Established 1981
Advanced Test Equipment Rentals
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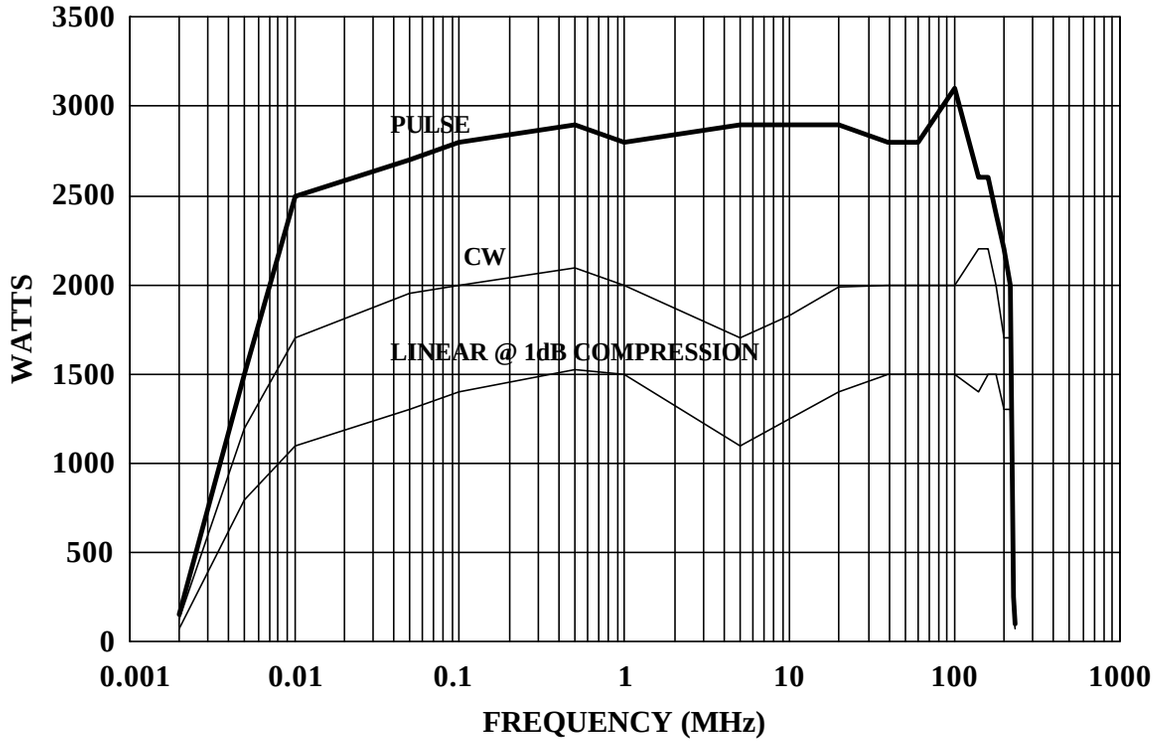
MODEL 1000L
1200 WATTS CW
2500 WATTS PULSE
10kHz-220 MHz

The Model 1000L is an economical, self-contained, air-cooled broadband amplifier designed for laboratory applications that require instantaneous bandwidth, high gain and high power output. Housed in a stylish contemporary enclosure, the Model 1000L is smaller than competitive units with similar power levels. All operating controls are functionally grouped on the front panel for simplicity of operation. These include modern, lighted push-button switches for the command functions, POWER, STANDBY, OPERATE and PULSE, a control for setting the output level of the amplifier, and a meter for monitoring critical operating voltages and currents. Remote control is provided through a rear panel mounted connector. Isolated TTL level remote control can be accomplished using our CP2001 interface. Isolated IEEE-488 compatible control can be provided with our CP3000. A highly versatile unit, the Model 1000L features rugged circuitry and a quick-acting, solid state crowbar circuit to protect the final amplifier tubes from damage due to internal arcing. An electronic circuit is provided to enable rapid gating or blanking of the amplifier.

