



Amplifiers

Model 2500A225C

Features:

- 2.5 kW CW, .01-225 MHz
- Class A design
- Built-in fault monitoring and protection
- Remote control: Ethernet, USB, GPIB, fiber-optic serial, RS-232
- Modular design for easy maintenance and service

Applications:

- EMC (military, aviation, automotive, commercial)
- Radiated and conducted EMC testing
- General purpose, antenna, and component testing

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www.arworld.us/amplifiers

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ISO 9001:2015 Certified
ISO 17025 :2017 Accredited

The Model 2500A225C is a solid-state, Class A design, self-contained, air-cooled, broadband power amplifier designed for applications where instantaneous bandwidth, high gain and linearity are required. It will provide a minimum of 2.5 kW of RF power. Protection from input overdrive beyond 0 dBm is provided as well as protection from various failure conditions including over-temperature and power supply faults.

A front panel display indicates the operational status and fault conditions. All amplifier control functions, and status indications are available remotely using GPIB/IEEE-488, RS-232, fiber-optic serial, USB, or Ethernet. Interface connectors are located on the back panel. Local and remote operation is managed by a switch on the front panel.

Standard RF sample ports allow for forward and reverse power monitoring.

This is a high-power Class A amplifier. The low level of spurious signals and linearity make it ideal for EMC test applications where continued operation into high VSWR loads including open and short circuits is required.

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.



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- 2.5 kW
- .01-225 MHz

Electrical Specifications					
Parameter	Symbol	Minimum	Typical	Maximum	Unit
Rated Power Output (0.01 - 100 MHz)	PSAT	2500	2800	>3000	W
Rated Power Output (100 - 225 MHz)	PSAT	2000	2300	>2500	W
Input for Rated Output	Pin			1	mW
				0	dBm
Power Output @ 3dB Compression (0.01 - 100 MHz)	P3dB	2500	2800	>3000	W
Power Output @ 3dB Compression (100 - 200 MHz)	P3dB	2000	2300	>2500	W
Power Output @ 3dB Compression (200 - 225 MHz)	P3dB	1800	2000	>2000	W
Power Output @ 1dB Compression (0.01 - 100 MHz)	P1dB	2000	2400	>2700	W
Power Output @ 1dB Compression (100 - 200 MHz)	P1dB	1500	1900	>2100	W
Power Output @ 1dB Compression (200 - 225 MHz)	P1dB	1300	1500	>1600	W
Operating Frequency	BW	0.01		225	MHz
Gain (Small Signal)		64	69		dB
Gain Reduction Adjustment (when below gain compression)		0		20	dB
Flatness @ small signal (-20 dBm input)	ΔG		± 1.5	± 2.5	dB
Input Impedance	Z in		50		Ohm
			1.5:1	2.0:1	VSWR
Output Impedance	Z out		50		Ohm
3 rd Order Intercept	IP3		+74		dBm
Noise Figure	NF		7.0		dB
Harmonic Distortion @ 1750 W	H2, H3		-40	-20	dBc
Harmonic Distortion @ Rated Power (Minimum)	H2, H3		-25	-15	dBc
Spurious			-70		dBc
Power Consumption	PD			8.0	kW



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Absolute Maximum Rating

Exceeding any of the limits listed here may result in permanent damage to the device.

Parameter	Minimum	Typical	Maximum	Unit
RF Drive		0	+13	dBm
RF Load		1:1	∞	VSWR
RF Load Reflected Will operate without damage or oscillation when connected to any load impedance without the aid of foldback circuitry. Load mismatch above 6:1 may limit output reflected power to 50% of minimum rated power.			50	%
AC Power (3-phase) Low voltage option	200		240	VAC
AC Power (3-phase) High voltage option	380		415	VAC
AC Power	47		63	Hz
Ambient Temperature	+5	+25	+35	°C
Storage Temperature	-20		+50	°C
Altitude			2000	m
Shock/Vibration	Normal Truck Transport			

Mechanical Specifications

Parameters		Unit
Dimensions (W x H x D) (26U Rack)	57.4 x 136 x 67.1	cm
	22.6 x 53.5 x 26.5	in
Weight	204	kg
	450	lb
Cooling	Forced air (self-contained fans) Front and side inlets / rear outlet $\Delta t = +10^{\circ}\text{C}$ (typical)	
Acoustical Noise (Measured @ 1 meter from the front)	78 (typical)	dBA

Regulatory Compliance

Type	Standard
EMC	EN 61326-1
Safety	UL 61010-1
	CAN/CSA C22.2 #61010-1
	CENELEC EN 61010-1
RoHS	Directive 2011/65/EU
Export	EAR99



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Connector interfaces	
Function	Type
RF input	N - female (50 Ω)
RF output	7-16 DIN female (50 Ω)
IEEE-488	24-pin female
RS-232	9-pin subminiature D female
RS-232 (fiber optic)	ST
USB 2.0	Type B
Ethernet	RJ-45
Interlock	15-pin subminiature D female
AC Input	5-meter harmonized power cord supplied with amplifier. The power cord is left open ended to allow for facility power connection of user's choice.

