



## 500W1000B

- 500 Watts CW
- 80MHz-1000MHz



### Features

The Model 500W1000B is a self-contained, air-cooled, broadband, completely solid-state amplifier designed for applications where instantaneous bandwidth and high gain are required. Push-pull circuitry is utilized in all high power stages in the interest of lowering distortion and improving stability. The Model 500W1000B, when used with an RF sweep generator, will provide a minimum of 500 watts of RF power.

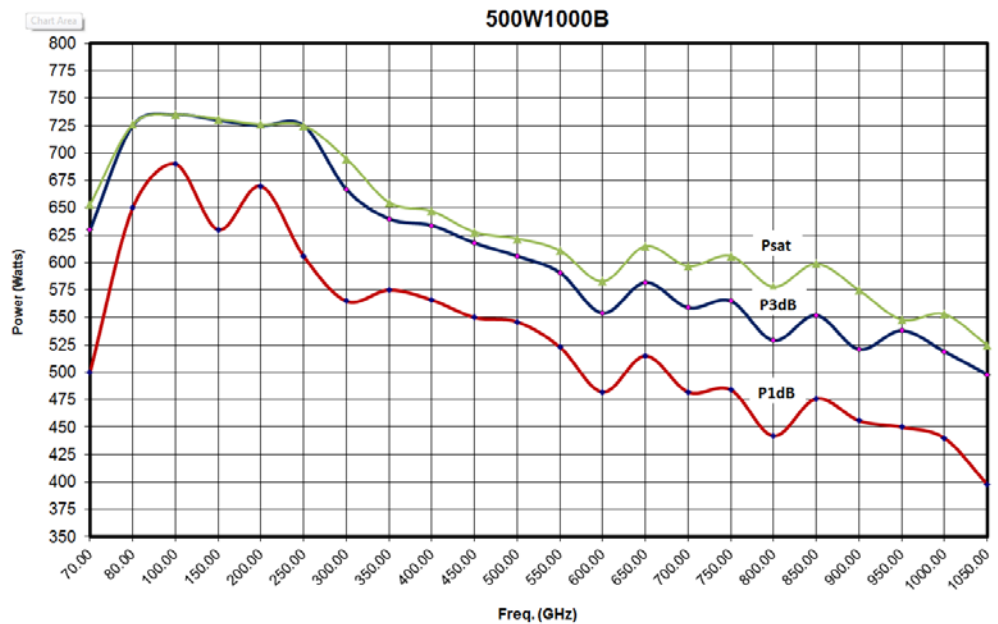
The Model 500W1000B is equipped with a Digital Control Panel (DCP) which provides both local and remote control of the amplifier. The DCP uses a color LCD touch screen and a single rotary knob to offer status reporting and control capability. The display provides operational presentation of Forward Power and Reflected Power plus amplifier status. Special features include a gain control, internal automatic level control (ALC) with front panel control of the ALC threshold, forward and reflective RF sample ports for precise power measurements and RF output level

protection. Protection is provided by DC current level sensing of all output stages.

All amplifier control functions and status indications are available remotely in GPIB/IEEE-488 format and RS-232 hardware and fiber optic, USB and Ethernet. The buss interface connector is located on the back panel and positive control of local or remote operation is assured by a keylock on the front panel of the amplifier.

Housed in a stylish contemporary benchtop enclosure, the Model 500W1000B provides readily available RF power for typical applications such as RF susceptibility testing, antenna and component testing, watt meter calibration, and as a driver for frequency multipliers and higher power amplifiers. A safety interlock can be implemented via a rear panel connector.

The export classification for this equipment is EAR99. These commodities, technology or software are controlled for export in accordance with the U.S. Export Administration Regulations. Diversion contrary to U.S. law is prohibited.



AR RF/Microwave  
Instrumentation  
160 School House Rd  
Souderton, PA 18964  
215-723-8181

For an applications engineer call: 800.933.8181

www.arworld.us



# 500W1000B

- 500 Watts CW
- 80MHz–1000MHz

## Specifications

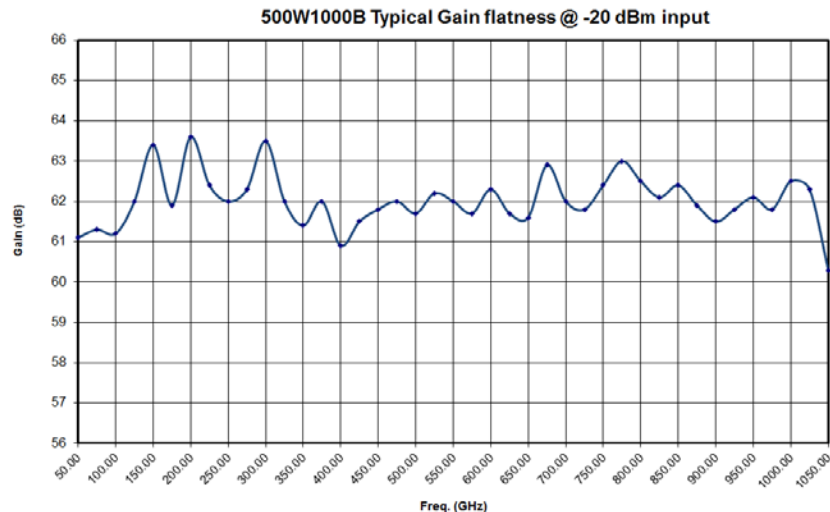
**RATED OUTPUT POWER:** 500 watts minimum  
**INPUT FOR RATED OUTPUT:** 1.0 milliwatt maximum  
**POWER OUTPUT @ 3 dB compression:**  
 Nominal 575 watts, 550 watts min up to 500 MHz;  
 475 watts min from 500 to 1000 MHz  
**POWER OUTPUT @ 1 dB compression:**  
 Nominal 500 watts, 475 watts min up to 500 MHz;  
 400 watts min from 500 to 1000 MHz  
**FLATNESS:** ±1.5 dB maximum; ±1.0 dB typical  
**FREQUENCY RESPONSE:** 80–1000 MHz instantaneously  
**GAIN (at maximum setting):** 57 dB minimum  
**GAIN ADJUSTMENT (continuous range):** 25 dB minimum  
**INPUT IMPEDANCE:** 50 ohms, VSWR 1.5:1 maximum;  
 1.3:1 typical  
**OUTPUT IMPEDANCE:** 50 ohms nominal  
**MISMATCH TOLERANCE:** 100% of rated power without foldback. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. (See Application Note #27)

