



# A-300 POWER AMPLIFIER

A Compact,  
Versatile Amplifier  
For Industrial, Lab,  
& Communications  
Applications,  
Featuring:

- 300 Watts Linear Power Output
- Up to 500W Pulse & CW
- 300kHz-35MHz Frequency Range
- Forced-Air Cooling
- Solid State Reliability

The Model A-300 Solid State Amplifier is an air-cooled source of power for HF transmitters, nuclear accelerators, plasma equipment, RFI/EMI testing, and other applications. Featuring rugged solid state design, metered output, and stable operation, the A-300 reflects ENI's ongoing commitment to provide broadband amplifiers of the highest quality and durability.

## HIGH FREQUENCY POWER

The A-300 produces a Class A linear power output of 300 Watts over the frequency range of 300kHz to 35MHz with low harmonic and intermodulation distortion. Up to 500 Watts Pulse and CW power can also be produced. Extended range performance is possible with somewhat reduced output power and linearity. The unit amplifies inputs of AM, FM, SSB, TV, and complex modulations limited only by their peak input and bandwidth, with minimum distortion.

Volts RMS) for all output load conditions, including short and open circuit loads. Output RF voltage levels, as well as power output into the load, are monitored by the front panel meter. The amplifier is drive-compatible with most signal generators, RF synthesizers, and swept signal sources, and will accurately reproduce all waveforms within its output and bandwidth capability.

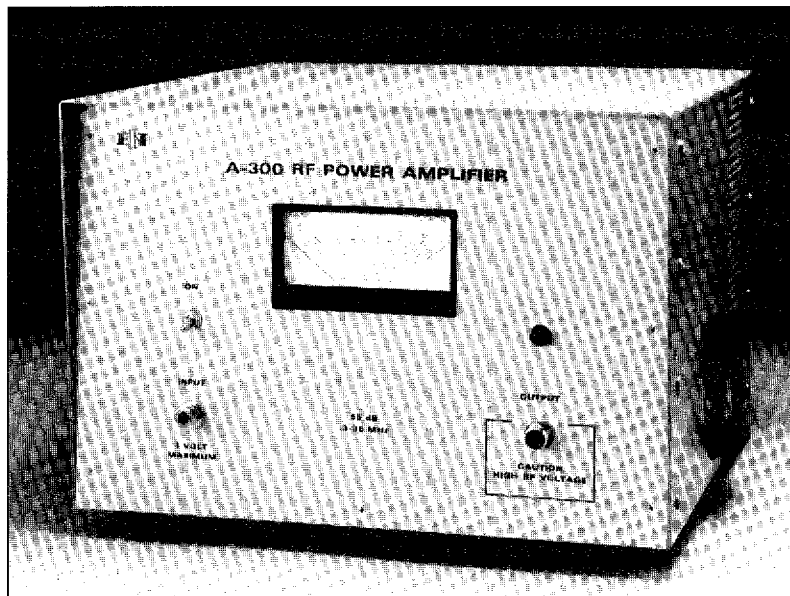
## FAIL-SOFT CAPABILITY

A high degree of operational reliability is assured in the A-300 through the use of conservatively rated solid state components. ENI's hybrid combining of power amplifier modules couples the outputs of a number of transistors to produce the total output, and effectively prevents a total loss of power. Should any individual transistor fail to operate, the A-300 will continue to function at reduced power.

## SOLID STATE DESIGN

ENI's solid state amplifiers are more reliable, more compact, and easier to service than their vacuum tube counterparts. The high cost of replacement tubes has been totally eliminated, along with the need for periodic retuning associated with tubes. Maintenance and service are facilitated by the use of plug-in modules and integrated circuits.

Both the integral power supply and the forced-air cooling system are conservatively designed to permit operation over a wide range of temperature and AC line conditions. The A-300 weighs only 89 lbs, and measures 12.25 x 17.1 x 19.75 inches. The amplifier is packaged for bench mounting, and is shipped with adaptors for 19-inch rack-mounting.



The A-300 amplifies the output of the signal source by 55dB ( $\pm 1$ dB) and provides stable operation into any load or source impedance. The amplifier will also withstand an input signal of +16dBm (1.5

The A-300 Solid State Amplifier is backed by ENI's one-year warranty and worldwide network of service and technical support. Rugged, compact, and reliable, the A-300 is an excellent source of RF power for a wide variety of applications.

# A-300 SPECIFICATIONS

## Frequency Coverage

300kHz to 35MHz

## Gain

55dB

## Gain Variation

± 1dB

## Maximum Class A Linear Power Output

300 Watts

## Maximum Pulse & CW Output

500 Watts

## Harmonic Distortion

All harmonics more than 25dB below main signal at 250W output; lower at reduced output.

## Drive Source Requirements

Any signal generator, function generator, or oscillator capable of 1 milliwatt of output into 50Ω.

## Input/Output Impedance

50Ω

## Input VSWR

1.5:1 Maximum

## Output VSWR

2.0:1 Maximum

## Power Requirements

115 VAC +6%/-12%, 50-60Hz, 25A;  
230 VAC +6%/-12%, 50-60Hz, 12.5A

## Protection

Unit will withstand a +16dBm input signal (1.5 Volts RMS) for all output load conditions, including short and open circuit loads.

## Power Output Meter

Average reading voltmeter calibrated in RMS volts (0-175V) for a sine wave; with an accuracy of ±4% of full scale; also calibrated in Watts into 50 Ohms (0-600 Watts)

## Typical 3rd Order Intermodulation Point

+64dBm

## Noise Figure

10dB maximum

## Stability

Continuous operation into any load or source impedance.

## Front Panel Controls

AC Power On/Off

## Front Panel Indicators

Power Meter

AC On

## Front Panel Connections

RF Input & Output

## Operating Temperature

0° to 40°C

## Cooling System

Forced air

## Size

12.25" H x 17.1" W x 19.75" D  
(31 x 43.5 x 50.2 cm)

## Weight

89 lbs (40.4 kg)

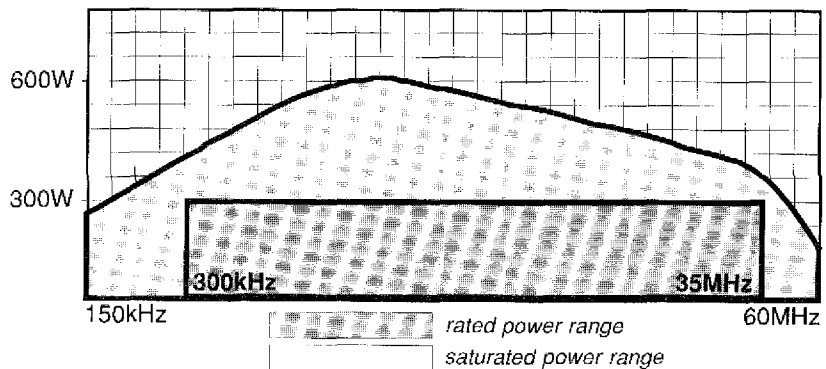
## Input/Output Connectors

Type N

## Rack Mounting

19-inch adaptors provided

## A-300 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 normal range may affect other performance characteristics; check with the ENI factory beforehand.



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