

DBS / ATSC AMPLIFIERS

LAL204A (4) INPUT AMPLIFIER

SITUATION

DBS signals need amplification to a constant level over a wide signal level input range.

SOLUTION

Model LAL204A provides (4) automatic gain controlled outputs of **-20 dBm @ 2150 MHz** with 32 equal input transponders. The LED indicators **Blink RED** @ inputs below **-48 dBm**. LED indicators turn **Green** with inputs between **-22 dBm to -48 dBm**. LED indicators turn **RED** with inputs greater than **-22 dBm**.

RELATED CONSIDERATIONS

Amplifiers may be coax line powered from either their RF input or output connectors.

Input (4) includes wide forward bandwidth and passive sub-band return for use with CATV signals.

FEATURES

- ATSC / Ka/Ku bandwidth 54 to 2150 MHz
- DC to DC Power Supply 12 to 29 VDC Input
- DC & 22 kHz/DiSeQc passing low insertion
- Indoor / Outdoor case die cast aluminum
- LED Signal Input Metering Red & Green LEDs

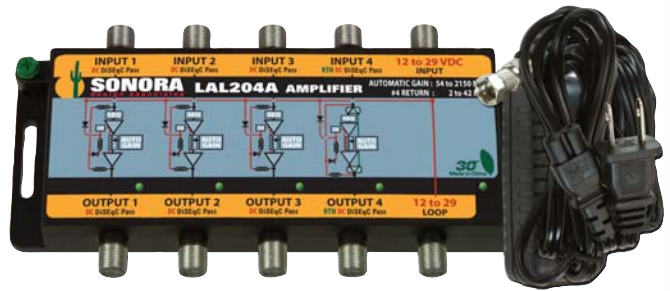
APPLICATION NOTES

Model LAL204A amplifiers may be spaced at (5) floor increments when used with model SDMST416, SDMST412, SD MST409 and SD MST406 tap per floor.

The trunk level is indicated on the left and the tap level output is indicated on the right. The levels are at 250 MHz / 2150 MHz to indicate slope.

Automatic gain simplifies the design and the installation knowing that the amplifier output is -20 dBm when the LED lights are Green.

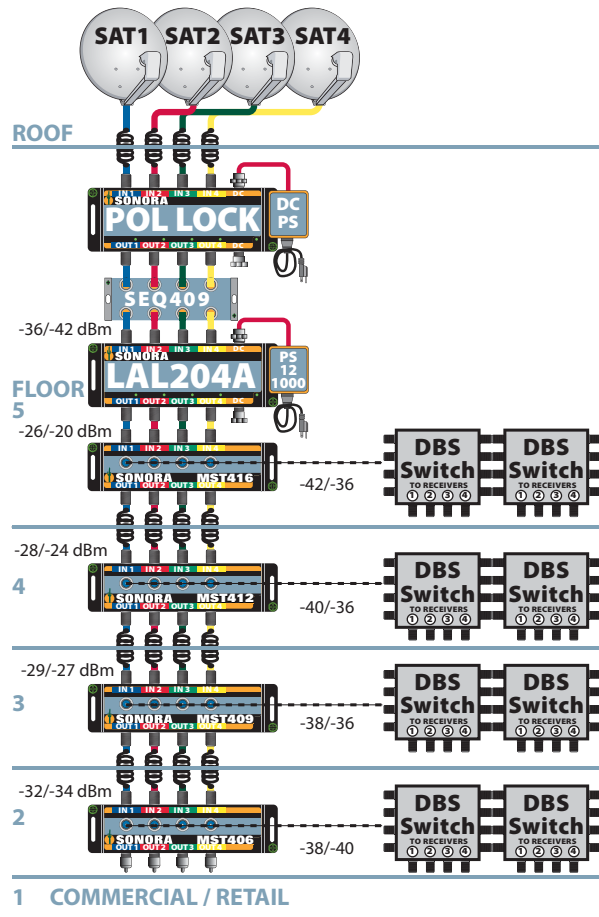
LAL204A



LAL204A-T

DESCRIPTION

Indoor / Outdoor 54 to 2150 MHz DBS line powered amplifiers with automatic gain and optional external powering.