1000L TYPICAL POWER OUTPUT



REV060396

SPECIFICATIONS
Model 1000L

POWER OUTPUT	
High Range	
Pulse	
Minimum	***2500 watts to 150MHz***
	1750 watts to 220MHz
Duty Cycle	***15%***
Pulse Width	***8 milliseconds***
CW	
Minimum	***1200 watts***
Low Range	***100 watts nominal***
FLATNESS, high range	***± 1.5 dB***
FREQUENCY RESPONSE	***10 kHz - 220 MHz instantaneously***
INPUT FOR RATED OUTPUT	***1.0 milliwatt maximum***
GAIN (at maximum setting)	
High Range	***61 dB minimum***
Low Range	***47 dB minimum***
GAIN ADJUSTMENT (continuous range)	***18 dB minimum***
INPUT IMPEDANCE	***50 ohms, VSWR 1.5:1 maximum***
OUTPUT IMPEDANCE	***50 ohms, nominal***
MISMATCH TOLERANCE*	***100% of rated power without foldback. Will operate without damage, or oscillation with any magnitude and phase of source and load impedance.***
MODULATION CAPABILITY	***Linear amplitude and phase response to over 80 MHz allows faithful reproduction of AM, FM, Pulse, or phase modulation appearing on the input signal***
HARMONIC DISTORTION AT 750 WATTS	
Above 120 MHz	***Minus 30 dBc maximum***
Below 120 MHz	***Minus 15 dBc maximum***
	Minus 18 dBc nominal
THIRD ORDER INTERCEPT POINT	***66dBm Typical***
GATING CHARACTERISTICS	
Pulse Mode Pedestal/CW Mode Blanking	
Signal (into 180 ohms)	***Plus or minus 2.5 to 6.0 VDC***
Rise time	***20 microseconds maximum***
Fall time	***4 microseconds maximum***
RF Rise/Fall Time	***10 nanoseconds maximum***
RF Pulse Droop	***1.0% maximum at 8 milliseconds***
PRIMARY POWER (specify one)	***200/208 ± 5% VAC, 3 phase, 50/60 Hz***
	380/415 ± 5% VAC, 3 phase, 50/60 Hz
	400/415 ±5% VAC, 3 phase, 50/60Hz
	15.2 kVA nominal
CONNECTORS	
RF Input	***Type BNC female***
RF Output, high range	***Type C female***
RF Output, low range	***Type N female***
Gating/Blanking	***Type BNC female***
Remote Control	***25 pin female subminiature D***
COOLING	***Forced air (self contained fans)***
WEIGHT	***239 kg (525 lb)***
SIZE (WxHxD)	***56.1 x 149.9 x 58.4 cm***
	22.1 x 59.0 x 23.0 in

**** See Application Note #27***

rf/microwave instrumentation

Model 1000W1000D, M1, M2
1000 Watts CW
80MHz–1000MHz

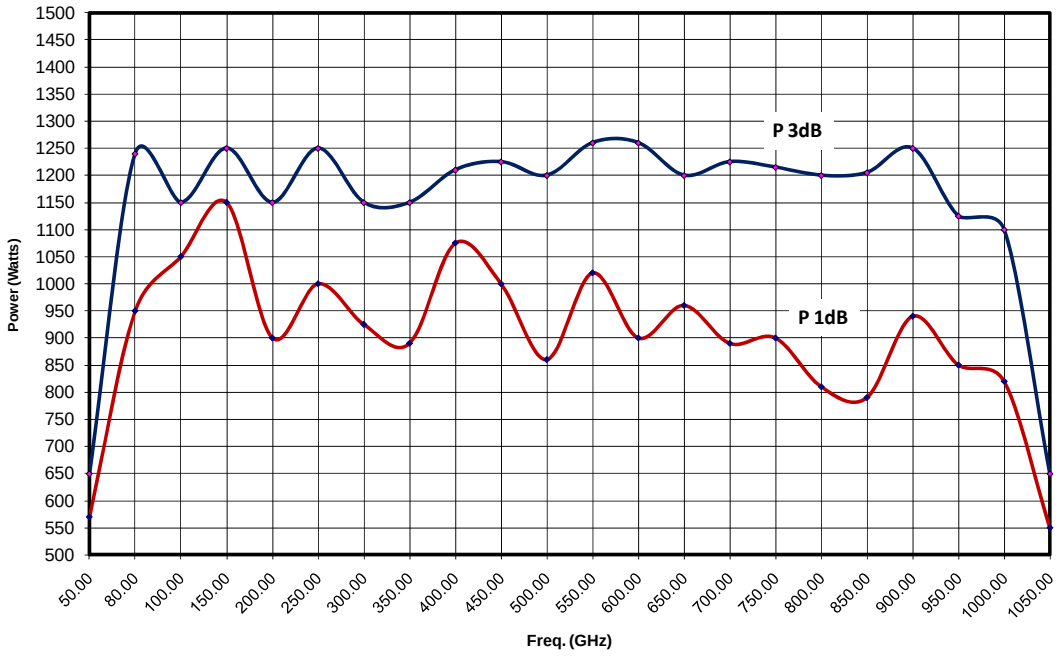
The Model 1000W1000D is a self-contained, air-cooled, broadband, completely solid-state amplifier designed for applications where instantaneous bandwidth and high gain are required. Push-pull circuitry is utilized in all high power stages in the interest of lowering distortion and improving stability. The Model 1000W1000D, when used with an RF sweep generator, will provide a minimum of 1000 watts of swept power.

