Model 500A250A, M1 through M9 500 Watts CW 10kHz–250MHz

The Model 500A250A is a self-contained, air-cooled, broadband, completely solid state amplifier designed for applications where instantaneous bandwidth and high gain are required. Push-pull LDMOS circuitry is utilized in all high power stages in the interest of lowering distortion and improving stability. The Model 500A250A, when used with an RF sweep generator, will provide a minimum of 500 watts of swept power.

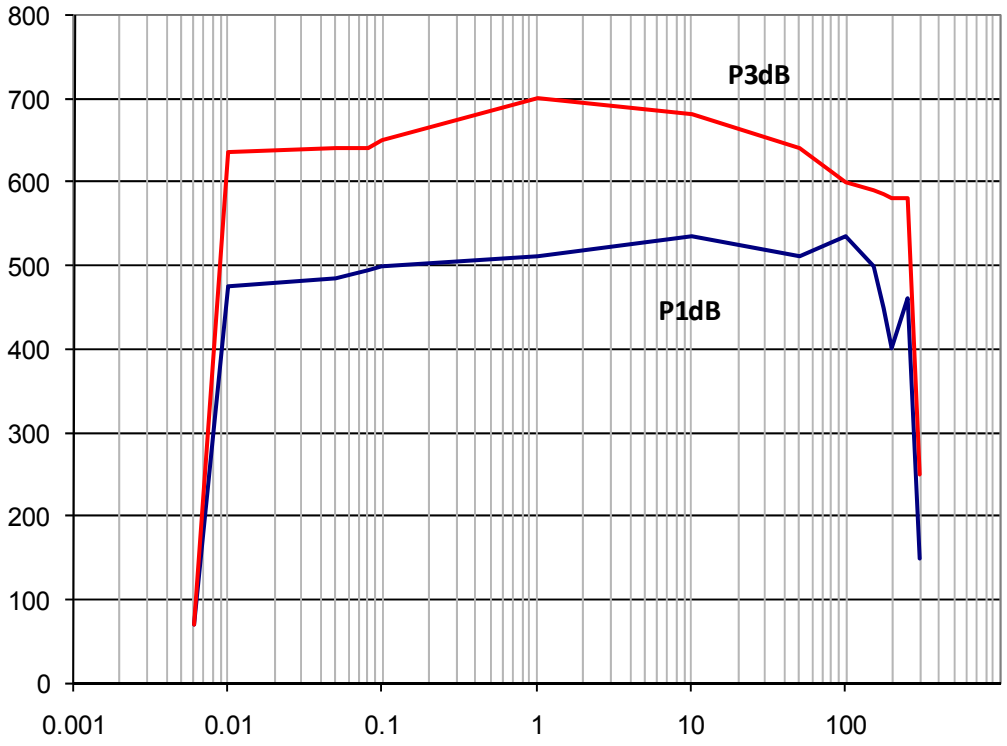
The Model 500A250A is equipped with a Digital Control Panel (DCP) which provides both local and remote control of the amplifier. The DCP uses a 3.75 inch diagonal graphic display, menu assigned softkeys, a single rotary knob, and four dedicated switches to offer extensive control and status reporting 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, forward RF sample port, and a reflective RF sample port for precise power measurements.

All amplifier control functions and status indications are available remotely in GPIB/IEEE-488, RS-232 and USB format. The buss interface connectors are 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.

High efficiency universal input, power factor corrected switching power supplies provides DC to all internal sub-assemblies.

Housed in a stylish, contemporary enclosure, the Model 500A250A provides readily available RF power for typical applications such as RF susceptibility testing, antenna and component testing, watt meter calibration, particle accelerators, plasma generation, communications and use as a driver for higher power amplifiers.

500A250A Typical Power Output



SPECIFICATIONS, MODEL 500A250A

RATED OUTPUT POWER	500 watts
INPUT FOR RATED OUTPUT	1.0 milliwatt maximum
POWER OUTPUT @ 3 dB compression	
Nominal	600 watts
Minimum	500 watts
POWER OUTPUT @ 1 dB compression	
Nominal	500 watts
Minimum	350 watts
FLATNESS	± 2.0 dB maximum
FREQUENCY RESPONSE	10 kHz–250 MHz instantaneously
GAIN (at maximum setting)	57 dB minimum
GAIN ADJUSTMENT (continuous range)	10 dB minimum
INPUT IMPEDANCE	50 ohms, VSWR 1.5:1 maximum
OUTPUT IMPEDANCE	50 ohms, nominal
MISMATCH TOLERANCE	100% rated power without foldback up to 6.0:1 mismatch, above which may limit to 250W reflected power. Will operate without damage or oscillation with any magnitude and phase of source and load impedance.
MODULATION CAPABILITY	Will faithfully reproduce AM, FM, or pulse modulation appearing on the input signal
HARMONIC DISTORTION	Minus 20 dBc maximum at 350 watts
THIRD ORDER INTERCEPT POINT	65 dBm typical
RF POWER DISPLAY	0–750 watts full scale
PRIMARY POWER	180 - 264 VAC 47–63 Hz, 2500 watts maximum @ 0.99 P.F. typical
CONNECTORS	
RF input	See Model Configuration
RF output	See Model Configuration
Forward Sample	BNC female on front panel (coupling factor 60 dB typical; data supplied)
Reverse Sample	BNC female on front panel (coupling factor 60 dB typical)
Safety Interlock	15 pin female Type D on rear panel
REMOTE CONTROL	
IEEE-488	24-pin female on rear panel
RS-232	9 pin female Type D on rear panel
USB	Type B female
COOLING	Forced air (self contained fans)
WEIGHT, maximum	See Model Configurations
SIZE (W x H x D)	See Model Configurations

MODEL CONFIGURATIONS

Model Number	RF Input	RF Output	Weight	Size
500A250A	Type N female, front	Type N female, front	45.8 kg (101 lb)	50.3 x 34 x 56.9 cm 19.8 x 13.4 x 22.0 in
500A250AM1	Type N female, rear	Type N female, rear	45.8 kg (101 lb)	50.3 x 34 x 56.9 cm 19.8 x 13.4 x 22.0 in
500A250AM2	BNC female, rear	7-16 DIN female, rear	45.8 kg (101 lb)	50.3 x 34 x 56.9 cm 19.8 x 13.4 x 22.0 in
500A250AM3	See separate specification sheet.			
500A250AM4	Same as 500A250AM2 with enclosure removed for rack mounting.		35.4 kg (78 lb)	48.3 x 30.5 x 54.4 cm 19.0 x 12.0 x 21.4 in
500A250AM5	Type N female, front	7-16 DIN female, rear	45.8 kg (101 lb)	50.3 x 34 x 56.9 cm 19.8 x 13.4 x 22.0 in
500A250AM6	Same as 500A250AM1 with enclosure removed for rack mounting.		35.4 kg (78 lb)	48.3 x 30.5 x 54.4 cm 19.0 x 12.0 x 21.4 in
500A250AM7	Type N female, front	Type N female, rear	45.8 kg (101 lb)	50.3 x 34 x 56.9 cm 19.8 x 13.4 x 22.0 in
500A250AM8	BNC female, rear Enclosure removed for rack mounting	Type N female, rear	35.4 kg (78 lb)	48.3 x 30.5 x 54.4 cm 19.0 x 12.0 x 21.4 in
500A250AM9	Same as 500A250A with enclosure removed for rack mounting.		35.4 kg (78 lb)	48.3 x 30.5 x 54.4 cm 19.0 x 12.0 x 21.4 in