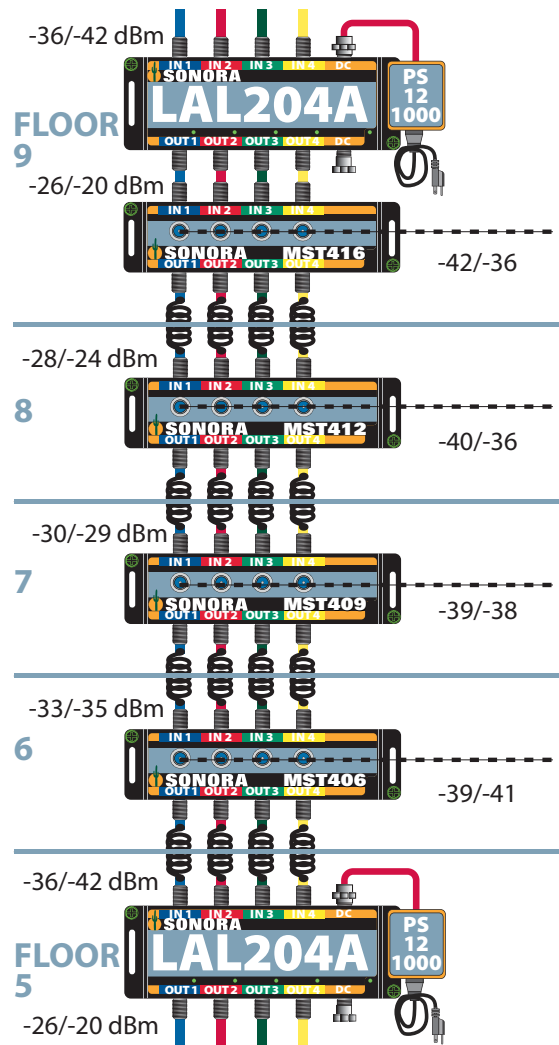
Tap per Floor, 20 Feet / Floor 4 Floor Amp, 22 dB Spacing

The LAL204A automatic gain amplifiers are located at (4) floor (22) dB spacing. Lower tap values provide the highest tap output per floor. We measured the loss from amplifier output to each tap output using 20 feet of RG-6 between devices.

SD MST4xx / Floor, LAL204A 22 dB Spacing

MHz/ dB	54	250	950	2150
Amp to MST616 Out	-16	-16	-16	-16
Amp to MST612 Out	-13	-14	-14	-16
Amp to MST609 Out	-12	-13	-15	-18
Amp to MST606 Out	-12	-13	-16	-21
Amp 1 OUT to 2	-9	-10	-13	-22

Signal levels at 250 MHz and 2150 MHz are annotated at the tap inputs and outputs.



SPECIFICATIONS

Specifications.....Typical QC Limit

Gain (at inputs below AGC)

54 MHz (Input 5)	15 dB	14 dB
250 MHz	18 dB	17 dB
950 MHz	21 dB	20 dB
1450 MHz	25 dB	24 dB
2150 MHz	31 dB	30 dB

Maximum Input (32 equal transponders)..... -22 dBm

Automatic Gain Output (32 Equal Transponders) -20 dBm

Input Window LED GREEN	-22 to -48 dBm
Low Input (full gain) LED Blinking Red	< -48 dBm
High Input LED Solid RED	> -22 dBm

Two Tone IM3

@ -7 dBm Output	-45 dBc
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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 (@ 2150 MHz)	6 dB	7 dB

Power Specifications

Voltage	12 to 29 VDC
Current	400 mA @ 12 V 160 mA @ 29

Environmental Specifications

Operating Environment:	Indoor/Outdoor
Ambient Temperature	-30° C to +70° C

Mechanical Specifications LAL204A

Dimensions	6.75" x 3.5" x 7/8"
(-T with 12V)	NO Supply
Weight	2.2 lb (1 kg) 0.9 lb (0.4 kg)
Master Carton QTY	(12 units) (24 units)
Master Carton Size	10" x 15" x 13" 10" x 16" x 9"
Master Carton Weight	26 lb (11.8 kg) 21 lb. (9.4 kg)