



1000SP1G2

- 1000 Watts Pulse
- 1GHz–2GHz

Features

The Model 1000SP1G2 is a self-contained, forced-air-cooled, broadband solid-state microwave amplifier designed for pulse applications at low duty factors where instantaneous bandwidth and high gain are required. The unit 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, 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, plus monitoring of 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.

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.

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Specifications

RATED POWER OUTPUT: 1000 watts minimum

INPUT FOR RATED OUTPUT: 1.0 milliwatt maximum

POWER OUTPUT @ 3dB COMPRESSION: Nominal 950 watts; Minimum 900 watts

POWER OUTPUT @ 1dB COMPRESSION: Nominal 800 watts; Minimum 700 watts

FLATNESS: ±1.5 dB typical; ±2.5 dB maximum

FREQUENCY RESPONSE: 1.0–2.0 GHz instantaneously

GAIN (at maximum setting): 60 dB minimum

GAIN ADJUSTMENT: Continuous Range 20 dB minimum, (4096 steps remote)

INPUT IMPEDANCE: 50 ohms, VSWR 2.0:1 maximum

OUTPUT IMPEDANCE: 50 ohms, nominal

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.

PULSE CAPABILITY:

Pulse Width	0.07–50 microseconds
Pulse Rate (PRF)	50 kHz maximum
Duty Cycle	5% maximum.
RF Rise and Fall	50 ns max (10% to 90%).
Delay	600 ns maximum from pulse input to RF 90%
Pulse Width Distortion	±100 ns maximum (50% points of output pulse width compared to 50% points of input pulse width)
Pulse Off Isolation	60 dB minimum
Pulse Input	TTL level, 50 ohm nominal termination

THIRD ORDER INTERCEPT: 67 dBm typical

NOISE FIGURE: 15 dB typical

HARMONIC DISTORTION: Minus 18 dBc max at 700 watts

SPURIOUS: Minus 60 dBc Typ.

PHASE LINEARITY: ±4.0 deg/100 MHz, Typ

PRIMARY POWER: 100-264 VAC, 50/60 Hz, single phase, 1500 watts maximum

CONNECTORS:
 RF See Model Configurations
 RF output forward and reflected sample ports Type N female, rear

PULSE INPUT Type BNC female, rear

REMOTE INTERFACES:
 IEEE-488 24 pin
 Ethernet RJ-45

SAFETY INTERLOCK: 15 pin Subminiature D

COOLING: Forced air (self contained fans)

SIZE & WEIGHT: See Model Configurations

EXPORT CLASSIFICATION: 3A999.d

MODEL CONFIGURATIONS

MODEL NUMBER	RF INPUT	RF OUTPUT	WEIGHT	SIZE (W x H x D)
1000SP1G2	N (f), front	7-16 DIN (f), front	38 kg (84 lbs)	50.3 x 19.8 (4U) x 60.5 cm, 19.8 x 7.8 (4U) x 23.8 in
1000SP1G2M1	N (f), rear	7-16 DIN (f), rear	38 kg (84 lbs)	48.3 x 19.8 (4U) x 60.5 cm, 19.8 x 7.8 (4U) x 23.8 in
1000SP1G2M2	Same as 1000SP1G2 with enclosure removed for rack mounting		31 kg (68 lbs)	48.3 x 17.8 (4U) x 58 cm, 19 x 7 (4U) x 22.8 in
1000SP1G2M3	Same as 1000SP1G2M1 with enclosure removed for rack mounting		31 kg (68 lbs)	48.3 x 17.8 (4U) x 58 cm, 19 x 7 (4U) x 22.8 in