rf/microwave instrumentation

Model 250W1000A,
M1 through M10
250 Watts CW
80–1000 MHz

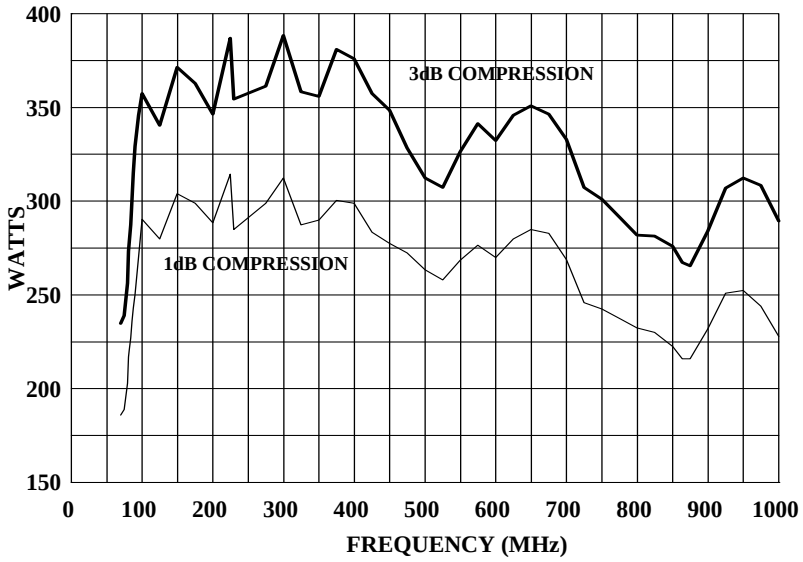
The Model 250W1000A is a portable, self-contained, air-cooled, broadband, completely solid-state amplifier designed for applications where instantaneous bandwidth, high gain and linearity are required. Push-pull circuitry is utilized in all high power stages in the interest of lowering distortion and improving stability. The Model 250W1000A, when used with a sweep generator, will provide a minimum of 250 watts of RF power.

The Model 250W1000A is equipped with a Digital Control Panel (DCP) which provides both local and remote control of the amplifier. The DCP uses a digital display, menu assigned softkeys, a single rotary knob, and four dedicated switches (POWER, STANDBY, OPERATE and FAULT/RESET) to offer extensive control and status reporting capability. The display provides operational presentation of Forward Power and Reflected Power plus control status and reports of internal amplifier status. Special features include a gain control, internal/external automatic level control (ALC) with front panel control of the ALC threshold, pulse input capability and RF output level protection. Also included is an internal RF detector which provides an output for use in self-testing or operational modes. Protection is provided by DC current level sensing and individual fusing of all output stages.

All amplifier control functions and status indications are available remotely in GPIB/IEEE-488 and RS-232 hardwire and fiber optic. 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 bench top enclosure, the Model 250W1000A 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.

250W1000A TYPICAL POWER OUTPUT



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SPECIFICATIONS, MODEL 250W1000A

RATED POWER OUTPUT ..... 250 watts minimum

INPUT FOR RATED OUTPUT ..... 1.0 milliwatt maximum

POWER OUTPUT @ 3dB COMPRESSION
- Nominal ..... 310 watts
- Minimum ..... 250 watts

POWER OUTPUT @ 1dB COMPRESSION
- Nominal ..... 255 watts
- Minimum ..... 200 watts

FLATNESS ..... ± 2.0 dB maximum
± 1.5 dB typical

FREQUENCY RESPONSE ..... 80 - 1000 MHz instantaneously

GAIN (at maximum setting) ..... 54 dB minimum

GAIN ADJUSTMENT (Continuous Range) ..... 18 dB minimum (4096 steps remote)

INPUT IMPEDANCE ..... 50 ohms, VSWR 2.0:1 maximum

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.

MODULATION CAPABILITY ..... Faithfully reproduces AM, FM, or Pulse modulation appearing on input signal.

HARMONIC DISTORTION ..... Minus 20 dBc maximum at 200 watts

THIRD ORDER INTERCEPT POINT ..... 62 dBm typical

PRIMARY POWER (user must specify) ..... 120 - 240 VAC
40/400Hz, single phase
2200 watts maximum

CONNECTORS
- RF ..... See Model Configurations
- REMOTE INTERFACES
  - IEEE-488 ..... 24 pin female
  - RS-232 ..... 9 pin Subminiature D (female)
  - Fiber Optic ..... ST Conn Tx and Rx RS-232
- ALC & PULSE ..... Type BNC on front panel

SAFETY INTERLOCK ..... 15 pin Subminiature D

COOLING ..... Forced air (self contained fans)

MODEL CONFIGURATIONS

MODEL NUMBER	RF INPUT	RF OUTPUT	WEIGHT	SIZE (W x H x D)
250W1000A	Type N female on front panel	Type N female on front panel	86.2kg (190 lbs)	50.3 x 47.0 x 61.0cm 19.8 x 18.5 x 24.0in
250W1000AM1	Type N female on rear panel	Type N female on rear panel	86.2kg (190 lbs)	50.3 x 47.0 x 61.0cm 19.8 x 18.5 x 24.0in
250W1000AM2	Same as 250W1000A with enclosure removed for rack mounting		68.0kg (150 lbs)	48.3 x 44.5 x 61.0cm 19.0 x 17.5 x 24.0in
250W1000AM3	Same as 250W1000AM1 with enclosure removed for rack mounting		68.0kg (150 lbs)	48.3 x 44.5 x 61.0cm 19.0 x 17.5 x 24.0in
250W1000AM4	Type N on front panel.	Type N on rear panel.	86.2kg (190lbs)	50.3 x 47 x 61cm 19.8 x 18.5 x 24in
250W1000AM5	Same as 250W1000AM4 with enclosure removed.		68.0kg (150lbs)	48.3 x 44.5 x 61.0cm 19.0 x 17.5 x 24.0in
250W1000AM6	Type N female on front panel	Type 7-16 female on rear panel	86.2kg (190lbs)	50.3 x 47.0 x 61.0cm 19.8 x 18.5 x24.0in
250W1000AM7	See separate specification sheet.			
250W1000AM8	Type N female on front panel	Type N female on front panel	104kg (230 lbs)	56.1 x 82.6 x 65.9cm 22.1 x 32.5 x 26.0in
Equipment rack with casters includes a 4U space for customer-installed equipment.				
250W1000AM9	Same as 250W1000A with extended frequency response of 70–80MHz @10% less than rated power specifications.			
250W1000AM10	Same as 250W1000AM2 with reduced gain for lower output noise. See separate specification sheet.			