



## 200T18G26z5A

- M1-M5
- 200 Watts CW
- 18GHz-26.5GHz

### Features

The Model 200T18G26z5A is a self contained, forced air cooled, broadband traveling wave tube (TWT) microwave amplifier designed for applications where wide instantaneous bandwidth, high gain and moderate power output are required. A reliable TWTA subsystem provides a conservative 200 watts minimum at the amplifier output connector. Stated power specifications are at the 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, forward and reflected 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.

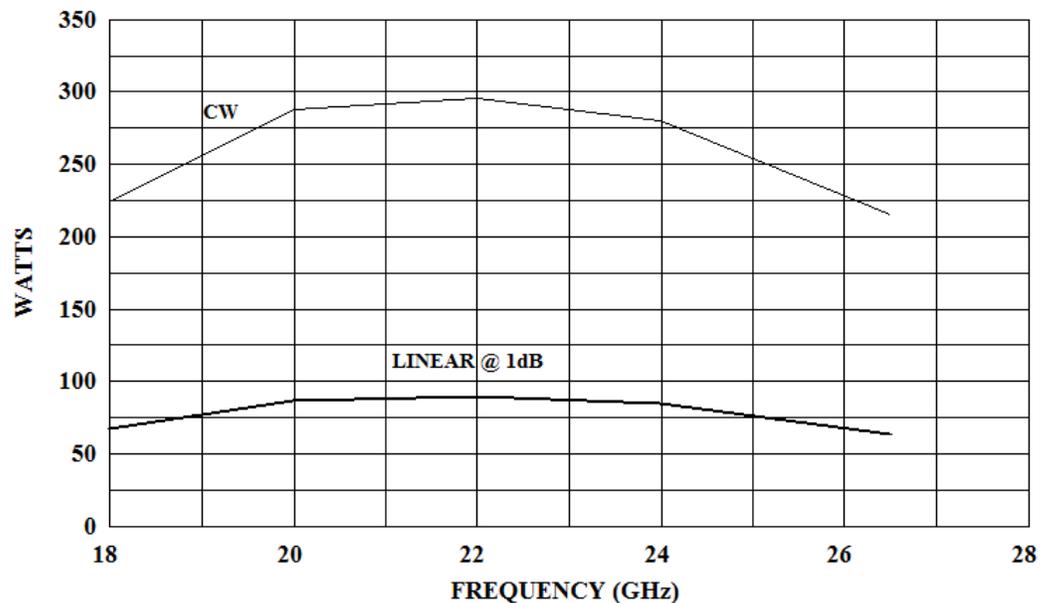
The rated power is developed by efficiently power combining the outputs from two 150 watts (nominal) microwave tubes that are factory matched in gain and phase.

Housed in a stylish contemporary cabinet, the unit is designed for benchtop use but can be removed from the cabinet for rack mounting. The Model 200T18G26z5A 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. This sub-octave amplifier features moderate harmonic content.

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.

See Model Configurations for alternative packaging.

200T18G26z5A Typical Power Output



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## Specifications

**POWER (fundamental), CW, @ OUTPUT CONNECTOR:** Nominal, 225 watts; Minimum, 200 watts; Linear @ 1 dB Compression, 50 watts minimum

**FLATNESS:**  $\pm$  10 dB maximum

**FREQUENCY RESPONSE:** 18–26.5 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 2.0:1 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.

**NOISE POWER DENSITY:** Minus 70 dBm/Hz (maximum); Minus 75 dBm/Hz (typical)

**HARMONIC DISTORTION:** Minus 20 dBc maximum; Minus 30 dBc typical

**PRIMARY POWER:** 190-260 VAC, 50/60 Hz single phase, 3 kVA maximum

**VIDEO PULSE CAPABILITY:**

**Pulse Width:** 0.1 microseconds min

**Pulse Rate (PRF):** 10 kHz max

**Duty Cycle:** Some restrictions apply. Contact AR with application requirements.

**RF Rise and Fall:** 100 ns max (10% to 90%)

**Delay:** 500 ns max from pulse input to RF90%

**Pulse width distortion:** 200 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)

**Pulse Off Isolation:** 80 dB minimum, 90 dB typical

**Pulse Input:** TTL Level, 50 Ohm nominal termination, high level enables RF when video pulsing mode is selected.

**CONNECTORS:**

RF input: Type K female, rear panel

RF output: Type WR-42 waveguide flange, rear panel

RF output sample ports: Type K female, rear panel

GPIB: IEEE-488, rear panel

Interlock: DB-15 female, rear panel

Video: BNC female, rear panel

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

**WEIGHT (approximate):** 91 kg, 200 lbs

**SIZE (W x H x D):** 50.3 x 43 x 81 cm, 19.8 x 17 x 32 in.

**EXPORT CLASSIFICATION:** EAR99

## Model Configurations

- E Package Alternatives.** May select an alternative from the following [E1C or (E1C and E2S) and/or E3H]:
- E1C Cabinet:** Without outer enclosure, size 49 x 40 (9U) x 76 cm, 19 x 15.75 (9U) x 30 in. Subtract approximately 14 kg, 30 lbs, for removal of outer enclosure.
- E2S Slides:** slides installed, add approximately 5 lbs, 2 kg.
- E3H Handles:** Front handles installed.

| Model Number | Features        |
|--------------|-----------------|
| 200T18G26z5A | Base model      |
| M1           | E1C             |
| M2           | E3H             |
| M3           | E1C & E3H       |
| M4           | E1C & E2S       |
| M5           | E1C & E2S & E3H |

Model number example: Model 200T18G26z5AM2 would have option E3H front handles installed.