RLX-500 Amplifier

RadioLinx amplifiers are automatic gain control compensated for constant power output bi-directional amplification.

How to Contact Us: Sales and Support

All ProSoft Technology products are backed with unlimited technical support. Contact our worldwide Technical Support team directly by phone or email:

Asia Pacific
+603.7724.2080, asiapc@prosoft-technology.com.
Languages spoken include: Chinese, Japanese, English

Europe
+33 (0) 5.34.36.87.20, europe@prosoft-technology.com
Languages spoken include: French, English

North America
+1.661.716.5100, support@prosoft-technology.com
Languages spoken include: English, Spanish

Latin America (Sales only)
+1.281.298.9109, latinam@prosoft-technology.com
Languages spoken include: Spanish, English

Brasil
+55-11.5084.5178, eduardo@prosoft-technology.com
Languages spoken include: Portuguese, English

RLX-500 Amplifier

The RadioLinx RLX-500 Amplifier series are Automatic Gain Control (AGC) compensated for constant power output bi-directional amplification. This provides constant maximum output power at the antenna over a wide RF input range. An antenna amplifier significantly improves the link reliability and operating range by low noise amplification in receive mode, and spectrally clean power amplification in transmit mode. This amplifier has unique internal 3-pole filtering and AGC in both the Tx and Rx paths. This combination provides exceptional cosite performance in high traffic areas.

The bi-directional amplifier may be needed if an application requires long lengths of coaxial cable to reach the antenna. The amplifier is designed to put maximum power right at the antenna and boost the received signal primarily to overcome cable loss and improve overall receiver signal quality. Only the RLX-500 amplifier has been specifically FCC approved for use with the RadioLinx RLX-IH Hotspot radio.

Features and Benefits

- High dynamic range
- 3 poles of high Q filtering in both Tx and Rx paths
- Extremely low transmit harmonics
- Transmit AGC
- Low receive noise figure
- Internal lightning protection
- Rx high level AGC (preserves noise figure while providing maximum input dynamic range even with high inband RF levels
- Tx/Rx LED indicator
- Automatically switches between Tx/Rx
- Rugged weatherproof housing

Specifications

Frequency Coverage	2.44 GHz +/-50 MHz
Supply Voltage	+12 to 15 VDC
Receive Gain	20 dB +/- 2dB
Receive High Level AGC Gain	Maintains receive chain linearity when receive. Pin > -12 dBm by automatically reducing gain. High level receive gain - 4 dB +/- 2dB
Noise Figure	4.5 dB
Tx to Rx Switching	2 µSec
IP3 (Input)	+13 dBm
Transmit AGC Gain	Automatically adjusts to specified power output loop 3 dB bandwidth = 150 KHz
RF Input Power for Turn On	> +2 dBm to +20 dBm

Harmonic Rejection	> 70 dBc @ Power Out
Supply Current	< 900 mA
Rx to Tx Switching	2 µSec
Maximum Ratings	Pin (Radio port) + 30 dBm
	Pin (Antenna port) + 27 dBm
System Filtering	An internal 3-pole filter in both Rx and Tx paths provides superior cosite performance achieving maximum dynamic range and low harmonic distortion
RF Connector Size	2.53" x 5.90" x1.45" (N type jack connectors)
Weight	< 15 oz.
Chassis	Watertight diecast aluminum with black powder paint. Internal PCB is sealed via conformal coating to enhance weather protection.
Indicator LED	Green LED - Rx mode, Red LED - Tx mode.
Lightning Suppression	¼ wavelength short

Installation Guidelines

Each RLX-500 amplifier is equipped with internal ¼ wave technology lightning protection. However, for additional protection, the RLX-500 kit provides additional lightning arrestors between the antenna and the RLX-500 amplifier and between the radio and the RLX-500 DC injector. This arrestor should be grounded properly with a heavy gauge ground 12AWG wire.

1 The RLX-500 amplification device is a RadioLinx subassembly and its use has been FCC approved for use in an RF system. The RLX-500 kit has been pre-designed to meet FCC approval and use under the following guidelines:
2 The bi-directional amplifier has been designed to operate with a cable loss between the radio and amplifier of 6.5 dB to 20 dB. Within this range, the output of the amplifier will always be ½ W regardless of the input level.
3 The amplifier may not be used with less than 6.5 dB cable loss.
4 Use of the amplifier outside of these guidelines will result in violation of 47 CFR Part 15 FCC Rules, under which the equipment has been authorized.
5 With more than 20 dB of coaxial cable loss, the amplifier will not turn on.
6 Maximum antenna transmit gain allowed for use with the RLX-500 amplifier is 15 dBi for point-to-point paths and 9 dBi for point-to-multipoint paths.

Kit Contents

The RLX-500 Amplifier Kit includes:

Item	Description	Quantity
1	RLX-500 Amplifier (outdoor rated)	1
2	RLX-500 DC Injector (indoor rated)	1
3	12 VDC wall mount	1
4	Aluminum "L" Pole mounting bracket	1
5	¼-inch stainless steel pan head screws	2

Item	Description	Quantity
6	2.5 -inch stainless steel U bolt kit with hardware	1
7	Strips of coaxial seal tape	2
8	2 foot LMR-195 RA RP SMA plug to RA N plug Cable	1
9	3 foot LMR-195 RA N plug to N plug cable	2
10	N jack to N jack bulkhead lightning protector	1
11	N jack to N jack in-line lightning protector	1
12	Superflex 400 N plug to N plug extension cable (length varies with part number)	1

Important Note:

The kit items shown in the table are only included when you order the entire RLX-500 kit. The kit will have a part number of RLX-500-XXX. If you only order part number RLX-500, you only receive items 1 through 7.

Additional Products

ProSoft Technology offers a full complement of hardware and software solutions for a wide variety of industrial communication platforms.

Visit our web site at http://www.prosoft-technology.com for a complete list of products.

Ordering Information

To order this product, please use the following:

RLX-500	500 mW Power Amplifier with DC Injector
RLX-500-050	500 mW Power Amplifier Kit with 50 ft extension cable
RLX-500-075	500 mW Power Amplifier Kit with 75 ft extension cable
RLX-500-100	500 mW Power Amplifier Kit with 100 ft extension cable
RLX-500-150	500 mW Power Amplifier Kit with 150 ft extension cable
RLX-500-200	500 mW Power Amplifier Kit with 200 ft extension cable

To place an order, please contact your local ProSoft Technology distributor. For a list of ProSoft distributors near you, go to http://www.prosoft-technology.com

Distributors:
Place your order by email or fax to:

North American / Latin American / Asia Pacific
orders@prosoft-technology.com,
fax to +1 661.716.5101

Europe
europe@prosoft-technology.com,
fax to +33 (0) 5.61.78.40.52