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**MODEL 1000TP8G18**  
**1000 WATTS PULSE**  
**7.5 – 18 GHz**

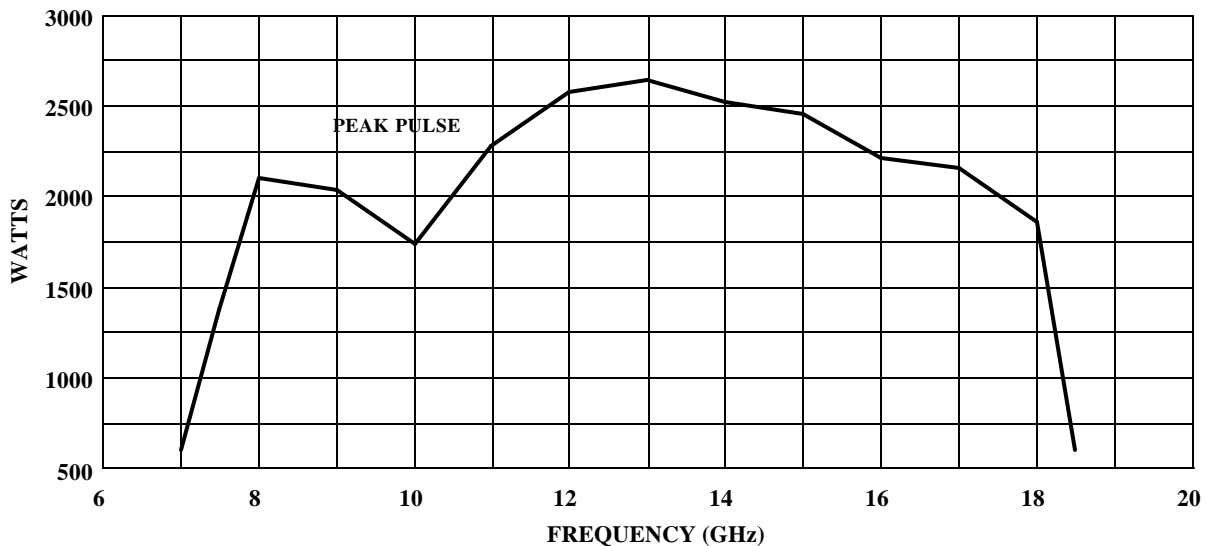
The Model 1000TP8G18 is a self contained, forced air cooled, broadband traveling wave tube (TWT) microwave amplifier designed for pulse applications at low to moderate duty factors where instantaneous bandwidth, reduced harmonics and high gain are required. A reliable TWT subsystem provides a conservative 1000 watts minimum peak RF pulse power at the amplifier output connector. Stated power specifications are at 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, 0 dBm input, TTL Gating, VSWR protection, gain control, 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.

Housed in a stylish contemporary cabinet, the Model 1000TP8G18 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 packaging alternatives.

**1000TP8G18 TYPICAL POWER OUTPUT**



# SPECIFICATIONS

## Model 1000TP8G18

### POWER (fundamental), PEAK PULSE, @ OUTPUT CONNECTOR

Nominal..... 1500 watts  
 Minimum..... 1000 watts

FLATNESS..... ±8 dB maximum, equalized for  
 ±3 dB maximum at rated power

FREQUENCY RESPONSE..... 7.5 – 18 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 power foldback protection at average reflected power exceeding 30 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 max (50% point 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 57 dBm/Hz (maximum) , minus  
 58 dBm/Hz(typical)  
 (pulse off)..... Minus 140 dBm/Hz (typical)

HARMONIC DISTORTION..... \*Minus 2 dBc maximum, Minus 3 dBc typical

PRIMARY POWER..... 190-260 VAC, single phase  
 50/60 Hz  
 1.5 KVA maximum

### CONNECTORS

RF input..... Type N female on rear panel  
 RF output..... Type WRD 750D24 waveguide flange  
 RF output sample port..... Type N female on rear panel  
 Pulse input..... Type BNC female on rear panel  
 GPIB ..... IEEE-488 female on rear panel  
 Interlock..... DB-15 female on rear panel

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

### MODEL CONFIGURATIONS

Model Number	Description	Weight	Size (W x H x D)
1000TP8G18	With removable enclosure	53 kg (115 lb)	50.3 x 25.4 x 82 cm 19.8 x 10 x 32 in
1000TP8G18M1	Shipped without an outer cabinet	39 kg (85 lb)	48.3 x 22.2x 74 cm 19.0 x 8.75 x 29 in
1000TP8G18M2	Enclosure removed for rack mounting - slides and front handles installed	41 kg (90 lb)	48.3 x 22.2 x 74 cm 19.0 x 8.75 x 29 in

\*Contact Amplifier Research for alternative harmonic specifications.