



# LA146R

## 6 Input Amplifier

### SITUATION

DBS and CATV or Over The Air signals are required at multiple locations connected via coax cable.

### SOLUTION

Model **LA146R** may be placed after a DBS dish or OTA antenna to extend the signals the equivalent of 150 feet of RG-6 cable.

### RELATED CONSIDERATIONS

Model **LA146R** may be coax line powered from each RF output connector. Model **LA146R-T** includes an external power supply for direct powering. An energy conservation feature allows the amplifier to operate efficiently at 12 to 29 volts.

### FEATURES

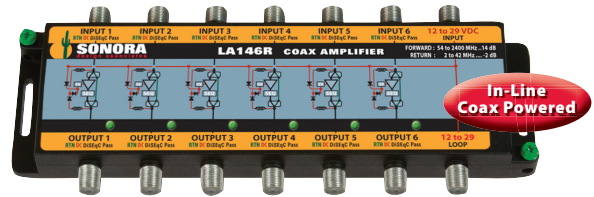
- *Wide bandwidth* ..... 54 to 2150 MHz forward  
..... 2 to 42 MHz return
- *High Input Ability* ..... -18 dBm
- *DC & 22 kHz/DiSeQc passing* ..... low insertion
- *Compact case* ..... die cast aluminum
- *Green Power Supply* ..... 12 to 29 VDC Input

### APPLICATION NOTES

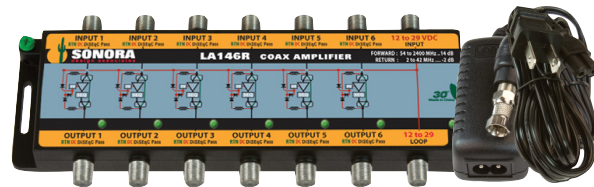
Model **SD PI-6S** provides voltages and control signals to power and polarity lock the LNBS'. DC passes through to power the **LA146R** amplifier.

Model **LA146R-T** includes a 12 volt supply and draws 440 mA. Model **LA146R** draws 220 mA from a 24 volt power supply. The amp runs cooler because less current is consumed in thermal regulation.

Multi-tap models **SD MST616**, **SD MST612**, **SD MST609** and **SD MST606** extract a portion of the trunk signal to feed DBS switches.



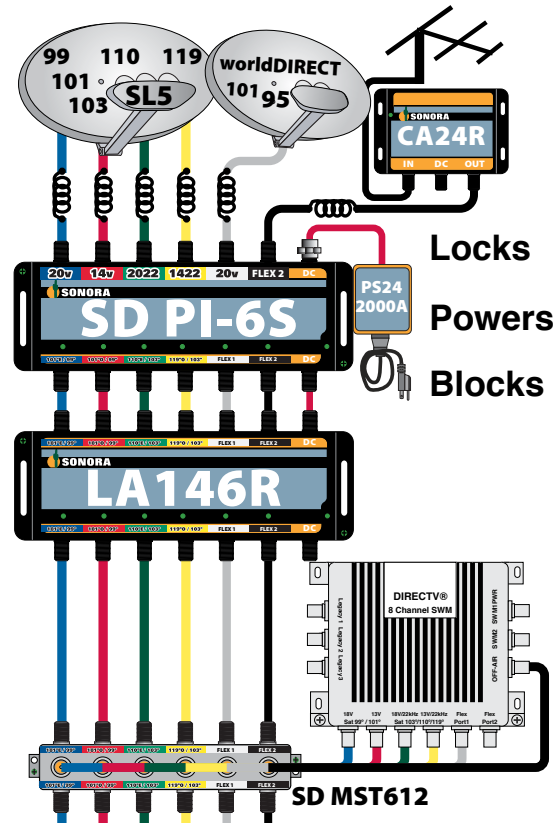
**LA146R**



**LA146R-T**

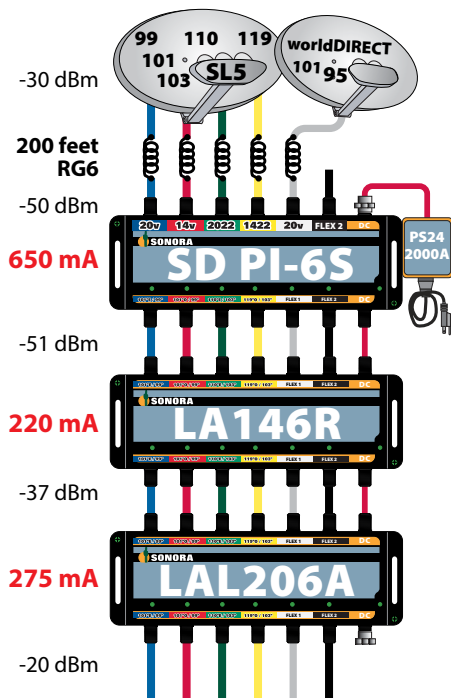
### DESCRIPTION

54 to 2150 MHz DBS, OTA, CATV line powered amplifier with 14 dB forward gain and passive sub-band return.



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### LA146R Pre-Amp or Post Amp

Model **LA146R** may be used as the pre-amplifier to model **LAL206A** amplifier when the dish to amplifier distance exceeds 150 feet of RG-6. Add the **LA146R** before the **LAL206A** if the LEDs are blinking red.

Model **PS242000A** included with model **SD PI-6S-T** provides the power for all three devices. The total current is 1.2 Amp. (650 mA for the **SD PI-6S** and LNBS', 220 mA for the **LA146R** and 275 mA for the **LAL206A**.)

