

1500T2G8A

- M1–M7
- 1700 Watts CW
- 2.5GHz–7.5GHz

Features

The Model 1500T2G8A is a self contained, forced air cooled, broadband traveling wave tube (TWT) microwave amplifier designed for applications where instantaneous bandwidth, high gain, moderate harmonic levels, and high power output are required. Reliable TWT subsystems provide a conservative 1600 watts minimum from 2.5-3.0GHz, and 1700 watts minimum from 3.0-7.5GHz, measured at the amplifier output flange. 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, auto sleep, 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.

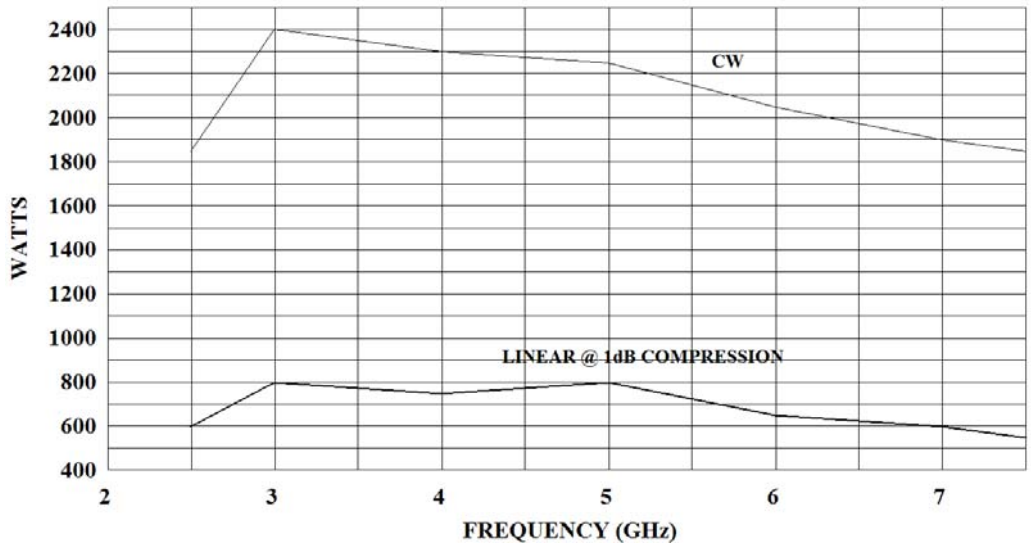
The rated power is developed by efficiently power combining the outputs from four 535 watts (nominal) microwave amplifiers that are factory matched in gain and phase, resulting in an excellent combination of wide instantaneous bandwidth with improved harmonic levels. Model includes castor wheels and lifting eyes to facilitate positioning the amplifier, and leveling feet to stabilize the unit during operation.

The Model 1500T2G8A 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.

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.

1500T2G8A TYPICAL POWER OUTPUT



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Specifications

POWER (fundamental), CW, @ OUTPUT CONNECTOR:
Nominal: 2000 watts
Minimum: 1600 watts from 2.5–3.0 GHz,
1700 watts from 3.0–7.5 GHz
Linear @ 1 dB Compression: 400 watts minimum

FLATNESS: ±8 dB maximum, equalized for ±6 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): 62 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 300 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 95 dBm/Hz (typical)

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

PRIMARY POWER: See Model Configurations

CONNECTORS:
RF input: Type N female on rear panel
RF output: Type WRD 250D30 waveguide flange on rear panel
RF output sample ports (forward and reflected): Type N female on rear panel
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: 296 kg (650 lb)

SIZE (W x H x D): 56 x 160 x 82.3 cm (22.1 x 63 x 32.4 in)

EXPORT CLASSIFICATION: EAR99

Model Configurations

P Must select one primary power from the following [P1 or P2]
P1 190-255 VAC, 3 phase, delta (4 wire) 50/60 Hz 11 KVA maximum
P2 360-435 VAC, 3 phase, WYE (5 wire) 50/60 Hz 11 KVA maximum. CE marked to comply with EMC European Directive 89/336/EEC for operation inside a shielded room.

S May select a special feature (extra cost) from the following [S1F and/or S2B]
S1F Input, forward and reflected power sample ports on front panel.
S2B Supplied with larger castor wheels and mounted on a rugged base that facilitates use of a forklift to move the TWTA. Add 46 kg (100 lbs) to weight, add 76 cm (3 inches) to height and 26 cm (10 inches) to width at base.

Model	Features	
1500T2G8A	P	S
1500T2G8A	P1	-
M1	P2	-
M2	P1	S1F
M3	P2	S1F
M4	P1	S1F& S2B
M5	P2	S1F& S2B
M6	P1	S2B
M7	P2	S2B