The Model 1000W1000D is equipped with a Digital Control Panel (DCP) which provides both local and remote control of the amplifier. The DCP uses a digital display, menu assigned softkeys, a single rotary knob, and four dedicated switches (POWER, STANDBY, OPERATE and FAULT/RESET) to offer extensive control and status reporting capability. The display provides operational presentation of Forward Power and Reflected Power plus control status and reports of internal amplifier status. Special features include a gain control, internal/external automatic level control (ALC) with front panel control of the ALC threshold, pulse input capability and RF output level protection. Also included is an internal RF detector that provides an output for use in self-testing or operational modes.

All amplifier control functions and status indications are available remotely in GPIB/IEEE-488 format and RS-232 hardware, and fiber optic. The buss interface connector is located on the back panel and positive control of local or remote operation is assured by a keylock on the front panel of the amplifier.

The 1000W1000D is housed in a single equipment rack and is designed to provide complete stand-alone performance for RF testing. It is also configured to be used as a sub-amplifier in a 2000-watt, 3000-watt or 4000-watt higher power amplifier. It can be added to in an incremental fashion to become a part of these higher power units yet still be used as a stand-alone 1000 watt amplifier.

1000W1000D TYPICAL POWER OUTPUT



Export Commodity Classification Number (ECCN), EAR99 items, do not require export control.

SPECIFICATIONS, 1000W1000D

RATED OUTPUT POWER ..... 1000 watts minimum

INPUT FOR RATED OUTPUT ..... 1.0 milliwatt maximum

POWER OUTPUT @ 3 dB compression
- Nominal ..... 1200 watts
- Minimum ..... 950 watts

POWER OUTPUT @ 1 dB compression
- Nominal ..... 950 watts
- Minimum ..... 700 watts

FLATNESS ..... ± 2.0 dB
± 0.8 dB with internal leveling

FREQUENCY RESPONSE ..... 80 - 1000 MHz instantaneously

GAIN (at maximum setting) ..... 60 dB minimum

GAIN ADJUSTMENT (continuous range) ..... 18 dB minimum

INPUT IMPEDANCE ..... 50 ohms, VSWR 2.0:1 maximum

OUTPUT IMPEDANCE ..... 50 ohms nominal

MISMATCH TOLERANCE* ..... 100% of rated power without foldback up to 6.0:1 mismatch above which may limit to 600 watts reflected power. Will operate without damage or oscillation with any magnitude and phase of source and load impedance.
*See Application Note #27

MODULATION CAPABILITY ..... Faithfully reproduces AM, FM, or Pulse modulation appearing on input signal.

HARMONIC DISTORTION ..... Minus 20 dBc maximum at 800 watts

THIRD ORDER INTERCEPT POINT ..... 66 dBm typical

RF POWER METER ..... 0 - 1200 watts full scale

PRIMARY POWER (specify voltage) ..... 200 - 240 VAC, Delta Connected (4 wire)
360-435 VAC, Wye Connected (5 wire)
50/60 Hz, 3 phase
12kVA Maximum

CONNECTORS
- RF Input ..... See Model Configurations
- RF Output ..... See Model Configurations
- External Leveling Inputs ..... Type BNC female on front panel
- Pulse Modulation Input ..... Type BNC female on front panel
- Detected RF Output ..... Type BNC female on front panel
- Remote Computer Interface ..... 24 Pin female IEEE-488 (GPIB) and RS-232 connector on rear panel
- Remote Computer Interface (fiber optic) ..... ST Conn Tx and Rx RS-232
- Safety Interlock ..... 15 pin Subminiature D on rear panel
- Operate Interface ..... 27 pin Subminiature D on rear panel

COOLING ..... Forced air (self contained fans), enters front and bottom

WEIGHT (approximate) ..... 340 kg (750 lb)

SIZE (W x H x D) ..... 68.8 x 152.5 x 82.5 cm (27.1 x 60.0 x 32.5 in)

MODEL CONFIGURATIONS

Model	RF input Connector	RF Output Connectors	Comments
1000W1000D	Type N female rear panel	Type 7/16 female on rear panel	
1000W1000DM1	Type N female front panel	Type 7/16 female on front panel	
1000W1000DM2	Type N female rear panel	Type 7/16 female on rear panel	Forward and reverse sample ports, Type N female on front panel (-63 dBc)