

1500T8G18

- M1 through M8
- 1500 Watts CW
- 7.5GHz–18GHz

Features

The Model 1500T8G18 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 1500 watts minimum 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, 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.

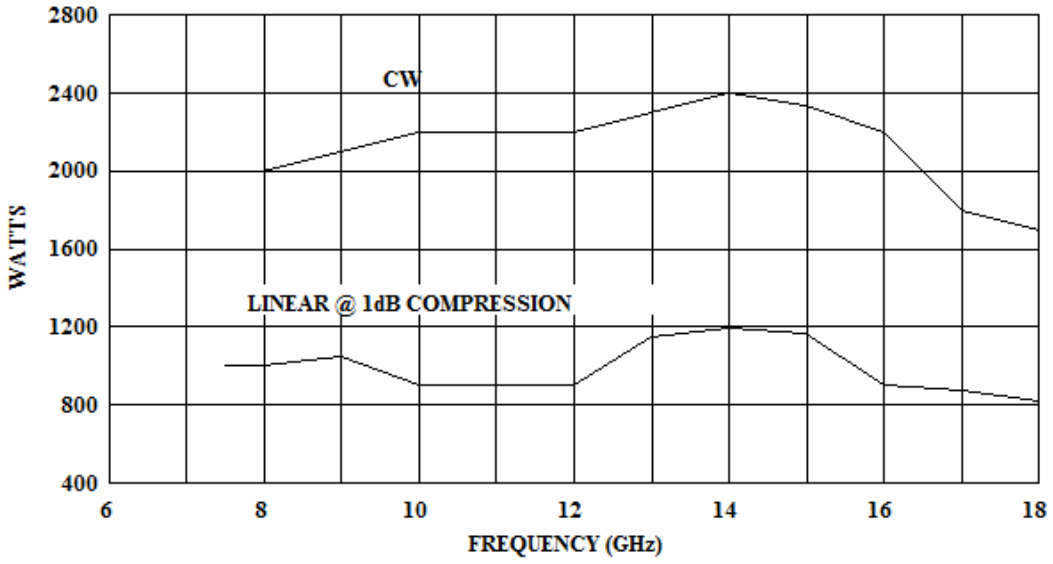
The rated power is developed by efficiently power combining the outputs from four 500 watts (nominal) microwave amplifiers, each consisting of two TWTs, that are factory matched in gain and phase, resulting in an excellent combination of wide instantaneous bandwidth with improved harmonic levels. Shipped as two cabinets, this model includes castor wheels and lifting eyes on each cabinet to facilitate positioning the amplifier, and leveling feet to stabilize the unit during operation.

The Model 1500T8G18 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.

1500T8G18 TYPICAL POWER OUTPUT



AR RF/Microwave Instrumentation
160 School House Rd
Souderton, PA 18964
215-723-8181

For an applications engineer call:800.933.8181

www.arworld.us

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Specifications

POWER (fundamental) CW @ OUTPUT CONNECTOR:

Nominal	2000 watts
Minimum	1500 watts
Linear @ 1dB Compression	375 watts minimum

FLATNESS: ±11 dB maximum, equalized for ±6 dB maximum at rated power

FREQUENCY RESPONSE: 7.5-18 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 fold back 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 70 dBm/Hz (maximum),
Minus 72 dBm/Hz (typical)

HARMONIC DISTORTION:
Minus 20 dBc (maximum),
Minus 27 dBc (typical)

PRIMARY POWER: See Model Configurations

CONNECTORS:

RF input	Type N (f) on rear panel
RF output	Type WRD –750D24 waveguide flange on rear panel
RF output sample ports (forward and reverse):	Type N (f) on rear panel
GPIB	IEEE-488 (f) on rear panel
Interlock	DB-15 (f) on rear panel

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

WEIGHT: 546 kg (1200 lb)

SIZE (W x H x D): Two cabinets, each 56 x 160 x 84 cm (22.1 x 63 x 33 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, 16 KVA maximum
P2 360-435 VAC, 3 phase, Wye (5-wire) 50/60 Hz, 16 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) [S1F or S2B]
S1F Input, forward and reflected power sample ports on front panel.
S2B Each cabinet supplied with larger caster wheels mounted on a rugged base that facilitates use of a forklift to move the TWTA. Add 91 kg (200 lbs) to weight; add 7.6 cm (3 in) to height.

Model Number	Features	
	P	S
1500T8G18	P1	-
1500T8G18M1	P2	
1500T8G18M2	See separate specification sheet	
1500T8G18M3	P1	S1F
1500T8G18M4	P2	S1F
1500T8G18M5	P1	S1F & S2B
1500T8G18M6	P2	S1F & S2B
1500T8G18M7	P1	S2B
1500T8G18M8	P2	S2B