

Model 1000T1G2B
M1 through M6
1000 Watts CW
1GHz–2.5GHz

The Model 1000T1G2B is a self contained, forced air cooled, broadband traveling wave tube (TWT) microwave amplifier designed for applications where instantaneous bandwidth, high gain and high power output are required. Reliable TWT subsystems provide a conservative 1000 watts minimum at the amplifier output connector over most of the frequency range. Stated power specifications are at the fundamental frequency.

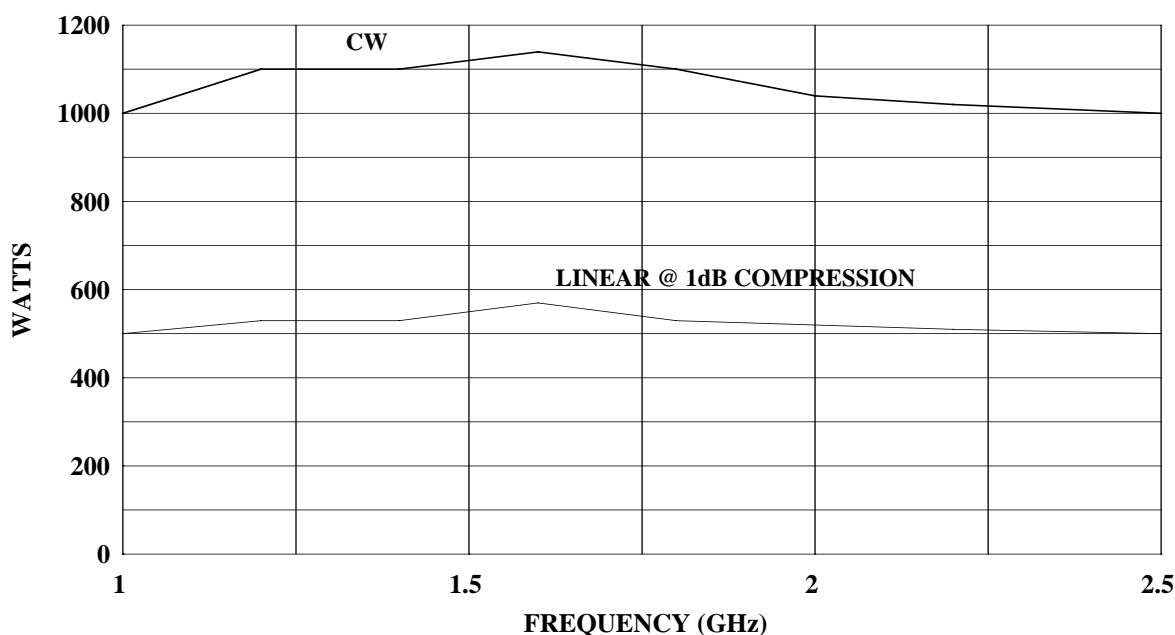
The amplifier's front panel digital display shows forward and reflected output plus extensive system status information accessed through a series of menus via soft keys. Status indicators include power on, warm-up, standby, operate, faults, excess reflected power warning and remote. Standard features include a built-in IEEE-488 (GPIB) interface, 0dBm input, VSWR protection, gain control, RF output sample ports, plus monitoring of TWT helix current, cathode voltage, collector voltage, heater current, heater voltage, baseplate temperature and cabinet temperature. Modular design of the power supply and RF components allow for easy access and repair. Use of a switching mode power supply results in significant weight reduction.

The rated power is developed by efficiently power combining the outputs from two 535 watts (nominal) microwave tubes that are factory matched in gain and phase to offer moderate harmonic levels without added filters. Amplifier includes wheels, leveling feet and lifting hooks.

The Model 1000T1G2B provides readily available RF power for a variety of applications in Test and Measurement, (including EMC RF susceptibility testing), Industrial and University Research and Development, and Service applications. Unit is CE marked to comply with EMC European Directive 89/336/EEC for operation inside a shielded room.

Refer to the Model Configuration Chart for alternative configurations.

1000T1G2B TYPICAL POWER OUTPUT



SPECIFICATIONS, MODEL 1000T1G2B

POWER (fundamental), CW, @ OUTPUT CONNECTOR

Nominal	1100 watts
Minimum	925 watts 1-1.2 GHz, 1000 watts 1.2-2.5GHz
Linear @ 1 dB Compression	250 watts minimum

FLATNESS..... ± 8 dB maximum, equalized for
 ± 3 dB maximum at rated power

FREQUENCY RESPONSE 1 - 2.5 GHz instantaneously

INPUT FOR RATED OUTPUT 1.0 milliwatt maximum

GAIN (at maximum setting) 60 dB minimum

GAIN ADJUSTMENT (continuous range)..... 35 dB minimum

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

OUTPUT IMPEDANCE 50 ohms, VSWR 2.5:1 typical

MISMATCH TOLERANCE..... Output power foldback protection at reflected power exceeding 200 watts. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. May oscillate with unshielded open due to coupling to input. Should not be tested with connector off.

MODULATION CAPABILITY..... Will faithfully reproduce AM, FM, or pulse modulation appearing on the input signal. AM peak envelope power limited to specified power.

NOISE POWER DENSITY Minus 85 dBm/Hz (maximum)
 Minus 90 dBm/Hz (typical)

HARMONIC DISTORTION..... Minus 20dBc maximum, Minus 28dBc typical

PRIMARY POWER See Model Configuration

CONNECTORS

RF input	Type N female
RF output	On rear panel; see Model Configurations
RF output sample ports (forward and reflected)	Type N female
GPIB.....	IEEE-488 female on rear panel
Interlock	DB-15 female on rear panel

COOLING..... Forced air (self contained fans), air entry and exit in rear.

WEIGHT (approximate) 318 kg (700 lb)

SIZE (WxHxD)..... 56 x 160 x 82.3 cm (22.1 x 63 x 32.4 in)

MODEL CONFIGURATIONS

Model Number	Primary Power	RF Output	RF Input and RF Output Sample Ports Connector Location	Features
1000T1G2B	190-255 VAC, 3 phase, delta (4 wire) 50/60 Hz, 8.0 KVA maximum	7-16 DIN female	rear panel	
1000T1G2BM1	360-435 VAC, 3 phase,WYE (5 wire) 50/60 Hz, 8.0 KVA maximum	7-16 DIN female	rear panel	
1000T1G2BM2	See Individual Specification Sheet. Version offers 400 Hz primary power, a blanking input and extended low frequency operation at reduced power output.			
1000T1G2BM3	360-435 VAC, 3 phase,WYE (5 wire) 50/60 Hz, 8.0 KVA maximum	7-16 DIN female	front panel	RF connectors have protective metal covers
1000T1G2BM4	See Individual Specification Sheet. Version offers reduced harmonics using switched external filters and other special features.			
1000T1G2BM5	See Individual Specification Sheet.			
1000T1G2BM6	See Individual Specification Sheet.			