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Model 500T1G2
M1 through M11
500 Watts CW
1GHz-2.5GHz

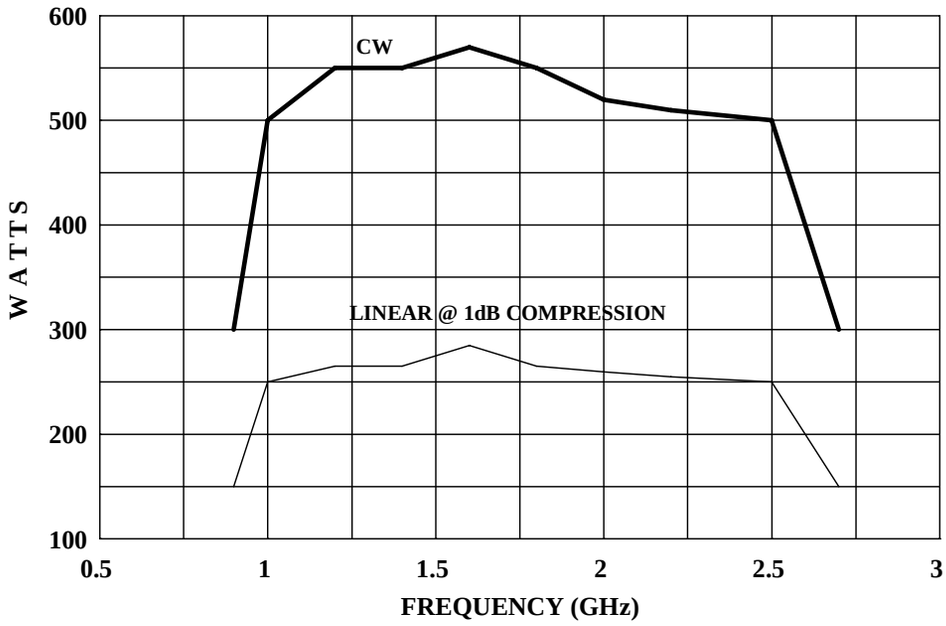
The Model 500T1G2 is a self contained, forced air-cooled, broadband traveling wave tube (TWT) microwave amplifier designed for applications where instantaneous bandwidth and high gain are required. A reliable TWT provides a conservative 500 watts minimum at the amplifier output connector. Stated power 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, 0dBm input, VSWR protection, gain control, RF output sample port, 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.

Housed in a stylish contemporary cabinet, this unit is designed for benchtop use, but can be removed from the cabinet for rack mounting. The Model 500T1G2 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 and package alternatives.

500T1G2 TYPICAL POWER OUTPUT



SPECIFICATIONS, MODEL 500T1G2

POWER (fundamental), CW, @ OUTPUT CONNECTOR	
Nominal	537 watts
Minimum	500 watts
Linear @ 1 dB Compression	125 watts minimum
FLATNESS	±8 dB maximum, equalized for ±5 dB maximum at rated power
FREQUENCY RESPONSE	1–2.5 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 80 dBm/Hz (maximum) Minus 87 dBm/Hz (typical)
HARMONIC DISTORTION	Minus 3 dBc maximum Minus 4 dBc typical
PRIMARY POWER	See Model Configurations
CONNECTORS	
RF input	Type N female on rear panel
RF output	7–16 DIN female on rear panel
RF output sample port	Type N female on rear panel (Forward Power)
GPIB	IEEE-488 (f)
Interlock	DB15 on rear panel
COOLING	Forced air (self-contained fans), air entry and exit in rear.

MODEL CONFIGURATIONS, MODEL 500T1G2

Model	Description	Primary Power	Weight	Size (W x H x D)
500T1G2	With removable enclosure	208 VAC ± 10% three phase 50/60 Hz 3.3 KVA maximum	71 kg (155 lbs)	50.3 x 25.4 x 83.8 cm 19.8 x 10.0 x 33.0 in
500T1G2M1	See separate specification sheet			
500T1G2M2	Shipped w/o an outer cabinet	208 VAC ± 10% three phase 50/60 Hz 3.3KVA maximum	57 kg (125 lbs)	48.3 x 22 x 81 cm 19.0 x 8.75 x 31.75 in
500T1G2M3	With removable enclosure	190-260VAC single phase 50/60 Hz 3.3KVA maximum	71 kg (155 lbs)	50.3 x 25.4 x 83.8 cm 19.8 x 10.0 x 33.0 in
500T1G2M4	Shipped w/o an outer cabinet	190-260 VAC single phase 50/60 Hz 3.3KVA maximum	57 kg (125 lbs)	48.3 x 22 x 81 cm 19.0 x 8.75 x 31.75 in
500T1G2M5	Enclosure removed for rack mounting - slides and front handles installed	208 VAC ± 10% three phase 50/60 Hz 3.3KVA maximum	59 kg (130 lbs)	48.3 x 22 x 81 cm 19.0 x 8.75 x 31.75 in
500T1G2M6	Enclosure removed for rack mounting - slides and front handles installed	190-260 VAC single phase 50/60 Hz 3.3KVA maximum	59 kg (130 lbs)	48.3 x 22 x 81 cm 19.0 x 8.75 x 31.75 in
500T1G2M7	Basic Model with additional RF sample port. Type N, Rear Panel, for reverse power	208 VAC ± 10% three phase 50/60 Hz 3.3KVA maximum	71 kg (155 lbs)	50.3 x 25.4 x 83.8 cm 19.8 x 10.0 x 33.0 in
500T1G2M8	Enclosure removed with added carry handles on the sides and pull handles on the front	208 VAC ± 10% three phase 50/60Hz 3.3KVA maximum	59 kg (130 lbs)	48.3 x 22 x 81 cm 19.0 x 8.75 x 31.75 in
500T1G2M9	Shipped w/o an outer cabinet, flatness ± 2.5 dB max at rated power, and a video pulse capability to offer blanking capability to use for noise quieting. VIDEO PULSE CAPABILITY -Pulse Width: 0.05 -20 microseconds -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); -140 dBm/Hz (typical) CONNECTOR -Video: BNC – female on rear panel	190-260 VAC single phase 50/60Hz 3.3KVA maximum	57 kg (125 lbs)	48.3 x 22 x 81 cm 19.0 x 8.75 x 31.75 in
500T1G2M10	Basic Model with additional RF sample port. Type N, Rear Panel, for reverse power	190-260 VAC single phase 50/60 Hz 3.3KVA maximum	71 kg (155 lbs)	50.3 x 25.4 x 83.8 cm 19.8 x 10.0 x 33.0 in
500T1G2M11	See Individual Specification Sheet			