

Model 200T1G3A
M1 through M5
200 Watts CW
0.8GHz–2.8GHz

The Model 200T1G3A 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 250 watt TWT provides a conservative 200 watts minimum at the amplifier output connector. Stated power specifications are at fundamental frequency.

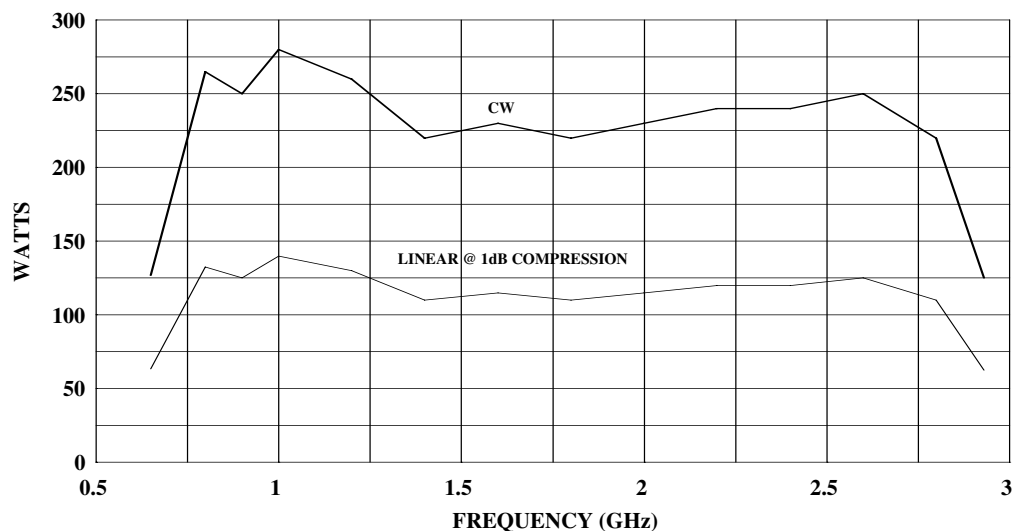
The amplifier's front panel digital display shows forward and reflected output plus extensive system status information accessed through a series of menus via soft keys. Status indicators include power on, warm-up, standby, operate, faults, excess reflected power warning and remote. Standard features include a built-in IEEE-488 (GPIB) interface, 0dBm input, VSWR protection, gain control, external video pulsing, RF output sample port, 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 external video pulsing feature reduces prime power use for pulse applications.

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 200T1G3A 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 packaging alternatives and special features.

200T1G3A TYPICAL POWER OUTPUT



SPECIFICATIONS

POWER (fundamental), CW, @ OUTPUT CONNECTOR

| | |
|--------------------------------|------------------|
| Nominal | 242 watts |
| Minimum | 200 watts |
| Linear @ 1dB Compression | 50 watts minimum |

FLATNESS..... ±12 dB maximum, equalized for ±5 dB maximum at rated power

FREQUENCY RESPONSE..... 0.8-2.8 GHz instantaneously

INPUT FOR RATED OUTPUT..... 1.0 milliwatt maximum

GAIN (at maximum setting)..... 53 dB minimum

GAIN ADJUSTMENT (continuous range)..... 35 dB minimum

INPUT IMPEDANCE..... 50 ohms, VSWR 2.5:1 maximum

OUTPUT IMPEDANCE..... 50 ohms, VSWR 2.5:1 typical

MISMATCH TOLERANCE..... Output power foldback protection at reflected power exceeding 40 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.

VIDEO PULSE CAPABILITY

| | |
|-----------------------------|---|
| Pulse Width..... | 0.05 microseconds min |
| Pulse Rate (PRF)..... | 100 kHz max |
| 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 on) | Minus 72 dBm/Hz (maximum) |
| | Minus 77 dBm/Hz (typical) |
| (pulse off) | Minus 140 dBm/Hz (typical) |

HARMONIC DISTORTION..... Minus 3 dBc maximum, Minus 4.5 dBc typical

PRIMARY POWER..... 190 – 260VAC
50/60 Hz, single phase
2.5 KVA maximum

CONNECTORS

| | |
|-----------------------------|-----------------------------|
| RF input | Type N female on rear panel |
| RF output | Type N female on rear panel |
| RF output sample port | Type N female on rear panel |
| GPIB..... | IEEE-488 (f) |
| Interlock | DB-15 female on rear panel |
| Video..... | BNC-female on rear panel |

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

SIZE AND WEIGHT..... See Model Configurations

MODEL CONFIGURATIONS

- E** Must select one enclosure type from the following [E1 or E2 or E2S]:
- E1** removable outer enclosure, size 19.8 x 11.7 x 30 in., 50.3 x 29.7 x 76.2 cm; add 14kg (30 lbs) to weight of E2.
- E2** without outer enclosure, size 19 x 10.5 x 30 in, 48.3 x 26.7 x 76.2 cm; weight 46kg (100 lbs).
- E2S** without outer enclosure; slides and front handles installed for rack mounting; size same as E2, add 3kg (5 lbs) to weight of E2.
- S** May select a special feature (extra cost) [S1R]
- S1R** Reflected sample port on rear panel, type N female connector. Forward and reflected sample port calibration data supplied on disk in Excel format at 51 points, evenly spaced over the specified frequency range.

| Model Number | Features | |
|--------------|----------|-----|
| | E | S |
| 200T1G3A | E1 | - |
| 200T1G3AM1 | E2 | |
| 200T1G3AM2 | E2S | - |
| 200T1G3AM3 | E2 | S1R |
| 200T1G3AM4 | E2S | S1R |
| 200T1G3AM5 | E1 | S1R |