



## 500T8G18

- M1-M12
- 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-

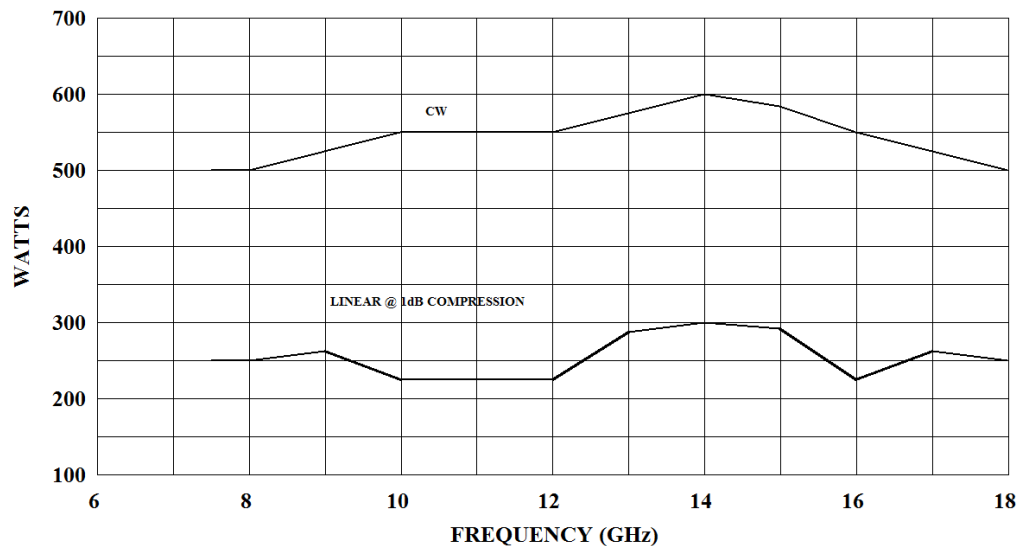
lar design of the power supply and RF components allow for easy access and repair. Use of a switching mode power supply results in significant weight reduction.

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: up to CW -Pulse Rate (PRF): up 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			
500T8G18M12	Shipped w/o an outer cabinet, and a video pulse capability to offer blanking capability to use for noise quieting. VIDEO PULSE CAPABILITY -Pulse Width: up to CW -Pulse Rate (PRF): up to 100 kHz -RF Rise and Fall: 30 ns max (10% to 90%) -Delay: 300 ns max from pulse input to RF 90% -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	208 VAC ±10% 3-phase 50/60 Hz 4 KVA maximum	73 kg (160 lbs)	48.3 x 35.6 x 81.3 cm 19.0 x 14.0 x 32 in