Ordering Options

2500A225C - **N** - **716** - **Primary Power**
 Model RF IN Conn RF OUT Conn RF Sample Primary
 Location, Type Location, Type Ports Power

CONNECTOR LOCATION	
Front	F
Rear	R

RF SAMPLE PORTS	
Front	SPF
Rear	SPR

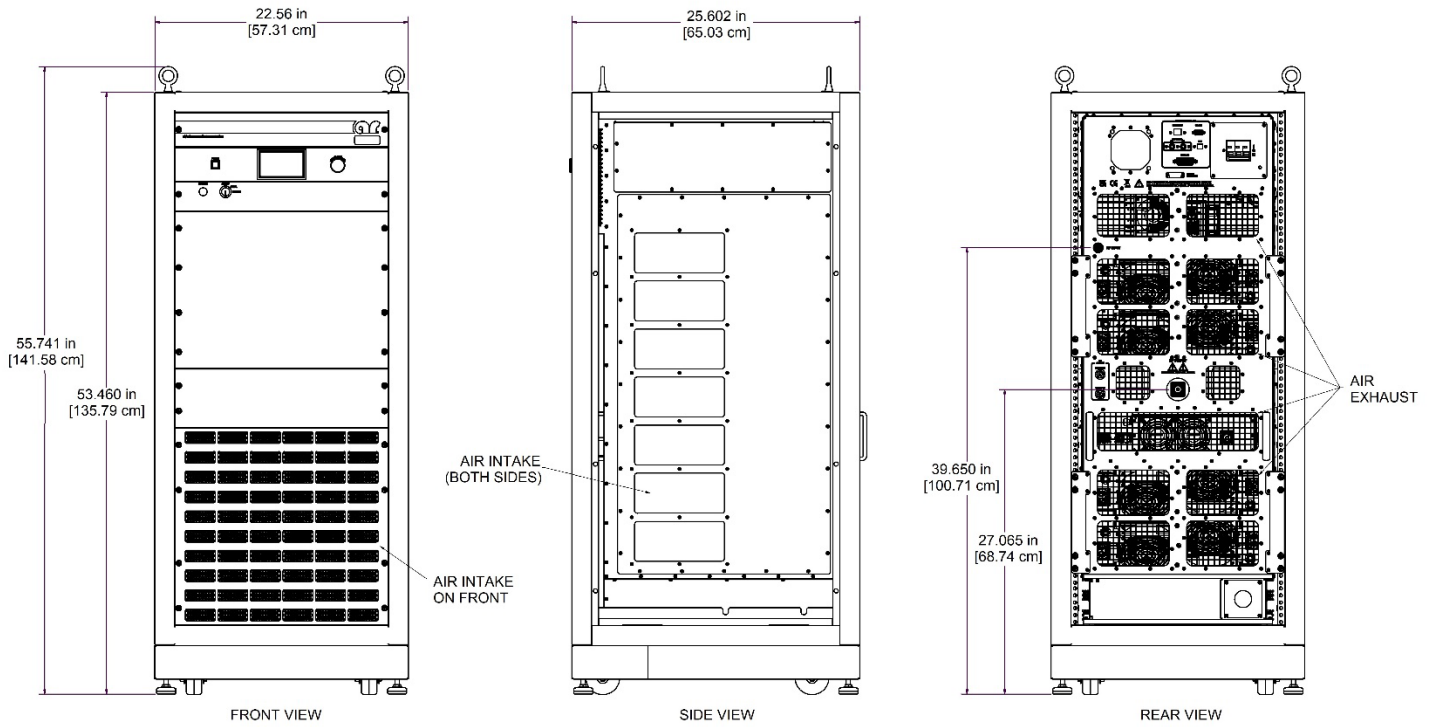
PRIMARY POWER	
200-240 VAC	LV
380-415 VAC	HV



