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rf/microwave instrumentation

Model 100W1000B,
M1 through M6
100 Watts CW
1MHz–1000MHz

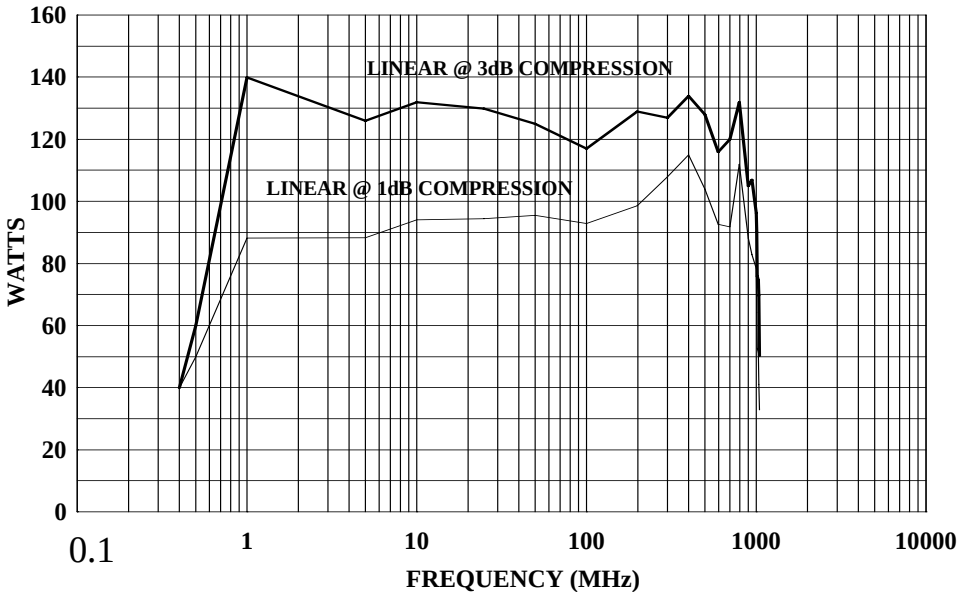
The Model 100W1000B is a portable, self-contained, air-cooled, broadband, completely solid-state amplifier designed for applications where instantaneous bandwidth, high gain and linearity are required. Push-pull circuitry is utilized in all high power stages in the interest of lowering distortion and improving stability. The Model 100W1000B, when used with a sweep generator, will provide a minimum of 100 watts of RF power.

The Model 100W1000B 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 format. 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 100W1000B 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.

100W1000B TYPICAL POWER OUTPUT



012907

SPECIFICATIONS, MODEL 100W1000B

RATED OUTPUT POWER ..... 100 watts

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

POWER OUTPUT @ 3dB compression
- Nominal ..... 123 watts
- Minimum ..... 100 watts

POWER OUTPUT @ 1dB compression
- Nominal ..... 95 watts
- Minimum ..... 75 watts

FLATNESS ..... ±2.0 dB maximum
1.5 dB typical
±0.8 dB with internal leveling

FREQUENCY RESPONSE ..... 1-1000 MHz instantaneously

GAIN (at maximum setting) ..... 50 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 * ..... Will operate without damage or oscillation with any magnitude and phase of source and load impedance. Will limit reflected power to 100 watts.

MODULATION CAPABILITY ..... Will faithfully reproduce AM, FM, or pulse modulation appearing on the input signal.

HARMONIC DISTORTION ..... Minus 20 dBc maximum at 80 watts

THIRD ORDER INTERCEPT POINT ..... 58 dBm typical

RF POWER DISPLAY ..... 0-200 watts

PRIMARY POWER (user must specify) ..... 90 - 264 VAC
40/400Hz, single phase
1200 watts maximum

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

SAFETY INTERLOCK ..... 15 pin Subminiature D

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

* See Application Note #27

MODEL CONFIGURATION

MODEL NUMBER	RF INPUT	RF OUTPUT	WEIGHT	SIZE (W x H x D)
100W1000B	Type N female on front panel	Type N female on front panel	40 Kg (88 lbs)	50.3 x 24.9 x 53.0 cm 19.8 x 9.8 x 21.1 in
100W1000BM1	Type N female on rear panel	Type N female on rear panel	40 Kg (88 lbs)	50.3 x 24.9 x 53.0 cm 19.8 x 9.8 x 21.1 in
100W1000BM2	Same as 100W1000B with enclosure removed for rack mounting		30 Kg (66 lbs)	48.3 x 22.2 x 53.0 cm 19 x 8.75 x 21.1 in
100W1000BM3	Same as 100W1000BM1 with enclosure removed for rack mounting		30 Kg (66 lbs)	48.3 x 22.2 x 53.0 cm 19 x 8.75 x 21.1 in
100W1000BM4	Type N on front panel.	Type N on rear panel.	40 Kg (88 lbs)	50.3 x 24.9 x 53.0 cm 19.8 x 9.8 x 21.1 in
100W1000BM5	Same as 100W1000BM2 with manual gain control disabled		30 Kg (66 lbs)	48.3 x 22.2 x 53.0 cm 19 x 8.75 x 21.1 in
100W1000BM6	See separate Specification Sheet for this model.			

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