550L POWER AMPLIFIER

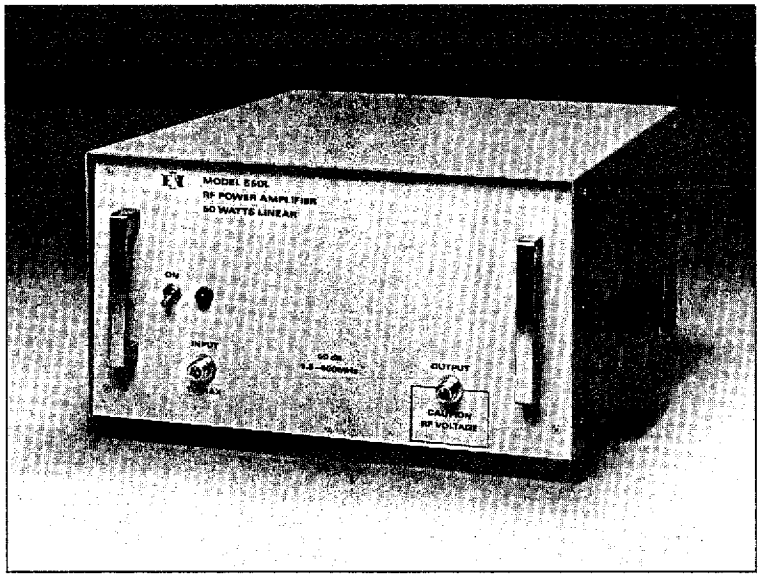
A Broadband, High Frequency Power Source For Communications, Industrial, & Lab Applications

- **1.5-400MHz Freq. Range**
- **50W Linear Power Output**
- **100W Pulse & CW**
- **Instantaneous Bandwidth**
- **Solid State Reliability**

The Model 550L RF Amplifier is an air-cooled source of power for RF transmission, RFI/EMI susceptibility testing, laser modulation, power meter calibration, NMR spectroscopy, and general laboratory use. Featuring an unusually wide frequency range, Class A linearity, and solid state reliability, the 550L amplifies AM, FM, SSB, pulse, or other complex modulated signals with low harmonic and intermodulation distortion.

FLEXIBLE OPERATION

The 550L produces 50 Watts of Class A linear power over the frequency range of 1.5 to 400MHz. Up to 100 Watts maximum CW and pulse power is available from 1.5 to 220MHz. With a gain of 50dB (±1.5dB), the amplifier can be driven to full output by virtually all commercially available signal and sweep generators. Although specified for 1.5 to 400MHz operation, the 550L is typically usable from 1 to 420MHz with somewhat reduced output power and linearity.



SOLID STATE DESIGN

ENI's solid state amplifiers are more reliable, more compact, and safer to service than their vacuum tube counterparts. The 550L measures 8.5"H x 15.5"W x 19.75"D and can be easily mounted in a system cabinet or standard 19-inch rack (adaptors provided). The high cost of replacement tubes has been totally eliminated, along with the need for pulse pre-conditioning and periodic retuning. No tuning or other form of adjustment is required other than the selection of the correct power supply input voltage.

Maintenance and service are facilitated by the use of plug-in modules and integrated circuits. An integral power supply permits operation directly from a 115/230V single phase AC power line. Both the forced-air cooling system and the low-noise power supply are conservatively rated to permit operation over a wide range of temperature and AC line conditions. Other features includes a noise figure of 12dB maximum and output VSWR of less than 2.5:1.

HIGH RELIABILITY

Complete stability and instantaneous failsafe provisions offer absolute protection from transient or overload conditions. The 550L will withstand up to 13dBm overdrive provided that the input RF level does not exceed 1 Volt RMS. In the event of load mismatch, the amplifier will continuously withstand 100% reflected power without damage.

FAIL-SOFT CAPABILITY

ENI's hybrid combining of power amplifier modules effectively prevents a total loss of power by combining the output of a number of transistors to achieve the total output. In the unlikely event that any individual transistor should fail to operate, the 550L will continue to function at reduced power.

The versatile 550L RF Amplifier is backed by ENI's one-year warranty and worldwide network of technical support and service. For a wide variety of communications, industrial, and laboratory applications, the Model 550L is a rugged and reliable source of linear RF power.

550L
SPECIFICATIONS

Frequency Coverage
1.5-400MHz

Gain
50dB

Gain Variation
±1.5dB

Maximum Class A Linear Power Output
50 Watts

Maximum Power Output
100 Watts CW & Pulse, 1.5-220MHz

AC Power Requirements
115 VAC ±8%, at 12 A or less;
230 VAC ±8%, at 6 A or less;
single phase 50/60Hz

RF Input
Type N

RF Output
Type N

Harmonic Distortion
All harmonics more than 23dB below fundamental at rated linear power output; lower at reduced power.

Typical Third Order Intercept Point
+59dBm

Stability
Continuous operation into any load or source impedance.

Input/Output Impedance
50 Ω

Input VSWR
1.8:1 maximum

Output VSWR
2.5:1 maximum

Noise Figure
12dB maximum

Protection
Unit will withstand a +13dBm input signal (1.0 Volt RMS) for all output load conditions, including short and open circuit loads.

Cooling System
Forced air

Operating Temperature
0 to 45° C

Front Panel Controls & Connectors
AC On, RF Input, RF Output

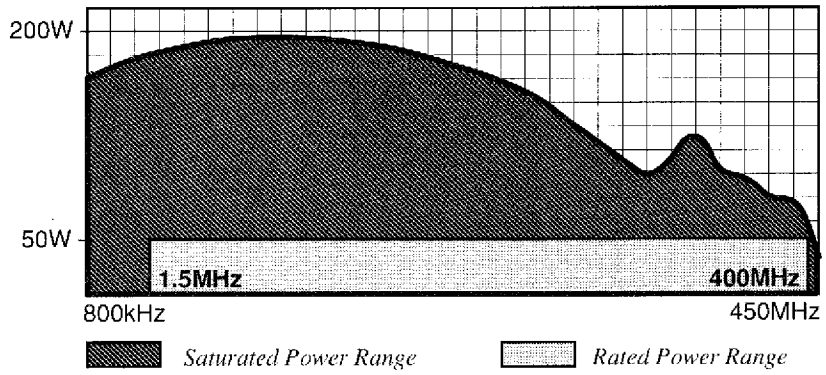
Rear Panel Connector
AC line

Size
8.5" H x 15.5" W x 19.75" D
(39.4 x 50.2 x 21.6 cm)

Weight
59 lbs *(26.8 kg)*

Rack Mounting
19-inch adaptors provided.

550L Typical Extended Performance Chart



Note: When working in the extended range, care must be taken to operate into a nominal 50Ω load. Operation outside of the rated power range may affect other performance characteristics; consult with the ENI factory beforehand.

ENI™

WORLD HEADQUARTERS
ENI
A Division of Astec America, Inc.
100 Highpower Road, Rochester NY 14623
Tel: (716) 427-8300
Fax: (716) 427-7839

SALES & SERVICE OFFICES
- **Santa Clara, CA** Tel: (408) 727-0993; Fax: (408) 727-1352
- **Welwyn Garden City, UK** Tel: (0707) 371558; Fax: (0707) 339286
- **Stuttgart, West Germany** Tel: 7156-2 10 95; Fax: 7156-4 93 72
- **Tokyo, Japan** Tel: (81) 0425 229011; Fax: (81) 0425 222636
- **Osaka, Japan** Tel: (06) 367-0823; Fax: (06) 367-0827

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