



## 1000TP2G8

- Pulse Amplifier
- M1-M8
- 1000 Watts
- 2.5GHz-7.5GHz

### Features

The Model 1000TP2G8 is a self contained, forced air cooled, broadband traveling wave tube (TWT) microwave amplifier designed for pulse applications at low to moderate duty factors where instantaneous bandwidth and high gain are required. A reliable TWT subsystem provides a conservative 1000 watts minimum peak RF pulse power at the amplifier output connector. Stated power specifications are at 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, 0 dBm input, TTL Gating, VSWR protection, gain control, RF output sample port, auto sleep, plus monitoring of TWT helix current, cathode voltage, collec-

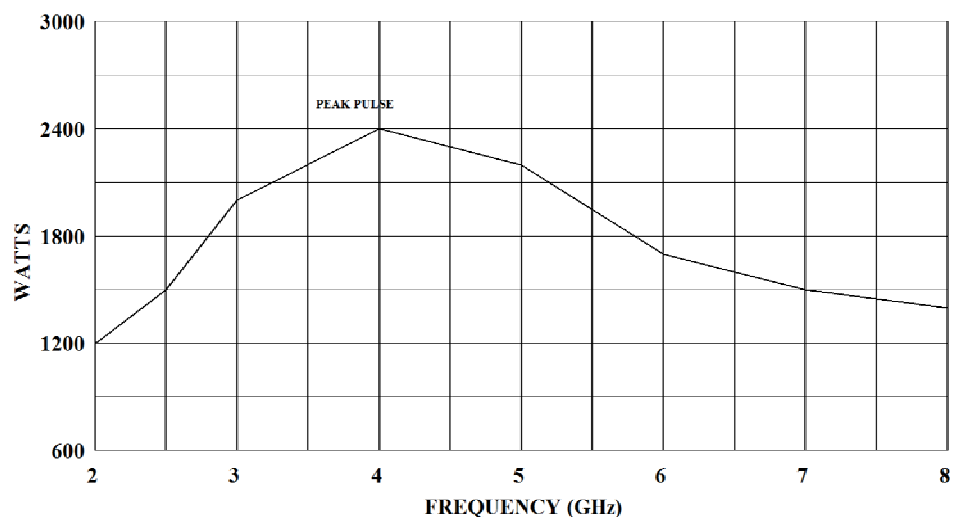
tor voltage, heater current, heater voltage, baseplate temperature and cabinet temperature. Modular design of the power supply and RF components allow for easy access and repair. Use of a switching mode power supply results in significant weight reduction.

Housed in a stylish contemporary cabinet, the Model 1000TP2G8 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.

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.

See Model Configurations for alternative packaging and special features.

1000TP2G8 TYPICAL POWER OUTPUT



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## Specifications

**POWER (Fundamental), Peak Pulse, @ Output:**  
Nominal, 1800 watts; Minimum, 1000 watts

**FLATNESS:** ±7 dB maximum, equalized for  
±3 dB maximum at rated power

**FREQUENCY RESPONSE:** 2.5–7.5 GHz instantaneously

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

**GAIN (at maximum setting):** 60 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 500 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 – 100 microseconds.
Pulse Rate (PRF)	100 kHz maximum
Duty Cycle	4% maximum.
RF Rise and Fall	30 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

### NOISE POWER DENSITY:

(pulse on) Minus 72 dBm/Hz (maximum);  
Minus 74 dBm/Hz (typical)  
(pulse off) Minus 140 dBm/Hz (typical)

**HARMONIC DISTORTION:** Minus 0 dBc maximum; minus 1.5 dBc typical

**PRIMARY POWER:** 190–260VAC, single phase, 50/60Hz, 1.5 KVA maximum

### CONNECTORS:

RF input: Type N female, rear panel  
RF output: Type N female, rear panel  
RF output forward sample port:  
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 AND WEIGHT:** See Model Configurations

**EXPORT CLASSIFICATION:** 3A999.d

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## Model Configurations

- E** Must select one enclosure type from the following [E1 or E2 or E2S]:
- E1** removable outer enclosure, size 19.8 x 10 x 27 in., 50.3 x 25.4 x 69 cm.
- E2** without outer enclosure, size 19 x 8.75 x 27 in, 48.3 x 22.2 x 69 cm.
- E2S** without outer enclosure; slides and front handles installed for rack mounting.
- S** May select a special feature (extra cost) from the following [S1R or S1F]
- 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.
- S1F** Reflected sample port on front panel, type N female connector. Input and forward sample port on front panel. Forward and reflected sample port calibration data supplied on disk in Excel format at 51 points, evenly spaced over the specified frequency range.

Model No.	Weight	Features	
		E	S
1000TP2G8	52 kg (115 lbs)	E1	-
M1	39 kg (85 lbs)	E2	
M2	41 kg (90 lbs)	E2S	-
M3	52 kg (115 lbs)	E1	S1R
M4	39 kg (85 lbs)	E2	S1R
M5	41 kg (90 lbs)	E2S	S1R
M6	52 kg (115 lbs)	E1	S1F
M7	39 kg (85 lbs)	E2	S1F
M8	41 kg (90 lbs)	E2S	S1F