



## 1000T2G8B

- M1, M2, M3, M7–M11
- 1000 Watts CW
- 2.5GHz–7.5GHz

### Features

The Model 1000T2G8B 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 over most of the frequency range at the amplifier output connector. Stated power specifications are at 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.

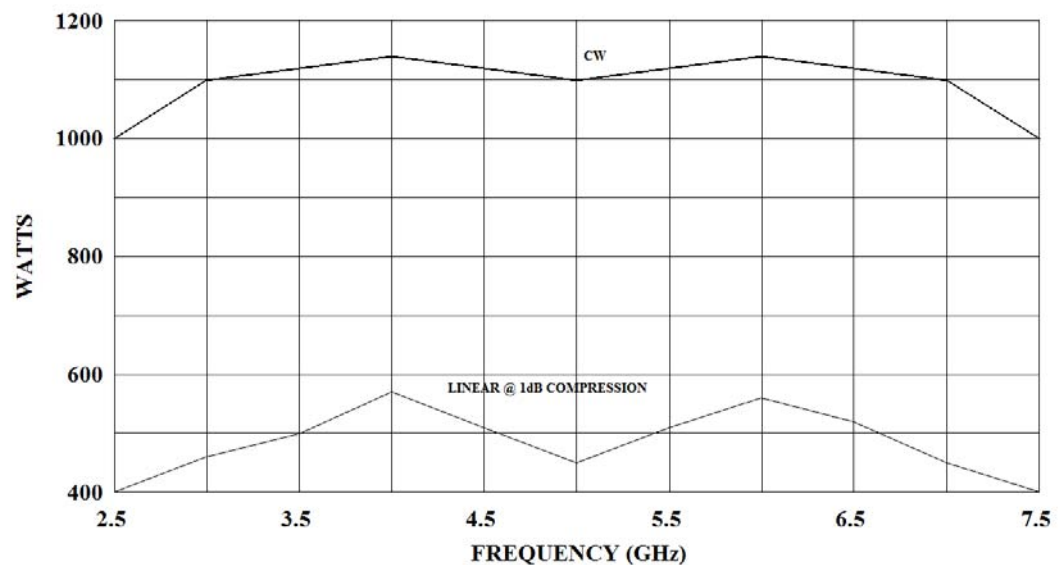
The rated power is developed by efficiently power combining the outputs from two 535 watts (nominal) microwave tubes that are factory matched in gain and phase to offer moderate harmonic levels without added filters. Amplifier includes wheels, leveling feet and lifting hooks.

The Model 1000T2G8B 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.

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.

1000T2G8B TYPICAL POWER OUTPUT



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## Specifications

### POWER (fundamental), CW, @ OUTPUT

#### CONNECTOR:

Nominal: 1100 watts  
Minimum: 900 watts minimum, 2.5-2.7GHz;  
1000 watts minimum 2.7-7.5GHz.

Linear @ 1 dB Compression: 250 watts minimum

**FLATNESS:**  $\pm 8$  dB maximum, equalized for  $\pm 3$  dB maximum at rated power

**FREQUENCY RESPONSE:** 2.5-7.5 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 80 dBm/Hz (maximum); Minus 90 dBm/Hz (typical)

**HARMONIC DISTORTION:** Minus 15 dBc maximum, Minus 17 dBc typical

**PRIMARY POWER:** See Model Configuration

#### CONNECTORS:

RF input: Type N female  
RF output: See Model Configuration  
RF output sample ports (forward and reflected):  
Type N female

GPIB: IEEE-488 female, rear  
Interlock: DB-15 female, rear

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

**WEIGHT (approximate):** 295 kg (650 lb)

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

**EXPORT CLASSIFICATION:** EAR99

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## Model Configurations

Model Number	Primary Power	RF Output Connectors	RF input & output sample ports connector location	Features
1000T2G8B	190-255 VAC, 3 phase, delta (4 wire) 50/60 Hz, 8.0 KVA max	Type WRD250D30 waveguide flange on rear panel	rear panel	-
1000T2G8BM1	360-435 VAC, 3 phase, WYE (5 wire) 50/60 Hz, 8.0 KVA max	Type WRD250D30 waveguide flange on rear panel	rear panel	-
1000T2G8BM2	190-255 VAC, 3 phase, delta (4 wire) 50/60 Hz, 8.0 KVA max	2.5-4.0GHz, WRD200D24 4-7.5GHz, WRD350D24 waveguide flange on rear panel	rear panel	Frequency response 2.5-4.0GHz instantaneously, 4-7.5GHz instantaneously, Power 900 watts minimum from 2.5-3 GHz and 7-7.5 GHz, 1000 watts minimum from 3-7 GHz
1000T2G8BM3	360-435 VAC, 3 phase, WYE (5 wire) 50/60 Hz, 8.0 KVA max	2.5-4.0GHz, WRD200D24 4-7.5GHz, WRD350D24 waveguide flange on rear panel	rear panel	Frequency response 2.5-4.0GHz instantaneously, 4-7.5GHz instantaneously, Power 900 watts minimum from 2.5-3 GHz and 7-7.5 GHz, 1000 watts minimum from 3-7 GHz
1000T2G8BM4	See Individual Specification Sheet. Version offers 400 Hz primary power and a blanking input.			
1000T2G8BM5	See Individual Specification Sheet. Version offers reduced harmonics using switched external filters and other special features.			
1000T2G8BM6	See Individual Specification Sheet. Version offers front panel connectors and other special features.			
1000T2G8BM7	190-255 VAC, 3 phase, delta (4 wire) 50/60 Hz, 8.0 KVA max	Type WRD250D30 waveguide flange on rear panel	front panel	-
1000T2G8BM8	See Individual Specification Sheet.			
1000T2G8BM9	190-255 VAC, 3 phase, delta (4 wire) 50/60 Hz, 8.0 KVA max	Type WRD250D30 waveguide flange on rear panel	rear panel	Mounted in EMC-shielded cabinet providing >40 dB isolation. Cabinet dimensions: 56 x 160 x 97.5 cm, 22.1 x 63 x 38.4 in. <i>NOTE: No penetrations through shielded cabinet. AC &amp; RF penetrations to be made by end-user.</i>
1000T2G8BM10	190-255 VAC, 3 phase, delta (4 wire) 50/60 Hz, 8.0 KVA max	Type WRD250D30 waveguide flange on rear panel	rear panel	Remote interface changed from IEEE-488 to Ethernet. Supplied in four separate 19" width rack-mountable subassemblies and slides for rack mounting; sizes 3U x 46cm (18.1"), 12U x 76.5cm (30.12"), (2) 3U x 61.2cm (24.1").
1000T2G8BM11	360-435 VAC, 3 phase, WYE (5 wire) 50/60 Hz, 8.0 KVA max	Type WRD250D30 waveguide flange on rear panel	rear panel	Supplied in four separate 19" width rack-mountable subassemblies and slides for rack mounting; sizes 3U x 46cm (18.1"), 12U x 76.5cm (30.12"), (2) 3U x 61.2cm (24.1").