rf/microwave instrumentation

Model 500W1000A
M1 through M11
500 Watts CW
80MHz–1000MHz

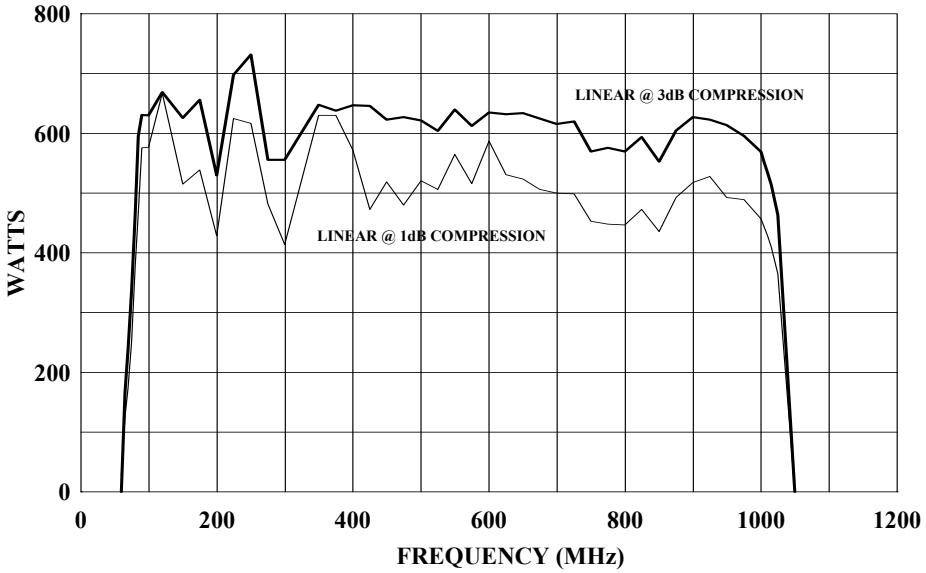
The Model 500W1000A is a self-contained, air-cooled, broadband, completely solid-state amplifier designed for applications where instantaneous bandwidth and high gain are required. Push-pull circuitry is utilized in all high power stages in the interest of lowering distortion and improving stability. The Model 500W1000A, when used with an RF sweep generator, will provide a minimum of 500 watts of swept power.

The Model 500W1000A 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 which 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 bus 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.

Housed in a stylish contemporary equipment rack the Model 500W1000A provides readily available RF power for typical applications such as RF susceptibility testing, antenna and component testing, watt meter calibration, and use as a driver for higher power amplifiers.

500W1000A TYPICAL POWER OUTPUT



SPECIFICATIONS, MODEL 500W1000A

RATED POWER OUTPUT	525 watts minimum
INPUT FOR RATED OUTPUT	1.0 milliwatt maximum
POWER OUTPUT @ 3dB COMPRESSION	
Nominal	612 watts
Minimum	450 watts
POWER OUTPUT @ 1dB COMPRESSION	
Nominal	515 watts
Minimum	350 watts
FLATNESS	± 2.0 dB maximum ± 0.8 dB with internal leveling
FREQUENCY RESPONSE	80–1000 MHz instantaneously
GAIN (at maximum setting)	57 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 250 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	Will faithfully reproduce AM, FM, or Pulse modulation appearing on the input signal.
HARMONIC DISTORTION	Minus 20 dBc maximum at 400 watts
THIRD ORDER INTERCEPT POINT	63 dBm typical
RF POWER METER	600 watts full scale
PRIMARY POWER (specify)	200 - 250 VAC, 50/60 Hz, single phase 6500 VA maximum
CONNECTORS	
RF Input	See Model Configuration
RF Output	See Model Configuration
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
Safety Interlock	15 pin subminiature D on rear 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
COOLING	Forced air (self contained fans) See Model Configuration
WEIGHT (approximate)	174 kg (383 lb)
SIZE (W x H x D)	56.1 x 149.9 x 58.4 cm (22.1 x 59.0 x 23.0 in)

MODEL CONFIGURATION, MODEL 500W1000A

Model Number	RF Connector Locations & Type	Cooling Air Entry	Casters	Remarks
500W1000A	Type N female, rear panel	Bottom	Standard	
500W1000AM1	Type N female, rear panel	Front Grills	Large 5.0"	
500W1000AM2	Output Type 7/16 female, rear panel Input Type N, rear panel	Bottom	Standard	
500W1000AM3	Output Type N female, front panel Input Type N female, rear panel	Bottom	Standard	
500W1000AM4	Type N female, front panel	Bottom	Standard	
500W1000AM5	Input Type N female, front panel. Output Type C female, front panel.	Bottom	Standard	
500W1000AM6	Type N female, rear panel	Bottom	Standard	Variable input lockout
500W1000AM7	Type N female, rear panel	Front Grills	Standard	
500W1000AM8	Type N female, front panel	Front Grills	Standard	
500W1000AM9	Type N female, front panel	Bottom	Standard	Forward and reverse sample ports, type N female on front panel (–60dBc)
500W1000AM10	Input Type N female, front panel. Output Type C female, front panel.	Bottom	Large 5.0"	
500W1000AM11	Type N female, rear panel	Bottom	Standard	Forward and reverse sample ports, type N female on front panel (–60dBc)