

2000TP8G18

- Pulse Amplifier
- M1, M2, M3
- 2000 Watts
- 7.5GHz–18GHz

Features

The Model 2000TP8G18 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 2000 watts minimum peak RF pulse power at the amplifier output connector. Stated power specifications are at the fundamental frequency.

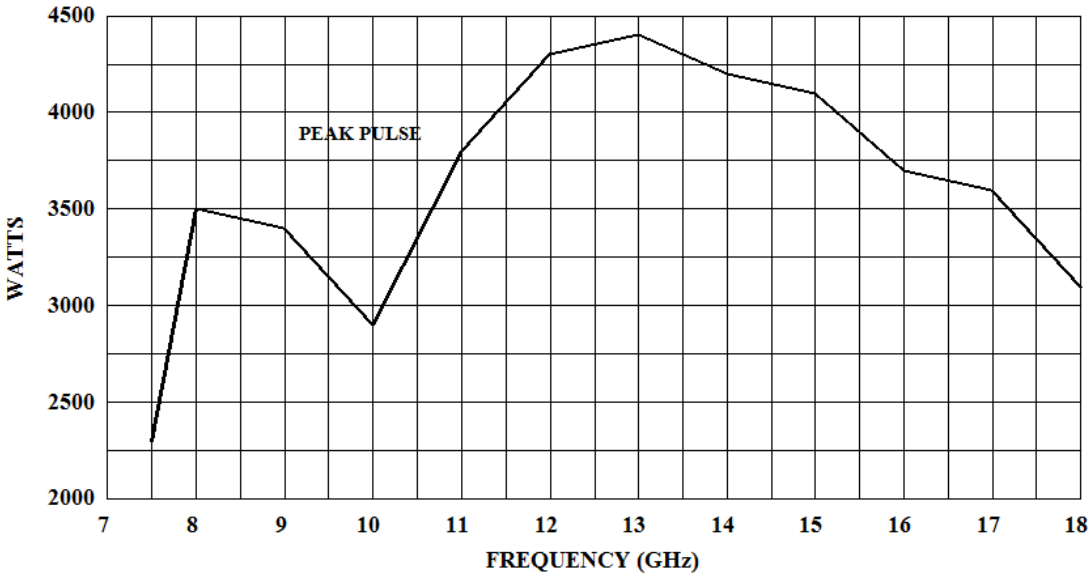
The amplifier's front panel digital display shows forward and reflected average power output or forward and reflected peak power, plus extensive system status information accessed through a series of menus via soft keys. Status indicators include power on, warm-up, standby, operate, faults, excess average 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, 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.

Housed in a stylish contemporary cabinet, the Model 2000TP8G18 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 external harmonic filters.

2000TP8G18 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

2000TP8G18

- Pulse Amplifier
- M1, M2, M3
- 2000 Watts
- 7.5GHz–18GHz

Specifications

Power (Fundamental), Peak Pulse, @ Output Connector: Nominal, 2500 watts; Minimum, 2000 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): 63 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 1000 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.

NOISE POWER DENSITY:

(pulse on)	Minus 55 dBm/Hz (maximum), Minus 58 dBm/Hz (typical)
(pulse off)	Minus 140 dBm/Hz (typical)

HARMONIC DISTORTION: Minus 18 dBc maximum, Minus 20 dBc typical

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

PULSE CAPABILITY:

Pulse Width	0.07 – 30 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

CONNECTORS:

RF input:	Type N female, rear panel
RF output:	Type WRD 750D24 waveguide flange, 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.

WEIGHT AND SIZE: See Model Configurations

EXPORT CLASSIFICATION: 3A999.d

Model Configurations

Model Number	Features	
	E	S
2000TP8G18	E1	-
2000TP8G18M1	E1	S2K
2000TP8G18M2	E2S	-
2000TP8G18M3	E1	S3D, S4R

E Must select one enclosure type from the following:

E1 Removable outer enclosure, size 50.3 x 39.4 x 77.5 cm (19.8 x 15.5 x 30.5 in). Weight approximately 72 kg (170 lbs).

E2 Without outer enclosure, size 48.3 x 35.6 (8U) x 76.5 cm (19 x 14 (8U) x 30.1 in). Weight approximately 64 kg (140 lbs).

E2S Enclosure removed for rack mounting; slides and handles installed, size 48.3 x 35.6 (8U) x 76.5 cm (19 x 14 (8U) x 30.1 in); add 2 kg (5 lbs) to weight of E2.

S May select a special feature (extra cost) from the following [S2K]:

S2K Supplied with one TF-type externally-mountable harmonic filter and a switch kit that allows the user to select an appropriate filter band, high (which bypasses filter) or low (which applies filter) via this TWTA, to offer harmonics minus 25 dBc maximum at the output of the kit. Insertion loss when used with filter is maximum 1.5 dB. See **TF Type Filter Specifications** table below. Add filter weight, plus add 2 kg (5 lbs) for switch kit.

S3D Duty cycle 6% maximum

S4R Replace GPIB remote with Ethernet remote supporting SCPI command set.

2000TP8G18

- Pulse Amplifier
- M1, M2, M3
- 2000 Watts
- 7.5GHz–18GHz

S2K – TF TYPE FILTER SPECIFICATIONS

Micro-wave Filter Model	For Use with AR TWTA Model	Pass Band (GHz)	Inser-tion Loss (dB max)	Reject Band (GHz)	Rejec-tion (dB min)	Power (fundamental & harmonic, watts, max)	Input connect-or	Output connect-or	Size L x W x D (cm, in max)	Weight (kg, lbs typical)	Input VSWR in Pass band (typical)	Input VSWR in Reject band (typical)
TF type filter 1	2000TP8G18 with WRD750D24 waveguide flange, requires one filter	7.5-12.4	0.5	15 – 36	25	200 & 10 average 5000 & 150 peak	WRD750 D24 wave-guide flange	WRD750 D24 wave-guide flange	28 x 5 x 13; 11 x 2 x 5	1,2	1.3:1	2.5:1