



500T8G18

- M1-M10
- 500 Watts CW
- 7.5GHz-18GHz

Features

The Model 500T8G18 is a self contained, forced air cooled, broadband traveling wave tube (TWT) microwave amplifier designed for applications where instantaneous bandwidth, reduced harmonics and high gain are required. A reliable TWT subsystem provides a conservative 500 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, 0 dBm input, VSWR protection, gain control, RF output sample port, plus monitoring of TWT helix current, cathode voltage, collector voltage, heater current, heater voltage, baseplate temperature and cabinet temperature. Modu-

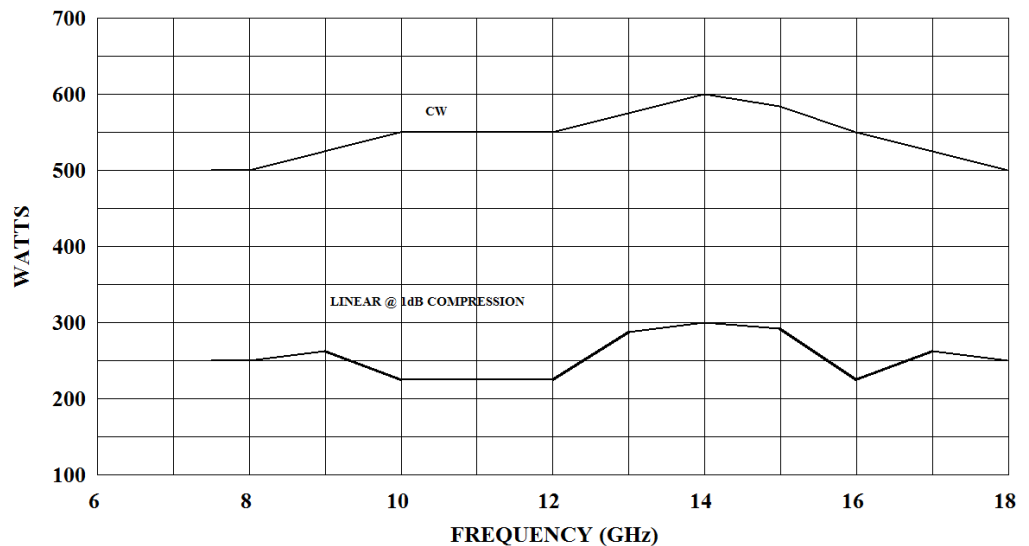
lar design of the power supply and RF components allow for easy access and repair. Use of a switching mode power supply results in significant weight reduction.

Housed in a stylish contemporary cabinet, this unit is designed for benchtop use, but can be removed from cabinet for rack mounting. The Model 500T8G18 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.

See Model Configuration for primary power, package alternatives, and selected features.

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.

500T8G18 TYPICAL POWER OUTPUT



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Model Configurations

POWER (fundamental), CW, @ OUTPUT CONNECTOR:

Nominal, 543 watts; Minimum, 500 watts; Linear @ 1 dB Compression, 125 watts minimum

FLATNESS: ±11 dB maximum, equalized for ±3 dB maximum at rated power

FREQUENCY RESPONSE: 7.5 - 18 GHz instantaneously

INPUT FOR RATED OUTPUT: 1.0 milliwatt maximum

GAIN (at maximum setting): 57 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 100 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 22 dBc typical

CONNECTORS:

RF input: Type N female, rear panel
 RF output: Type WRD-750D24 waveguide flange, rear panel
 RF output sample port: Type N female, rear panel
 GPIB: IEEE – 488 (f), rear panel
 Interlock: DB-15 (f), rear panel

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

EXPORT CLASSIFICATION: EAR99

Model Configurations

| Model Number | Description | Primary Power | Weight | Size (W x H x D) |
|--------------|--|---|--------------------|--|
| 500T8G18 | With removable enclosure | 208 VAC ±10% 3-phase 50/60 Hz 4 KVA maximum | 91 kg (200 lbs) | 50.3 x 40.6 x 68.6 cm 19.8 x 16.0 x 27 in |
| 500T8G18M1 | See Separate Specification Sheet | | | |
| 500T8G18M2 | With removable enclosure and added reflected RF output sample port | 190-260VAC single phase 50/60Hz 4KVA maximum | 91kg (160lbs) | 50.3 x 40.6 x 81.3 cm 19.8 x 16.0 x 32 in |
| 500T8G18M3 | See Separate Specification Sheet | | | |
| 500T8G18M4 | Shipped w/o an outer cabinet | 208 VAC ±10% 3-phase 50/60 Hz 4 KVA maximum | 73 kg (160 lbs) | 48.3 x 35.6 x 68.6 cm 19.0 x 14.0 x 27 in |
| 500T8G18M5 | With removable enclosure | 190-260 VAC single phase 50/60Hz 4 KVA maximum | 91 kg (200 lbs) | 50.3 x 40.6 x 81.3 cm 19.8 x 16.0 x 32 in |
| 500T8G18M6 | Shipped w/o an outer cabinet | 190-260 VAC single phase 50/60Hz 4 KVA maximum | 73 kg (160 lbs) | 48.3 x 35.6 x 81.3 cm 19.0 x 14.0 x 32 in |
| 500T8G18M7 | Enclosure removed for rack mounting – slides and front handles installed | 208 VAC ±10% 3-phase 50/60 Hz 4 KVA maximum | 67 kg (170 lbs) | 48.3 x 35.6 x 68.6 cm 19.0 x 14.0 x 27 in |
| 500T8G18M8 | Enclosure removed for rack mounting – slides and front handles installed | 190-260 VAC single phase 50/60Hz 4 KVA maximum | 67 kg (170 lbs) | 48.3 x 35.6 x 81.3 cm 19.0 x 14.0 x 32 in |

continued

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| Model Number | Description | Primary Power | Weight | Size (W x H x D) |
|--------------|--|---|--------------------|--|
| 500T8G18M9 | Selected for 600 watts from 8 – 9GHz, with removable enclosure | 208 VAC ±10% 3-phase 50/60 Hz 4 KVA maximum | 91 kg (200 lbs) | 50.3 x 40.6 x 68.6 cm 19.8 x 16.0 x 27 in |
| 500T8G18M10 | Shipped w/o an outer cabinet, flatness ±3 dB max at rated power, and a video pulse capability to offer blanking capability to use for noise quieting. VIDEO PULSE CAPABILITY -Pulse Width: 0.1 – 20 micro-seconds -Pulse Rate (PRF): 10 kHz to 100 kHz -RF Rise and Fall: 30 ns max (10% to 90%) -Delay: 300 ns max from pulse input to RF90% -Pulse width distortion: ±30 ns max (50% points of output pulse width compared to 50% points of input pulse width) NOISE POWER DENSITY (pulse off): Minus 140 dBm/Hz (typical) CONNECTOR -Video: BNC-female on rear panel | 190-260 VAC single phase 50/60Hz 4 KVA maximum | 73 kg (160 lbs) | 48.3 x 35.6 x 81.3 cm 19.0 x 14.0 x 32 in |
| 500T8G18M11 | OBSOLETE | | | |