**MODULATION CAPABILITY:** Faithfully reproduces AM, FM, or Pulse modulation appearing on input signal.  
**HARMONIC DISTORTION:** Minus 20 dBc maximum at 400 watts, -20 dBc typical at 500 watts  
**THIRD ORDER INTERCEPT POINT:** 63 dBm typical  
**NOISE FIGURE:** 8 dB maximum, 6 dB typical  
**PRIMARY POWER (specify voltage):** 120-240 VAC, 50/60 Hz, single phase, 2200 watts  
**CONNECTORS**  
 RF Input: Type N, front panel  
 RF Output: Type N female, front panel  
 Forward sample: BNC female, front (-50 dBc)  
 Reverse sample: BNC female, front (-50 dBc)  
 Remote Interfaces:  
 IEEE-488 24-pin female  
 RS-232 9-pin Subminiature D, female  
 Fiber Optic ST Conn Tx and Rx RS-232  
 USB 2.0 Type B  
 Ethernet RJ-45  
 Safety Interlock: 15-pin Subminiature D, rear panel  
**COOLING:** Forced air (self contained fans), enters front and bottom  
**EXPORT CLASSIFICATION:** EAR99

## Model Configurations

MODEL NUMBER	RF INPUT	RF OUTPUT	WEIGHT	SIZE (W x H x D)
500W1000B	N female, front	N female, front	86.2kg (190 lb)	50.3 x 47 x 61cm 19.8 x 18.5 x 24 in
500W1000BM1	N female, rear	N female, rear	86.2kg (190 lb)	50.3 x 47 x 61cm 19.8 x 18.5 x 24 in
500W1000BM2	Same as 500W1000B with enclosure removed for rack mounting		68.0kg (150 lb)	48.3 x 44.5 x 61cm 19 x 17.5 x 24 in
500W1000BM3	Same as 500W1000BM1 with enclosure removed for rack mounting		68.0kg (150 lb)	48.3 x 44.5 x 61cm 19 x 17.5 x 24 in

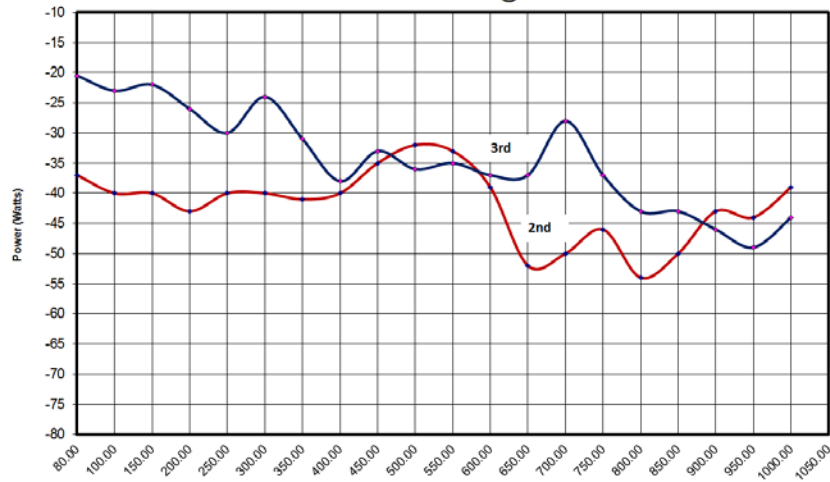
## Graphs



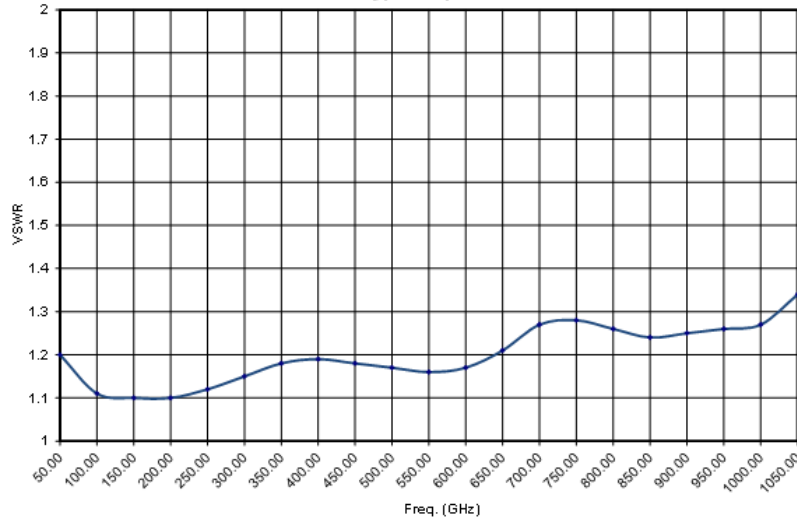
### 500W1000B

- 500 Watts CW
- 80MHz-1000MHz

500W1000B Harmonics @ 500 watts



Typical Input VSWR



Typical Noise Figure vs. Frequency