Model **LA146R** may be used as the post-amplifier to model **LAL206A** amplifier when high output levels are required.

### SPECIFICATIONS

Specifications..... Typical ..... QC Limit Gain

2 to 42 MHz	-1 dB	-4 dB
54 MHz	9 dB	8 dB
250 MHz	10 dB	9 dB
950 MHz	13 dB	11 dB
2150 MHz	16 dB	14 dB

Maximum Output (32 equal transponders) .....-4 dBm  
IM2 & IM3 2 tones @ 0 dBm ..... -47 dBc..... -45 dBc min

#### Pass band Flatness

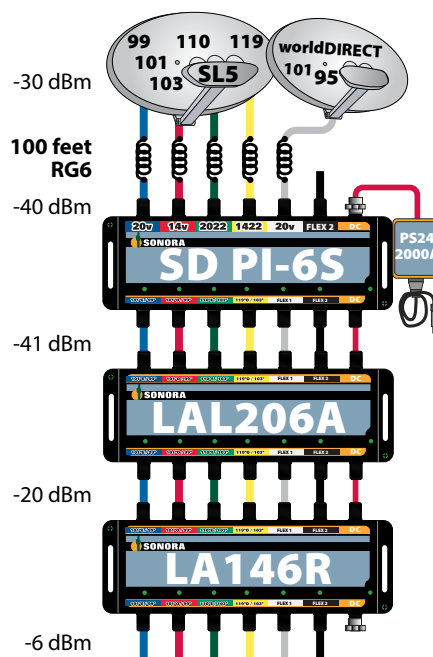
Any 24 MHz band	0.1 dB	0.2 dB
Input Return Loss	14 dB	11 dB
Output Return Loss	13 dB	11 dB
Noise Figure	6 dB	7 dB

#### Power Specifications

Voltage ..... 12 to 29 VDC  
Power Consumption ..... 5.4 watts

#### Mechanical Specifications

Dimensions ..... 3.5" L x 8.75" W x 0.9" H  
..... (-T with 12 V) ..... NO Supply  
Weight ..... 2.2 lb (1 kg) ..... 1.1 lb (0.5 kg)  
Master Carton QTY ..... (12 units) ..... (24 units)  
Master Carton Size ..... 10" x 13" x 19" ..... 10" x 15" x 12"  
Master Carton Weight ..... 30 lb (13.5 kg) ..... 25 lb. (11 kg)

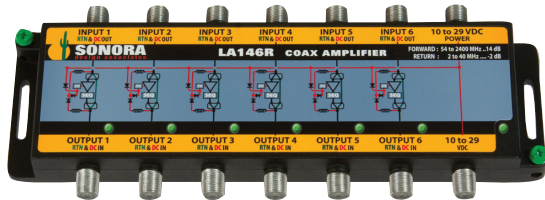


#### Environmental Specifications

Operating Environment: ..... Indoor/Outdoor (Lock box)  
Ambient Temperature ..... -30° C to +60° C

# LA146R

## 6 Input Amplifier



SWiM Multi-Satellite Amplifier with 14 dB gain @ 2150 MHz, 7 dB slope compensation and 10 to 29 VDC powering. Use as a line extender, pre-amp or post-amp for model **SD SA-6AL**. Extend SWM16 and SWM32 cascade outputs.

### LA146R Line Extender

- 14 dB Gain @ 2150 MHz
- Aluminum Die-Cast Housing
- F-Connector Power Input
- 22 kHz passing Output to Input

### PS121000A DC Power Supply

- UL Approved
- 12 Volt 1 Amp
- Interchangeable AC Cord
- F-Connector for DC Input
- Overload Protection



Parameter	UNIT	LA146R
System Impedance	Ohm	75
Operating Frequency Range	MHz	54 - 2150
	MHz	2 - 42 MHz (return path)
	kHz	22 (return path)
Flatness in operating frequency	dB	± 0.5 dB over 36 MHz
22 kHz Impedance to Ground	ohm	>800
Gain / Loss		
2 - 42 MHz	dB	-4 maximum
54 MHz	dB	6
250 MHz	dB	7
2150 MHz	dB	14 minimum
Slope: Frequency	MHz	250 to 2150
Linearity	dB	± 1 dB away inverted from RG-6 slope
Slope	dB	7 dB
Noise Figure	dB	8 max @ 2150 MHz
Distortion (2) Tones	dBm	+9 composite
Output per Tone	dBm	+6
IM2 & IM3	dBc	< -45
Isolation Satellite to Satellite	dB	> 45 dB
Input Return Loss	dB	>10
Output Return Loss	dB	>10
Number of Inputs	Each	6 SCTE Indoor F
Number of Outputs	Each	6 SCTE Indoor F
Non harmonic spurious emissions	dBm	-80 max
DC Input Voltage	VDC	10 to 29 from SMPS Power Adaptor
Max Power Consumption @ 12V	mA	475 (max.)
DC Power pass (any Output to Input)	mA	1000 (min)
DC block on Output ports		does NOT pass DC to output ports
Power Supply LED	color	Green with external supply
Lightning Surge Protection		32 V p-p, max shunt current 200 A; 8 msec, 1.5 kW max dissipation
Ground Screws	Each	2 Green Screw Ground pt.
Dimensions L x W x H	inch	3.5 x 8.75 x 0.9
Environmental Requirements		Indoor Only
Operating Temperature range	°C	-34 to + 60
Storage Temperature	°C	-50 to + 85
Humidity		Shall survive 95% relative humidity over operating temperature