



## 8000TP1G1z5

- Pulse Amplifier
- M1-M6
- 8000 Watts
- 1GHz-1.5GHz

### Features

The Model 8000TP1G1z5 is a self contained, forced air cooled, broadband traveling wave tube (TWT) microwave amplifier designed for pulse applications at low duty factors where instantaneous bandwidth and high gain are required. A reliable TWT provides a conservative 8000 watts minimum peak RF pulse power at the amplifier output connector. Stated power specifications are at the fundamental frequency.

The amplifier's front panel digital display shows forward and reflected average power output or forward and reflected peak power, 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 average or peak reflected power warning and remote. Standard features include a built-in IEEE-488 (GPIB) interface, 0dBm input, TTL Gating, VSWR protection, gain control, RF output sample ports, auto sleep, plus monitoring of TWT helix current, cathode voltage, collector voltage, heater current, heater voltage,

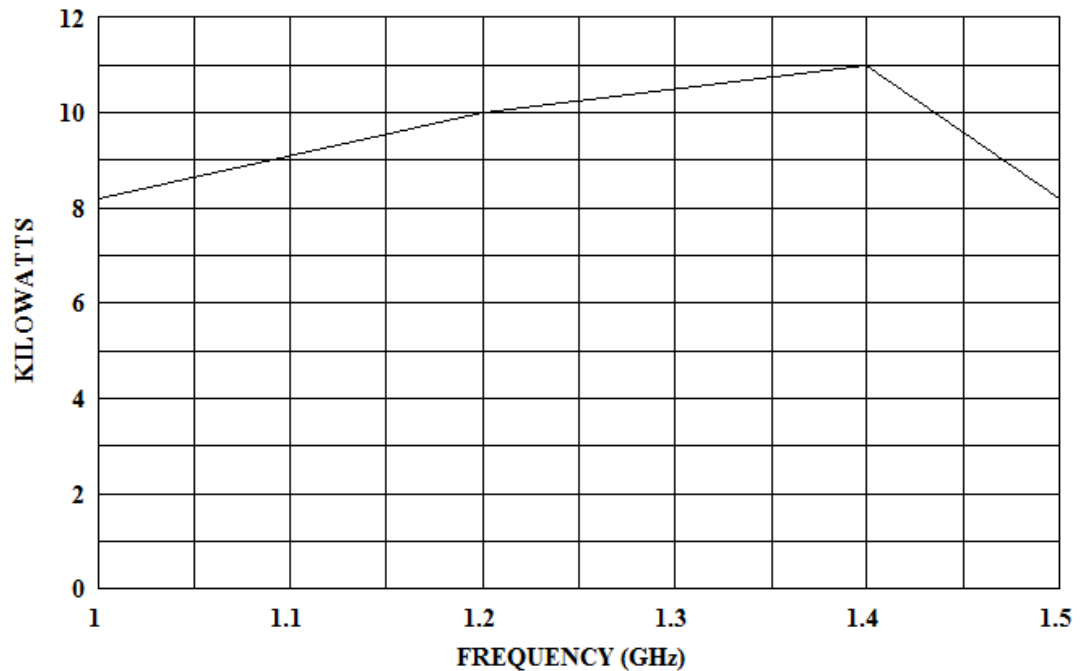
baseplate temperature and cabinet temperature. Modular design of the power supply and RF components allow for easy access and repair. Use of switching mode power supplies results in significant weight reduction.

Housed in a stylish contemporary cabinet, the amplifier provides readily available pulsed RF power for a variety of applications in Test and Measurement, (including EMC RF pulse susceptibility testing), Industrial and University Research and Development, and Service applications. AR also offers a broad range of amplifiers for CW (Continuous Wave) applications.

See Model Configurations for alternative packaging and special features.

The export classification for this equipment is 3A999.d. 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.

8000TP1G1z5 TYPICAL POWER OUTPUT



AR RF/Microwave  
Instrumentation  
160 School House Rd  
Souderton, PA 18964  
215-723-8181

For an applications engineer call: 800.933.8181

[www.arworld.us](http://www.arworld.us)



# 8000TP1G1z5

- Pulse Amplifier
- M1-M6
- 8000 Watts
- 1GHz-1.5GHz

## Specifications

**POWER (Fundamental), Peak Pulse, @ Output:** Nominal, 10,000 watts; Minimum, 8000 watts

**FLATNESS:** ±6 dB maximum

**FREQUENCY RESPONSE:** 1-1.5 GHz

**INPUT FOR RATED OUTPUT:** 1.0 milliwatt maximum

**GAIN (at maximum setting):** 69 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 pulse width foldback protection at peak reflected power exceeding 2000 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.

**PULSE CAPABILITY:**

Pulse Width	0.07 – 40 microseconds.
Pulse Rate (PRF)	100 kHz maximum
Duty Cycle	1% maximum.
RF Rise and Fall	70 ns max (10% to 90%).
Delay	300 ns maximum from pulse input to RF 90%
Pulse Width Distortion	±30 ns maximum (50% points of output pulse width compared to 50% points of input pulse width)
Pulse Off Isolation	80 dB minimum, 90 dB typical
Pulse Input	TTL level, 50 ohm nominal termination

## 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 for rack mounting, size (W x H x D) 49 x 22 (5U) x 94 cm, 19 x 8.75 (5U) x 37 in., Subtract approximately 11 kg, 25 lbs, for removal of outer enclosure.
- E2S Slides:** slides installed, add approximately 2 kg, 5 lbs.
- E3H Handles:** Front pull handles installed.
- S Special Features:** May select a special feature (extra cost) [S1E]
- S1E Extended Frequency Range:** Extended operation down to 0.9 GHz at reduced power of 5 kW minimum from 0.9 to 1.0 GHz.

**NOISE POWER DENSITY:**  
 (pulse on) Minus 55 dBm/Hz maximum; Minus 65 dBm/Hz typical  
 (pulse off) Minus 140 dBm/Hz (typical)

**HARMONIC DISTORTION:** Minus 15 dBc maximum

**PRIMARY POWER:** 190-260 VAC, 50/60 Hz single phase, 1 KVA maximum

**CONNECTORS:**  
 RF input Type N female, rear panel  
 RF output Type DIN 7-16, rear panel  
 RF output forward and reflected sample ports Type N female, rear panel  
 Pulse input Type BNC female, rear panel  
 GPIB IEEE-488 female, rear panel  
 Interlock DB-15 female, rear panel

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

**SIZE (W x H x D):** 50.3 x 26 x 94 cm, 19.8 x 10.3 x 37 in

**WEIGHT (approximate):** 57 kg, 125 lbs

**EXPORT CLASSIFICATION:** 3A999.d

Model Number	Features	
	E	S
8000TP1G1z5	Base model	–
M1	E1C	–
M2	E3H	–
M3	E1C & E3H	–
M4	E1C & E2S	–
M5	E1C & E2S & E3H	–
M6	E2S & E3H	S1E

Model number example: Model 8000TP1G1z5M2 would have option E3H front pull handles installed.