to +60°C (-40°F to +140°F)
- 6 kV surge protected
- Onboard equalization adjusted by JXP pads (attenuators)
- 15 PSI pressure tested housing



LBLE120A  
(open view)

### FUNCTIONAL SCHEMATIC





## SPECIFICATIONS

Parameter	Specification	
	Forward	Reverse
Frequency	54/102-1220 MHz	5-42/85 MHz
Flatness	± 1 dB	± 1 dB
Return Loss	≥ 16 dB (F <sub>H</sub> - 750 MHz)	≥ 16 dB
	≥ 14 dB (751-1220 MHz)	
Full Gain Min.	41 dB (at 1220 MHz)	≥ 22 dB
Default Slope Pre-Configured	5 dB	0 dB
Slope Adjustable Range	0-20 dB	0-20 dB
Output Level Adjustment	0-20 dB	0-20 dB
Noise Figure <sup>(1)</sup>	≤ 8 dB	
AGC Range <sup>(2)</sup>	± 3 dB	
Output Level	38 dBmV (at F <sub>H</sub> ) 50 dBmV (at 1220 MHz)	52 dBmV (flat)
Group Delay <sup>(3)</sup>	≤ 35 ns	≤ 35 ns
RF Test Points	-20 ± 1 dB	
CSO <sup>(4)</sup>	-75 dBc	
CTB <sup>(4)</sup>	-75 dBc	
DSO <sup>(5)</sup>	-75 dBc	
DTO <sup>(5)</sup>	-60 dBc	
Hum Modulation <sup>(6)</sup>	≥ 66 dB	
Current Passing Capacity Max.	10 A	
Impedance	75 Ω	
Surge Withstand Capability	6 kV 3 kA, 8/20 μs Combo Wave IEEE 587 (C62.41-1991) Category B3 Standard	
Power, Environmental & Physical		
Power Consumption	≤ 30 W	
Operating Voltage	40-90 VAC	
Operating Temperature	-40°C to +60°C (-40°F to +140°F)	
Storage Temperature	-40°C to +70°C (-40°F to +158°F)	
Dimensions (H x W x D)	8.2"H x 12.6"W x 4.7"D (21.0H x 32.0W x 12.0D cm)	
Weight	< 6.6 lb (3.0 kg)	

### NOTES:

- (1) Both forward & reverse; with full gain; all 0 dB plugins
- (2) Composite power, full band detect AGC. No pilot channels. AGC in forward only
- (3) 3.58 MHz span in forward & 1.5 MHz in reverse
- (4) 79 NTSC channels + digital channels at -6 dB from 550-1220 MHz; 12 dB slope, forward RF output = 38/50 dBmV
- (5) 52 dBmV flat output level in reverse; measured using SCTE 115 using two carriers
- (6) With 10 A current passing

## ORDERING INFORMATION

Part #	Description
LBLE120A-45-40-90 VAC	1.2 GHz single output line extender; 42/54 MHz duplex filter split; 40-90 VAC HFC powered; 10 A power passing
LBLE120A-81-40-90 VAC	1.2 GHz single output line extender; 85/102 MHz duplex filter split; 40-90 VAC HFC powered; 10 A power passing
<b>Accessories (required for operation of the line extender)</b>	
LBLE120-EQ-xx	1.2 GHz special forward input EQ (xx = dB value; available values = 00,02,04,06,08,10)
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)