Model 2500A225C

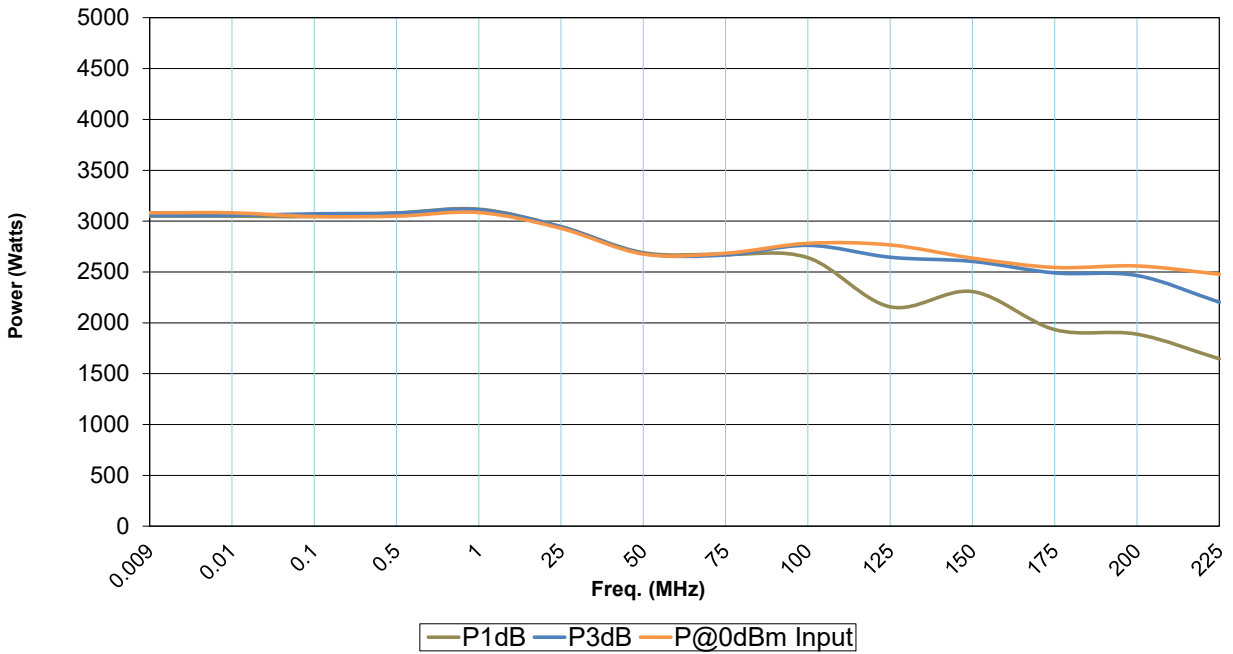
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- .01-225 MHz

Envelope Drawing

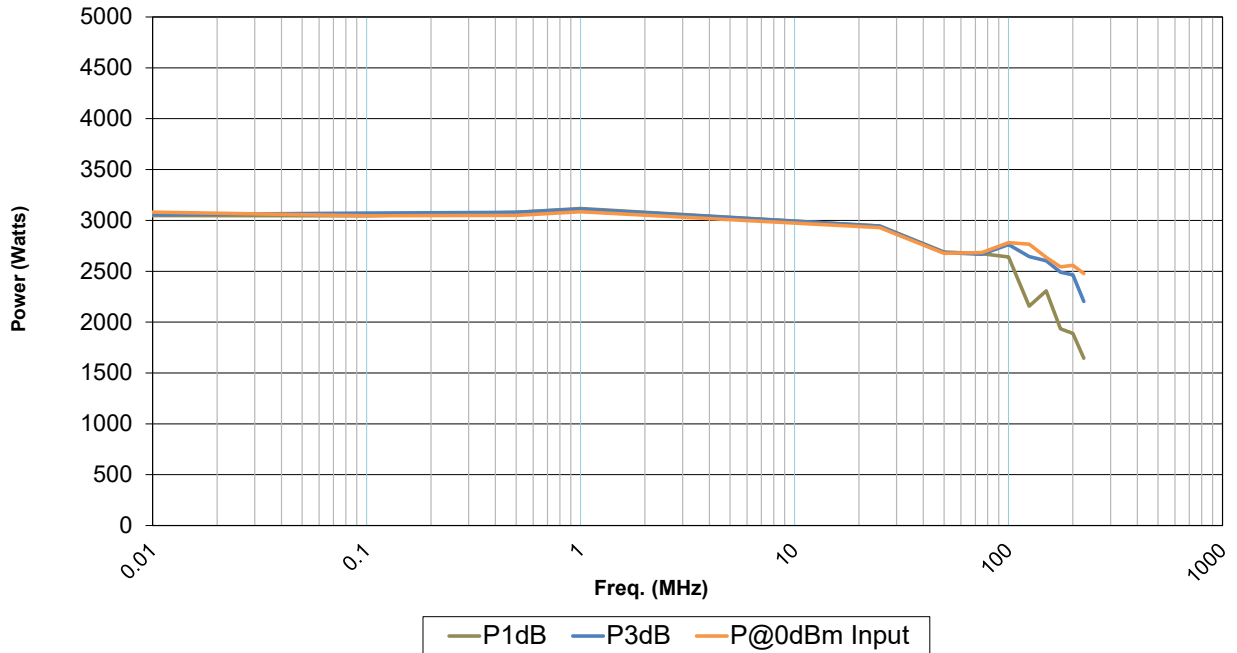


- 2.5 kW
- .01-225 MHz

TYPICAL OUTPUT POWER (LINEAR FORMAT)

