The Model 16,000A225 is a self-contained, broadband, completely solid-state amplifier designed for applications where instantaneous bandwidth and high gain are required. The amplifier is air cooled using internal self-contained liquid cooling for high performance and reliability. Push-pull LDMOS circuitry is utilized in all high power stages in the interest of low distortion and improved stability.

The Model 16,000A225 is equipped with a Digital Control Panel (DCP), providing local and remote control of the amplifier. The DCP uses a 3 ¾ inch diagonal graphic display, menu assigned softkeys, a single rotary knob, and four dedicated switches to offer extensive control and status reporting. The display provides operational presentation of Forward Power and Reflected Power plus control status and reports of internal amplifier status.

All amplifier control functions and status indications are available remotely in GPIB/IEEE-488 format, and RS-232 hard wire and fiber optic. 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 provide DC to all internal sub-assemblies. Housed in a stylish, contemporary enclosure, the Model 16,000A225 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.

The export classification for this equipment is EAR99. These commodities, technology or software are controlled for export in accordance with the U.S. Export Administration Regulations. Diversion contrary to U.S. law is prohibited.

Typical Output Power

![Graph showing typical output power vs frequency]

- **PSat**: Peak saturation power
- **P1dB**: Power at 1 dB compression
SPECIFICATIONS, MODEL 16,000A225

RATED OUTPUT POWER ............................................... 16,000 watts, 10 kHz–50 MHz
16,000–12,000 watts, 50 MHz–225 MHz
(derating slope of 22.8 watts/MHz)

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

POWER OUTPUT @ 1 dB COMPRESSION ..................... 12,000 watts, 10 kHz–50 MHz
12,000–8000 watts, 50 MHz–200 MHz
(derating slope of 26.66 watts / MHz)
6000 watts, 200 MHz–225MHz

FREQUENCY RESPONSE ............................................... 10 kHz–225 MHz instantaneously

GAIN (at maximum setting) ........................................... 72 dB minimum

FLATNESS .................................................................... ±3.0 dB maximum
± 1.0 dB with internal leveling

GAIN ADJUSTMENT ...................................................... 20 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 8,000 watts reflected power, from 10 kHz to 50 MHz. Limited to 6000
watts reflected power from 100 MHz to 225 MHz

MODULATION CAPABILITY ........................................... Will faithfully reproduce AM, FM or Pulse modulation appearing on the input
signal.

HARMONIC DISTORTION ............................................. Minus 20 dBc maximum at 10,000 watts

THIRD ORDER INTERCEPT POINT ......................... 77 dBm typical

RF POWER DISPLAY ...................................................... 0–25,000 watts full scale

PRIMARY POWER (User must specify) .............................. 187-264 VAC Delta (4 wire), Wye compatible
365-528 VAC, Wye(5 wire)
47-63 Hz, 3-phase
Note that in Wye configurations neutral may be used only for low-power circuits
75,000 watts maximum at .95 P.F. typical

CONNECTORS
RF Input ................................................................. Type N female on rear panel
RF Output .............................................................. Type EIA 3-1/8 male on rear panel
Remote Control ................................................... 24 pin female GPIB/IEEE-488, 9-pin RS-232 and USB connectors on rear panel
Remote Control (fiber optic) .......................... ST connector. Tx and Rx RS-232.
Safety Interlock ...................................................... 15 pin female Type D on rear panel
Forward Power Sample Port (-70 dBc) ............ Type BNC female on front panel
Reverse Power Sample Port (-70 dBc) .......... Type BNC female on front panel
IEEE-488 (GPIB) and RS-232 INTERFACES ......... Allow control of all amplifier functions and monitoring of all status indications
via standard GPIB/IEEE-488 commands or RS-232 commands

COOLING .................................................................... Forced air (self contained fans); air-cooled w/self-contained internal liquid
cooling

WEIGHT (maximum) ..................................................... 725 kg (1600 lb)

SIZE (W x H x D)............................................................ 280.5 x 152.4 x 88.9 cm (110.5 x 60 x 35 in)

MODEL CONFIGURATIONS

<table>
<thead>
<tr>
<th>Model</th>
<th>RF Input</th>
<th>RF Output</th>
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<tbody>
<tr>
<td>16,000A225</td>
<td>N Female, rear panel</td>
<td>EIA 3-1/8 Male, rear panel</td>
</tr>
<tr>
<td>16,000A225M1</td>
<td>N Female, front panel</td>
<td>EIA 3-1/8 Male, rear panel</td>
</tr>
<tr>
<td>16,000A225M4</td>
<td>See separate specification sheet.</td>
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