

HPA-100

VHF-UHF High Power Amplifier



Elbit Systems of America HP-100 VHF-UHF High Power Amplifier provides reliable, continuous duty cycle communications for existing and future shipboards, fixed, and transportable systems. Providing up to 100 watts PEP and an average power output over entire 300 to 400 MHz frequency range, the HPA-100 is suited for all voice and data environments. The HPA-100 uses a real-time microcontroller to handle all system operation, protection, and management functions. The unit may be manually or remotely controlled using a four key, front panel keypad and display, or a rear panel serial remote communication port.

Features:

- 30MHz to 400 MHz frequency coverage, 100 watt PEP
- Supports SINCGARS, HQI, HQII, and SATURN ECCM waveforms
- Remotely adjustable power output for DAMA compliance
- Supports AM, FM, FSK, PSK, and DAMA waveforms
- Remote control via high speed serial asynchronous interface
- MTTR < 0.5 hours
- Built-In-Test (BIT) to the SRU Level

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Technical Description

The unit is enclosed in an EMI and RFI shielded, 3.5 inch high, 19 inch wide rack mount chassis. HPA-100 units can be stacked vertically without additional separation. The HPA-100 is designed for continuous transmit and uses forced air cooling by internal fans. The overall inlet to outlet air temperature rise is less than 14°C. The HPA-100 is powered from its internal power supply operating from a 115 AC power source. The maximum AC current consumption is less than 600VA.

The HPA-100 provides the user with a "sleep" mode. Fast switching filter bank designed to operate in Frequency Hopping modes. Built-In-Test functions for easy troubleshooting. The unit is provided with VSWR protection, over-temperature protection, and amplifier system monitoring, to ensure reliable, long-term performance. The unit's modular design provides a MTTR of less than 30 minutes.

Physical Description

Height:	3.25 in.
Width:	19 in.
Depth:	20 in.
Weight:	35 lbs.
Finish:	Corrosion resistant
Depth:	12.0 in.
Weight:	<7 lbs.
Finish:	Black Anodize

Electrical Specifications

Frequency Range	30 to 400 MHz
Spurious	<-70 dBc
Harmonics 3rd <	-45 dBc, all others <-50 dBc 100 watts
Duty Cycle	Continuous Transmit
Load Impedance	50 Ω
RF Input Power	-20 dBm to +20 dBm
Primary Power	- 115 VAC, 1 Phase, 47 to 63 Hz, MIL-STD 1399 Compatible
Remote Control Interface	Serial Asynchronous
RF Output Power	(Variable in 0.5 db Steps) Operates

into 4:1 max. Forward Power
Reduced at Max VSWR

VSWR

Operates into 4:1 max. Forward
Power Reduced at Max VSWR

Environment Specifications

Temperature Operating: 0° to 50°C

Non- Operating Altitude: -40° to +70°C

Non- Operating: 15,000 ft.

Humidity: 95%, Non-Condensing

Vibration: MIL-STD-167-1, Type 1

Finish: MIL-S-901D, Grade A Class 1



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