



INSTALLING
RELIABILITY



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HIGH POWER AMPLIFIER

500 W TRI-BAND OUTDOOR HPA 2500B

ND SATCOM has been a supplier to the SatCom industry for over three decades and has an excellent reputation for consistently developing high-end satellite communications products for customers in more than 130 countries worldwide.

As a system integrator for global broadcasters and armed forces, we design both indoor and outdoor HPAs whose modular design is compact, reliable, service-friendly and powerful. Our products are designed to adapt to your operational needs, providing highly secure, customised solutions that have established us as a trusted and reliable partner in satellite communications.

The HPA 2500B delivers unmatched TWT durability and reliability through our intelligent high-tech power supply unit. The modular construction ensures easy servicing. The high voltage section is potted and all other electrical components are coated to protect against humidity and dust.

KEY FEATURES

- **Unmatched RF performance**
- **High-tech power supply unit for highly reliable operation**
- **Integrated power factor correction**
- **Low power consumption (max. 1750 W)**
- **Integrated attenuator (35 dB range)**
- **Compliant to MIL-STD**

OPTIONS

- Integrated X-Band Linearizer
- Integrated TRI-Band Block Up Converter
- Colour RAL 6031 or RAL 9016

TECHNICAL SPECIFICATIONS – HPA 2500B

RF SPECIFICATIONS

Frequency Bands	C-Band	X-Band	Ku-Band
Frequency Range	5.85 - 6.425 GHz	7.9 - 8.4 GHz	13.75 - 14.50 GHz
Flange Power	> 325 W, > 55.1 dBm	> 420 W, > 56.2 dBm	> 380 W, > 55.8 dBm
TWT Power	500 W Tube		
Gain at Rated Power	> 70 dB		
Small Signal Gain (10 dB OBO)	> 73 dB		
Gain Adjust	> 0 - 35 dB, min. step size 0.1 dB		
Gain Stability	< ± 0.25 dB/ $^{\circ}$ C/24 hrs after 30 min warm-up		
Gain Slope	< 0.04 dB/MHz		
Gain Variation	< 1.0 dB/in any 80 MHz, < 2.5 dB/in any 500 MHz, < 7 dB/full band		
Group Delay (in any 40 MHz)	< 0.01 ns/MHz linear, < 0.005 ns/MHz ² parabolic, < 0.5 ns ripple		
Intermodulation (two equal carriers at total output power)	Without Linearizer HPA 2500B: < -20 dBc at 6 dB below rated power With Linearizer HPA 2500BL: < -30 dBc at 4 dB below rated power (only X-Band)		
AM/PM Conversion	< 2.5 $^{\circ}$ /dB at 6 dB below rated power < 6 $^{\circ}$ /dB at rated output power		
Phase Noise	Meets IESS 308/309		
Noise and Spurious Emissions	< -60 dBW/4 kHz (4 - 20 GHz)		
Harmonic Output Suppression	< -3 dBc at rated output	< -10 dBc at rated output	< -12 dBc at rated output

PHYSICAL

Input RF Connector	N-Jack Input, N-Jack Testport
Output RF Connector	WRD 580D28 Waveguide Output, grooved, threaded UNC 6/32
Dimensions (L x W x D)	294 x 233 x 649 mm
Weight	< 36 kg/79 lbs
Cooling	Forced air min. 200 m ³ /h

MONITOR & CONTROL

Serial Remote Interface	PT 851-00R12-10S50 RS422/RS485
Alarm/Mute Interface	PT 851-00R12-10S50
Parallel Remote Interface	PT 851-00R19-10S50

GENERAL

Main Power Connector	Binder 694 99 0711 00 05
Noise Level (cooling fan)	< 65 dBA measured in 1 m distance
Prime Power	115 to 240 VAC / 50-60 Hz, single phase
Power Consumption	< 1750 W max.
CE Directive	73/23/EEC, 92/31/EEC, 89/336/EEC and 1999/5/EC

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-40 $^{\circ}$ C to +50 $^{\circ}$ C
Humidity	95 % condensing at 40 $^{\circ}$ C
Shock and Vibration	Compliant to MIL-STD 810F

HEADQUARTERS

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