

1.2 GHz Hardened Subscriber Drop Amplifiers

LRSA1510 / LRSA0803 / LSA151 / LSA84 SERIES



Lindsay's extreme bandwidth subscriber amplifiers are two-way 1.2 GHz devices supporting DOCSIS® 3.1 frequencies with available upstream and downstream splits of 42/54, 85/102 and 204/258 MHz.

Customers with long drops and excessive splitter losses benefit from advanced Gallium Arsenide (GaAs) technology delivering improved distortion and noise performances. These amplifiers are specifically designed for both indoor and outdoor applications with a 15 PSI watertight seal, protective coating, and 6 kV surge withstand capabilities for enhanced system reliability.

FEATURES

- 1.2 GHz Gallium Arsenide technology
- 3 dB noise figure
- Two-way active models
- 6 kV surge withstand
- 1 & 4-port options
- Power LED indicator
- Surge & current protected power supply
- Compact environmentally-hardened design
- 15 PSI watertight seal
- Local & remote powering
- Diplex filters 42/54, 85/102 & 204/258 MHz
- 360° F-pin seizure



LRSA1510 (front view)



LSA151 (front view)



LSA84 (front view)



LRSA0803 (front view)

SPECIFICATIONS

Parameter	Specification							
	LRSA1510		LSA151		LRSA0803		LSA84	
	Typical	Worst	Typical	Worst	Typical	Worst	Typical	Worst
Forward Path (54-1220 MHz, 102-1220 MHz or 258-1220 MHz)								
Gain (all ports)	15 dB	13 dB	15 dB	13 dB	8 dB	6 dB	8 dB	6 dB
Flatness	± 0.5 dB	± 1.0 dB	± 0.5 dB	± 1.0 dB	± 0.5 dB	± 1.0 dB	± 1.2 dB	± 1.5 dB
Out-Out Isolation					25 dB	24 dB	25 dB	24 dB ⁽¹⁾
CTB ⁽²⁾	-75 dBc	-70 dBc	-75 dBc	-70 dBc	-75 dBc	-70 dBc	-75 dBc	-70 dBc
CSO ⁽²⁾	-65 dBc	-62 dBc	-65 dBc	-62 dBc	-65 dBc	-62 dBc	-65 dBc	-62 dBc
Noise Figure	3 dB	4 dB	3 dB	4 dB	3 dB	4 dB	3 dB	4.2 dB
Group Delay	Span 3.58 MHz			20 ns		20 ns		20 ns
Return Path (5-42 MHz, 5-85 MHz or 5-204 MHz)								
Gain/Insertion Loss	10 dB	9 dB	-1 dB	-2 dB	3 dB	2 dB	-7 dB	-9 dB
Flatness		± 0.75 dB		± 0.75 dB		± 0.75 dB		± 0.75 dB
Out-Out Isolation					25 dB	24 dB	25 dB	24 dB
DSO ⁽³⁾	-70 dBc	-65 dBc			-70 dBc	-65 dBc		
DTO ⁽³⁾	-60 dBc	-57 dBc			-60 dBc	-57 dBc		
Noise Figure ⁽⁴⁾		8 dB				8 dB		
Group Delay	Span 1 MHz			20 ns		20 ns		20 ns



SPECIFICATIONS CONT'D.

Parameter	Specification								
	LRSA1510		LSA151		LRSA0803		LSA84		
	Typical	Worst	Typical	Worst	Typical	Worst	Typical	Worst	
General (5-42 MHz, 54-1220 MHz or 5-85 MHz, 102-1220 MHz or 5-204 MHz, 258-1220 MHz)									
Impedance	75 Ω								
Return Loss	5-42/85/204 MHz / 54/102/258-1000 MHz	20 dB	18 dB	20 dB	18 dB	20 dB	18 dB	20 dB	18 dB
	1000-1220 MHz		16 dB		16 dB		16 dB		16 dB
Hum Modulation		-70 dBc		-70 dBc		-70 dBc		-70 dBc	
Unterminated Oscillation ⁽⁵⁾	None								
RFI Isolation	-100 dBc								
Power, Environmental & Physical									
Surge Withstand	Fwd Input & Power Pack	IEEE 587 C62.41-1991-Cat B3, Combination Wave, 6 kV, 3 kA, 8/20 μs							
	Fwd Outputs	IEEE 587 C62.41-1991-Cat A3, Ring Wave, 6 kV, 200 A, 0.5-100 KHz							
Power Supply Noise ⁽⁶⁾	-50 dBm/-80 dBm/-100 dBm								
DC Power Consumption	12-15 VDC		280 mA		150 mA		280 mA		150 mA
Port Diode Protection	Yes								
Waterproof	All F-ports	Withstand 15 PSI for 1 minute							
Operating Temperature	-40°C to +60°C (-40°F to +140°F)								
Dimensions (H x W x D)	3.9"H x 4.5"W x 1.2"D (10.0H x 11.5W x 3.0D cm)								
Weight	0.45 lb (0.2 kg)								

NOTES:

- (1) 22 dB from 1000-1220 MHz
- (2) 10 dBmV/CH flat input level (75 NTSC) + digital at 6 dB setback (550-1220 MHz)
- (3) As per SCTE115, 13 & 19 MHz channels at 58 dBmV/CH output, w/c of DSO at 6/32 MHz & DTO at 7/25 MHz
- (4) For LRSA0803, noise figure is specified as that of the gain block, behind the splitter losses. Add 7 dB for splitter losses
- (5) No oscillations should occur with IN & OUT ports terminated & unterminated
- (6) Max. for (DC-500 kHz) / (500 kHz-1.5 MHz) / (1.5 MHz-1.2 GHz). Measure at RF OUT while using power inserter to power the amplifier

ORDERING INFORMATION

Model	Sub-Split	Power Adapter
xxxxx	xx/xx	xx/xx
LRSA1510	42/54 = 42/54 MHz	NO/PS = None
LRSA0803	85/102 = 85/102 MHz	NA/PS = N. America
LSA151	204/258 = 204/258 MHz	EU/PS = Europe
LSA84		

Optional Accessory

Part #	Description
LBI-PI	Subscriber drop power inserter; 5-1220 MHz