

Outdoor Tower Mounted LSI-2L High Power Amplifier for MMDS Booster-Repeater Applications



The Loma Scientific International LSI-2L Tower Mounted Amplifier (TMA) provides MMDS operators with a low cost, yet high performance solution for extending the useful range of their broadcast signals. The TMA amplifies and helps to redirect MMDS programming to capture additional subscribers in metropolitan or rural areas blocked or shadowed by man made or natural obstacles and to recover otherwise lost revenue.

A receive antenna, LNA, coaxial cable, TMA and transmit antenna together form a complete On-channel Repeater (OCR) system that is easy to install and ready to rebroadcast the MMDS origination programming.

Depending on input signal quality, transmit antenna gain and secondary receive antenna gain, useful repeater ranges on the order of an additional three to five miles can be reached. Refer to the LSI-2L "Channel Loading Chart"

for the maximum power per channel based upon your specific number of channels.

The Loma Scientific International family of TMAs is economical and offers Class-A-linear or Ultra-linear power amplification in the 2.5 to 2.7GHz band. Specifically, the LSI-2L is a linearized version of the Class-A linear LSI-2. The pre-distortion linearizer incorporated in the front end of the RF power amplifier gives the final devices a performance equivalent to an amplifier with 5 to 6dB of added headroom. "Headroom" is a catch phrase that describes the difference between an amplifier's operating point and its maximum operating point. Alternatively, headroom can be used to compare a better amplifier to one with less capability. For example at (10) channels, the LSI-2L provides up to 0.2W peak visual power per channel with a P-1dB rating of only +41dBm, whereas an equivalent Class-A TMA would need to be rated at a P-1dB of at least +46dBm. The LSI-2L internal power amplifier provides the added headroom at only 5Amps DC (less heat) and comes in a much smaller package than would a Class-A (only) 50Watt amplifier that consumes 18Amps DC (dissipates more heat) and would necessitate a larger package size. The cost is also substantially reduced in the equivalent Ultra-linear design.

Features

- Built-in Linearizer – Very High Intercept Point (1kW)
- Broadband Gain
- Outdoor Rugged Enclosure (white painted aluminum)
- 120/220 VAC Power

Options

- Complete Accessories Kit (LNA, antennas and cable)
- Bandpass Filter
- Steel Enclosure



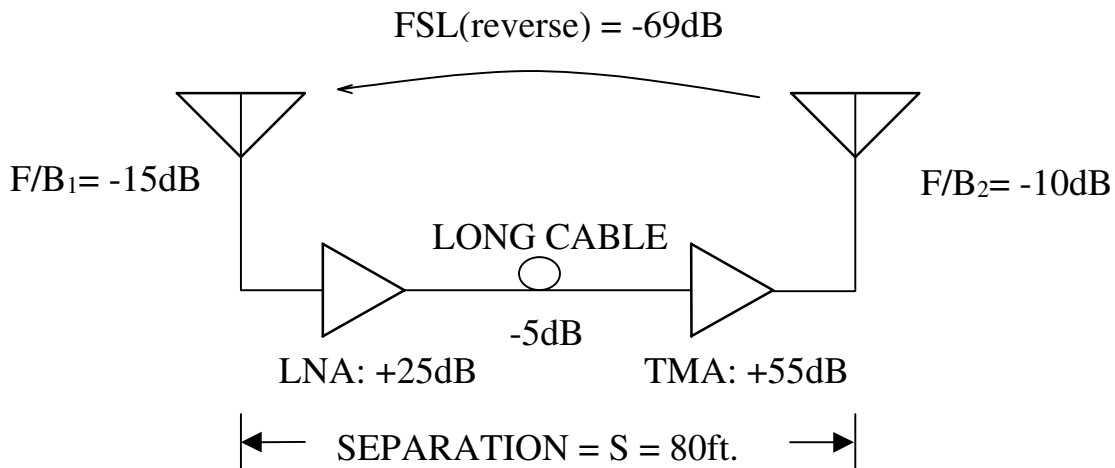
LSI-2L High Power TMA Specifications *

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|--|----------------------------------|----------|
| Frequency | 2.5~2.7GHz | Note [1] |
| Power Output (1dB compression point) | +41dBm | |
| 3 rd Order Intercept Point | +60dBm | |
| RF Output Level per Channel (CTB<-55dBc) | | |
| 8 Channels (loading) | +24dBm/Ch Max. | |
| 16 Channels " | +21dBm/Ch Max. | |
| 31 Channels " | +18dBm/Ch Max. | |
| Noise Figure | 1.6dB Max. | |
| Linear Gain (without bandpass filter) | 55dB +/-2dB | |
| Gain Flatness | +/-0.5dB | |
| Gain Change over Temperature | +/-0.5dB | |
| | | |
| VSWR (input/output) | 1.4:1/1.3:1 | |
| RF Connectors (input and output) | 50-Ohm Type-N Female | |
| AC Power | 120/220VAC, < 85VA | Note [2] |
| Power Cord Connector | NEMA 5-15P/Europlug | Note [2] |
| Operating Temperature | 0°C to +45°C | |
| Operating Humidity | 95% Non-condensing | |
| Operating Altitude | Up to 8,000 feet above Sea Level | |
| Size (NEMA-4 case – less connectors) | 20.0" x 16.0" x 6.0" | |
| Weight (with aluminum case) | 25lbs. | |

* Specifications subject to change without notice

Notes

- [1] Other frequencies in the 2~3GHz range are available upon request.
- [2] Specify AC voltage and country/cord cap at time of order.



Typical OCR System Block Diagram (negligible feedback with crosspolarized antennas)
 Note: Forward Gain (less antennas) is approximately 75dB