产品手册

仪器型号： AR**放大器**1000TP8G18

西安安泰测试科技有限公司

仪器维修|租赁|销售|测试

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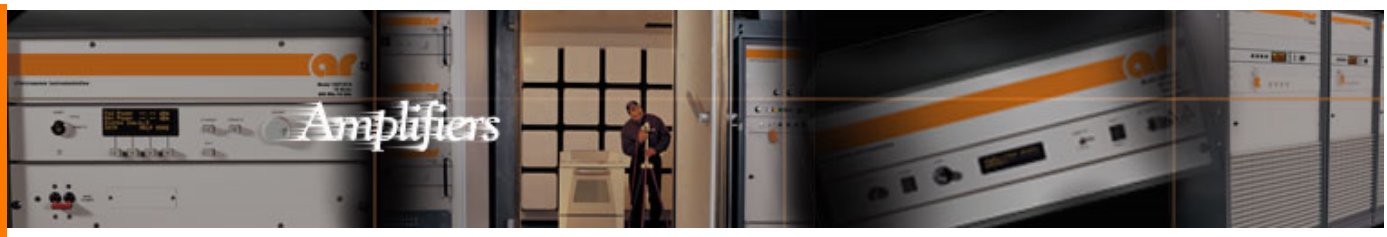


1000TP8G18

- Pulse Amplifier
- M1–M22
- 1000 Watts
- 7.5GHz–18GHz

Features

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, 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.

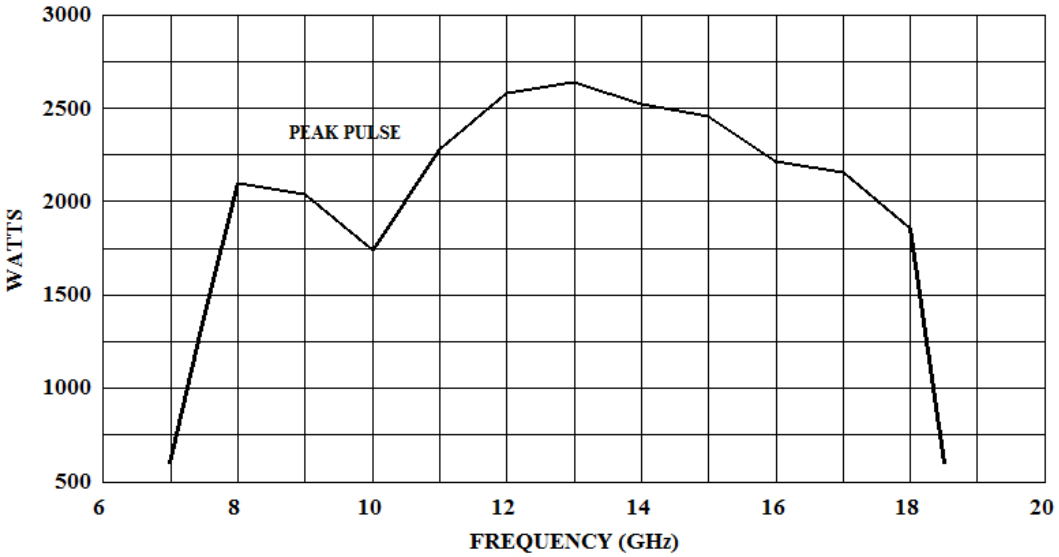
The amplifier's front panel digital display shows forward and reflected average power output or forward and reflected peak power, plus extensive system status information accessed through a series of menus via soft keys. Status indicators include power on, warm-up, standby, operate, faults, excess average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

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.

1000TP8G18 TYPICAL POWER OUTPUT



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Specifications

Power (Fundamental), Peak Pulse, @ Output Connector: Nominal, 1800 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 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 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, 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

ENVIRONMENTAL:
Operating Temperature: 0° to +40°C
Storage Temperature: -40° to +70°C

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

WEIGHT AND SIZE: 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) and/or S2K} or S3P]

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.

S2K Supplied with two TF type externally mountable harmonic filters and a switch kit that allows user to select an appropriate filter band, high or low, via this TWTA. Insertion loss when used with filters is maximum 1.5 dB. See TF type Filter specification table below. Dimensions and enclosures are for TWTA's only without kits and filters.

S3P RF output waveguide changed to WRD650. Frequency range extended down to 6.5 GHz. 6.5–7.5 GHz, 1000 watts pulse
Flatness: equalized for ±5 dB maximum from 6.5 –18 GHz at rated power. Reflected sample port on rear panel, type N female connector.

S4R Remote Interface: Change remote interface to Ethernet from standard IEEE-488 GPIB.

S5C 5m power cable, supply end unterminated, amplifier end fitted with MS3106F18-115 connector and appropriate mating connector on rear of amplifier as power inlet.

S6D Duty Cycle=6%.

Model Number	Weight	Features	
		E	S
1000TP8G18	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
M9	62 kg (135 lbs)	E1	S2K
M10	48 kg (105 lbs)	E2	S2K
M11	50 kg (110 lbs)	E2S	S2K
M12	62 kg (135 lbs)	E1	S2K, S1R
M13	48 kg (105 lbs)	E2	S2K, S1R
M14	50 kg (110 lbs)	E2S	S2K, S1R
M15	62 kg (135 lbs)	E1	S2K, S1F
M16	48 kg (105 lbs)	E2	S2K, S1F
M17	50 kg (110 lbs)	E2S	S2K, S1F
M18	52 kg (115 lbs)	E1	S3P
M19	39 kg (85 lbs)	E2	S3P
M20	41 kg (90 lbs)	E2S	S3P
M21	39 kg (85 lbs)	E2	S3P, S4R
M22	41 kg (90 lbs)	E2S	S4R, S5C, S6D

S2K – TF TYPE FILTER SPECIFICATIONS

Microwave Filter Model	For Use with AR TWTA Model	Pass Band (GHz)	Insertion Loss (dB max)	Reject Band (GHz)	Rejection (dB min)	Power (fundamental & harmonic, watts, max)	Input connector	Output connector	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)
filter 1	1000TP8G18 with WRD750D24 waveguide flange, requires two filters	7.5-12.4	0.5	15-36	25	150 & 100 average, 3000 & 2000 peak	WRD750 D24 waveguide flange	WRD750 D24 waveguide flange	30 x 18 x 15 12 x 3 x 6	4.5, 10	1.3:1	2.5:1
filter 2		12.4-18	0.5	24.8-36	25	150 & 100 average, 3000 & 2000 peak			30 x 18 x 15 12 x 3 x 6	4.5, 10	1.3:1	2.5:1