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MODEL 250AP250A, M1, M2, M3
250 WATTS CW
5-250 MHz

The Model 250AP250A is a self-contained, air cooled, broadband, solid state amplifier designed for applications where pulsed, high power, RF outputs are required. For NMR applications, the amplifier incorporates high speed blanking and gating circuitry, which generally reduces output noise and increases RF on/off attenuation. This feature is especially suited for NMR applications as well as more general applications. Push-pull MOSFET circuitry is utilized in all high power stages in the interest of lowering distortion and improving stability. The Model 250AP250A, when used with an RF sweep generator, will provide a minimum of 250 watts of swept power.

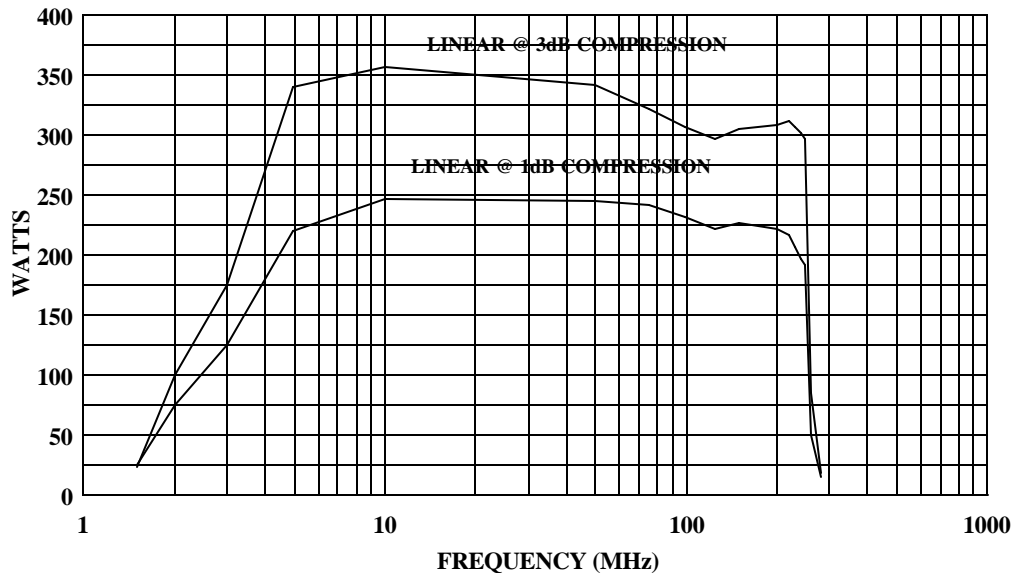
The Model 250AP250A is equipped with a Digital Control Panel (DCP) which provides both local and remote control of the amplifier. The DCP uses a 4-line vacuum fluorescent display, menu assigned softkeys, a single rotary knob, and four dedicated switches (POWER, STANDBY, OPERATE and FAULT/RESET) to offer 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 and RS-232 format. 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.

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 250AP250A 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

250AP250A TYPICAL POWER OUTPUT



REV042303

SPECIFICATIONS
Model 250AP250A

RATED OUTPUT POWER	250 watts
INPUT FOR RATED OUTPUT	1.0 milliwatt maximum
POWER OUTPUT @ 3 dB COMPRESSION	
Nominal	316 watts
Minimum.....	250 watts
POWER OUTPUT @ 1 dB COMPRESSION	
Nominal	240 watts
Minimum.....	150 watts
FREQUENCY RESPONSE	5-250 MHz instantaneously
GAIN (at maximum setting)	54 dB minimum
FLATNESS	± 1.5 dB maximum ± 0.5 dB with internal leveling
GAIN ADJUSTMENT (continuous range)	18 dB minimum
INPUT IMPEDANCE	50 ohms, VSWR 1.5:1 maximum
OUTPUT IMPEDANCE	50 ohms, VSWR 2.5:1 maximum
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	Will faithfully reproduce AM, FM, or pulse modulation appearing on the input signal
HARMONIC DISTORTION	Minus 20 dBc maximum at specified minimum 1 dB compressed power
THIRD ORDER INTERCEPT POINT	60 dBm typical
RF POWER METER	0-350 watts full scale
PULSE MODE GATING CHARACTERISTICS	
Signal (into 50 ohms)	+2.0 to 6.0 VDC
Rise Time	1.0 microseconds maximum
Fall Time	1.0 microseconds maximum
RF Rise/Fall Time	10 nanoseconds maximum
PRIMARY POWER	180 - 264 VAC 47 - 440 Hz, 1400 watts maximum @ 0.99 P.F. typ.
CONNECTORS	
RF input.....	Type BNC female
RF output.....	Type N female
External leveling inputs.....	Type BNC female on front panel
Pulse modulation inputs.....	Type BNC female on front panel
Detected RF output.....	Type BNC female on front panel
Remote control.....	25 pin female subminiature D
COOLING	Forced air (self-contained fans)
WEIGHT, maximum	See model configuration
SIZE (W x H x D)	See model configuration

Model Number	Model Configurations		Weight	Size (W x H x D)
	RF Input	RF Output		
250AP250A	Type N female on front panel	Type N female on front panel	150 lb (68.0 kg)	19.8 x 16.8 x 21.7 in 50.3 x 42.7 x 55.1 cm
250AP250AM1	Type N female on rear panel	Type N female on rear panel	150 lb (68.0 kg)	19.8 x 16.8 x 21.7 in 50.3 x 42.7 x 55.1 cm
250AP250AM2	Same as 250AP250A with enclosure removed for rack mounting		120 lb (54.5 kg)	19.0 x 15.0 x 20.5 in 48.3 x 38.1 x 52.1 cm
250AP250AM3	Same as 250AP250AM1 with enclosure removed for rack mounting		120 lb (54.5 kg)	19.0 x 15.0 x 20.5 in 48.3 x 38.1 x 52.1 cm

* See Application Note #27