



Amplifiers

4000W1000B

- 4000 Watts CW
- 80MHz–1000MHz

Features

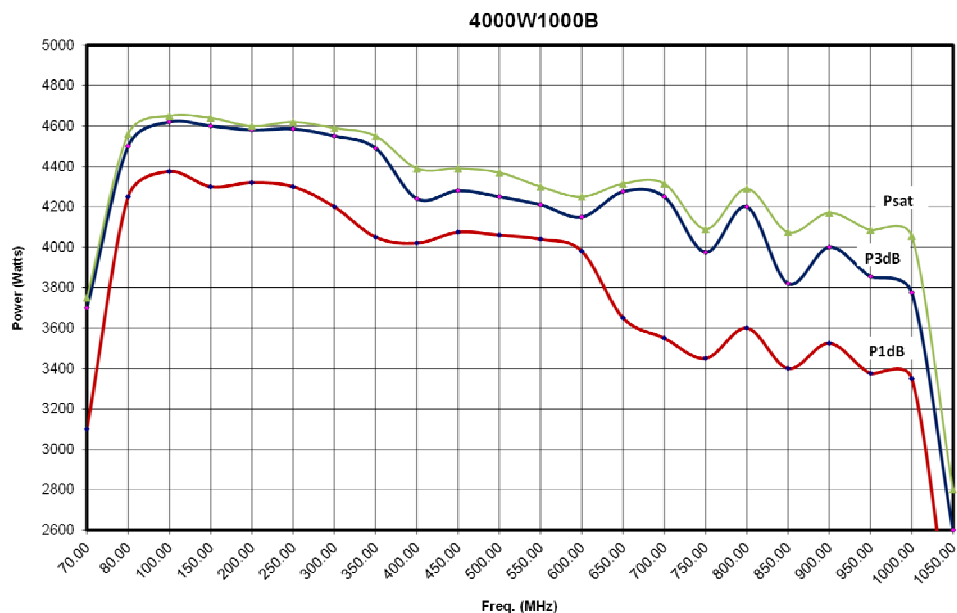
The Model 4000W1000B is a self-contained, air-cooled, broadband, completely solid-state amplifier designed for applications where instantaneous bandwidth and high gain are required. Push-pull circuitry is utilized in all high power stages in the interest of lowering distortion and improving stability. The Model 4000W1000B, when used with an RF sweep generator, nominally provides over 4000 watts of RF power.

The Model 4000W1000B 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 single equipment rack, the 4000W1000B 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.



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Specifications

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RATED OUTPUT POWER: 3700 watts minimum

INPUT FOR RATED OUTPUT: 1.0 milliwatt maximum

POWER OUTPUT @ 3 dB compression:

Nominal 4000 watts, 3600 watts min up to 500 MHz, 3400 watts from 500 to 1000 MHz

POWER OUTPUT @ 1 dB compression:

Nominal 3500 watts, 3000 watts min up to 500 MHz; 2500 watts min from 500 to 1000 MHz

FLATNESS: ± 2.0 dB maximum; ± 1.5 dB typical

FREQUENCY RESPONSE: 80–1000 MHz instantaneously

GAIN (at maximum setting): 66 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, up to 6.0:1. Mismatch above which may limit to 2000 watts reflected power. 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 3400 watts, -20 dBc typical @ 4000 watts

THIRD ORDER INTERCEPT POINT: 73 dBm typical

NOISE FIGURE: 8 dB maximum, 6 dB typical

PRIMARY POWER (specify voltage):

200-240 VAC Delta connected (4-wire)

360-435 VAC Wye connected (5-wire)

50/60 Hz, three phase, 17.5 kVA

CONNECTORS

RF Input: Type N female, rear panel

RF Output: Type 1-5/8 female, rear panel

Forward sample: BNC female, front (-60 dBc)

Reverse sample: BNC female, front (-60 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

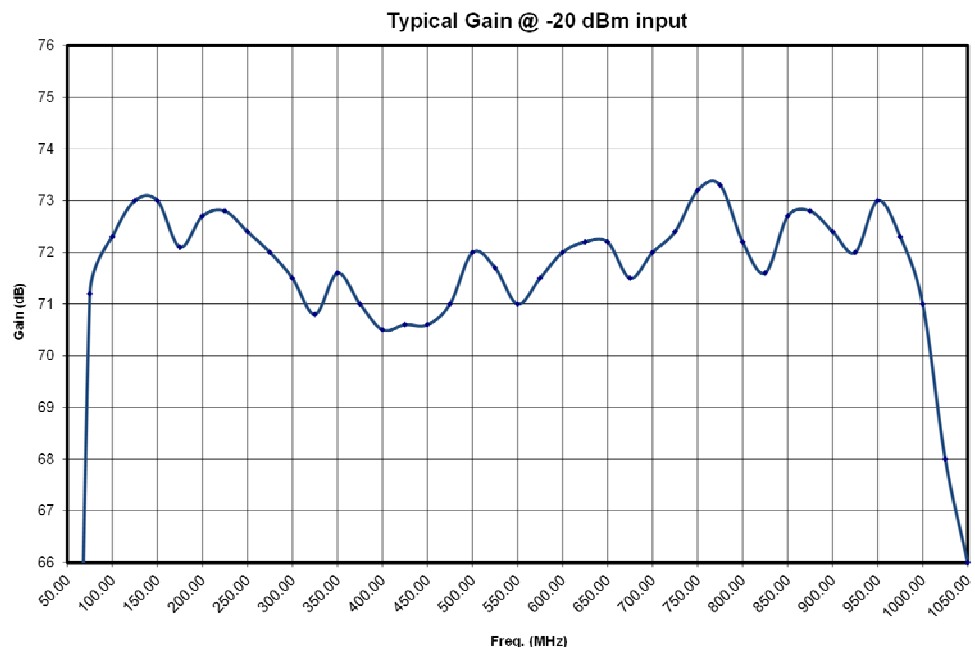
COOLING: Forced air (self contained fans), enters front and bottom

WEIGHT (approximate): 432 kg (950 lb)

SIZE (W x H x D): (2 joined cabinets) 111.8 x 177.8 x 97.6 cm (44 x 70 x 38.4 in)

EXPORT CLASSIFICATION: EAR99

Graphs



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