The Model 500A100A is a self-contained, air-cooled, broadband, completely solid state amplifier designed for applications where instantaneous bandwidth and high gain are required. Push-pull MOSFET circuitry is utilized in all high power stages in the interest of lowering distortion and improving stability. The Model 500A100A, when used with an RF sweep generator, will provide a minimum of 500 watts of swept power.

The Model 500A100A 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 500A100A 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.

![500A100A Typical Power Output](image)
SPECIFICATIONS

Model 500A100A

POWER OUTPUT, CW
Nominal ................................................................. 617 watts
Minimum ........................................................... 500 watts
Linear @ 1 dB compression ........................................ 300 watts minimum

FLATNESS ........................................................................
± 1.5 dB maximum
± 0.5 dB with internal leveling

FREQUENCY RESPONSE ........................................... 10 kHz - 100 MHz instantaneously

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

GAIN (at maximum setting) ........................................... 57 dB minimum

GAIN ADJUSTMENT (continuous range) .................... 25 dB minimum

INPUT IMPEDANCE .................................................. 50 ohms, VSWR 1.5:1 maximum

OUTPUT IMPEDANCE .................................................. 50 ohms, VSWR 2.5:1 maximum

MISMATCH TOLERANCE ............................................. Will operate without damage, or oscillation with any magnitude and phase of source and load impedance. May limit at rated output.

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

HARMONIC DISTORTION ........................................... Minus 20 dBc maximum at 300 watts

THIRD ORDER INTERCEPT POINT ......................... 61 dBm typical

RF POWER METER .................................................. 0-750 watts full scale

PULSE MODE GATING CHARACTERISTICS
Signal (into 50 ohms) ........................................... +2.0 to 6.0 VDC
Rise Time .......................................................... 0.5 microseconds maximum
Fall Time .......................................................... 0.5 microseconds maximum
RF Rise/Fall Time ............................................. 10 nanoseconds maximum

PRIMARY POWER .................................................. 180 - 264 VAC
47 - 440 Hz, 2000 watts maximum @ 0.99 P.F. typical

REMOTE INTERFACES ........................................... IEEE-488, RS-232

CONNECTORS
RF input .............................................................. See Model Configuration
RF output ............................................................ See Model Configuration
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
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

COOLING .................................................................... Forced air (self contained fans)

WEIGHT, maximum .................................................. See Model Configurations

SIZE (W x H x D) ......................................................... See Model Configurations

MODEL CONFIGURATIONS

<table>
<thead>
<tr>
<th>MODEL NUMBER</th>
<th>RF INPUT</th>
<th>RF OUTPUT</th>
<th>WEIGHT</th>
<th>SIZE (W x H x D)</th>
</tr>
</thead>
<tbody>
<tr>
<td>500A100A</td>
<td>Type N female on front panel</td>
<td>Type N female on front panel</td>
<td>68.0 kg (150 lb)</td>
<td>50.3 x 42.7 x 55.1 cm (19.8 x 16.8 x 21.7 in)</td>
</tr>
<tr>
<td>500A100AM1</td>
<td>Type N female on rear panel</td>
<td>Type N female on rear panel</td>
<td>68.0 kg (150 lb)</td>
<td>50.3 x 42.7 x 55.1 cm (19.8 x 16.8 x 21.7 in)</td>
</tr>
<tr>
<td>500A100AM2</td>
<td>Same as 500A100A with enclosure removed for rack mounting</td>
<td>Same as 500A100A with enclosure removed for rack mounting</td>
<td>54.5 kg (120 lb)</td>
<td>48.3 x 40.0 x 52.1 cm (19.0 x 15.75 x 20.5 in)</td>
</tr>
<tr>
<td>500A100AM3</td>
<td>Same as 500A100AM1 with enclosure removed for rack mounting</td>
<td>Same as 500A100AM1 with enclosure removed for rack mounting</td>
<td>54.5 kg (120 lb)</td>
<td>48.3 x 40.0 x 52.1 cm (19.0 x 15.75 x 20.5 in)</td>
</tr>
<tr>
<td>500A100AM4</td>
<td>Same as 500A100AM1 with enclosure removed for rack mounting</td>
<td>Same as 500A100AM1 with enclosure removed for rack mounting</td>
<td>54.5 kg (120 lb)</td>
<td>48.3 x 40.0 x 52.1 cm (19.0 x 15.75 x 20.5 in)</td>
</tr>
<tr>
<td>500A100AM5</td>
<td>Type N female on front panel</td>
<td>Type 7/16 DIN female on rear panel</td>
<td>68.0 kg (150 lb)</td>
<td>50.3 x 42.7 x 55.1 cm (19.8 x 16.8 x 21.7 in)</td>
</tr>
</tbody>
</table>