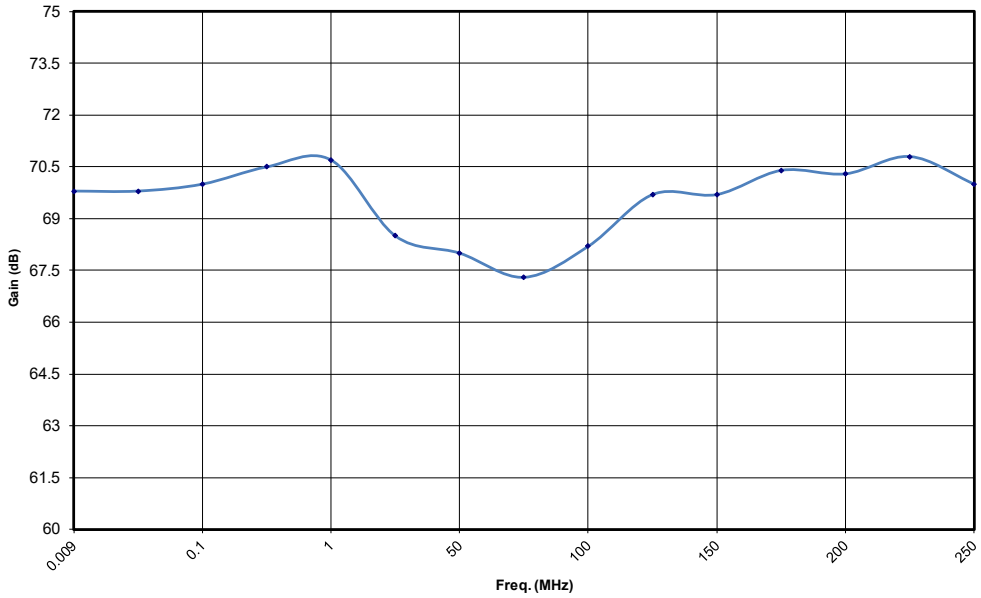


TYPICAL OUTPUT POWER (LOG FORMAT)

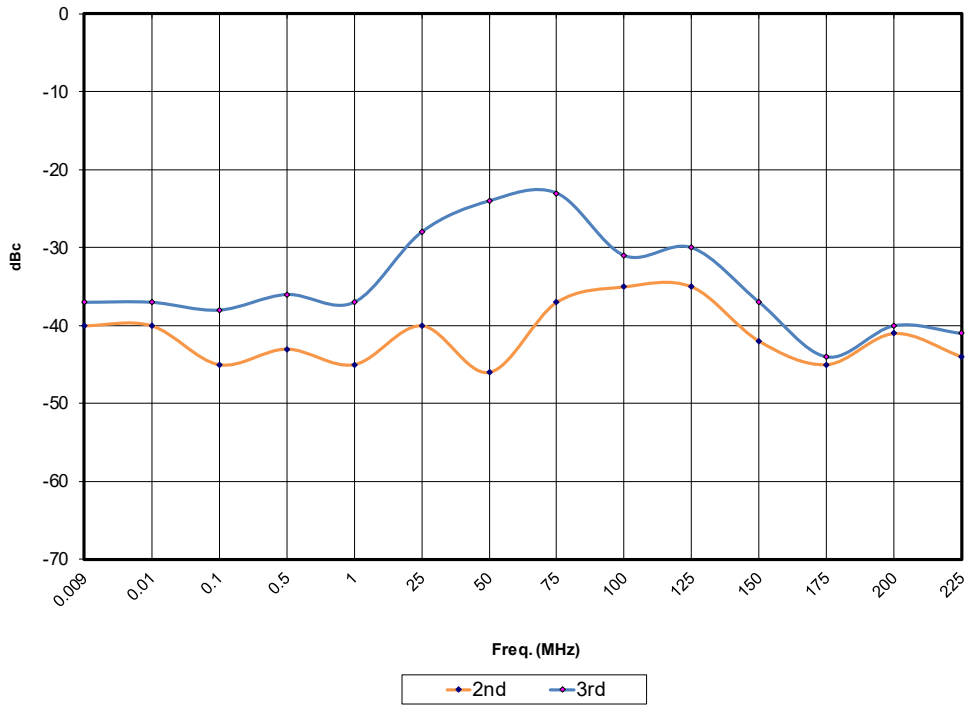


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TYPICAL SMALL SIGNAL GAIN @ -20dBm INPUT



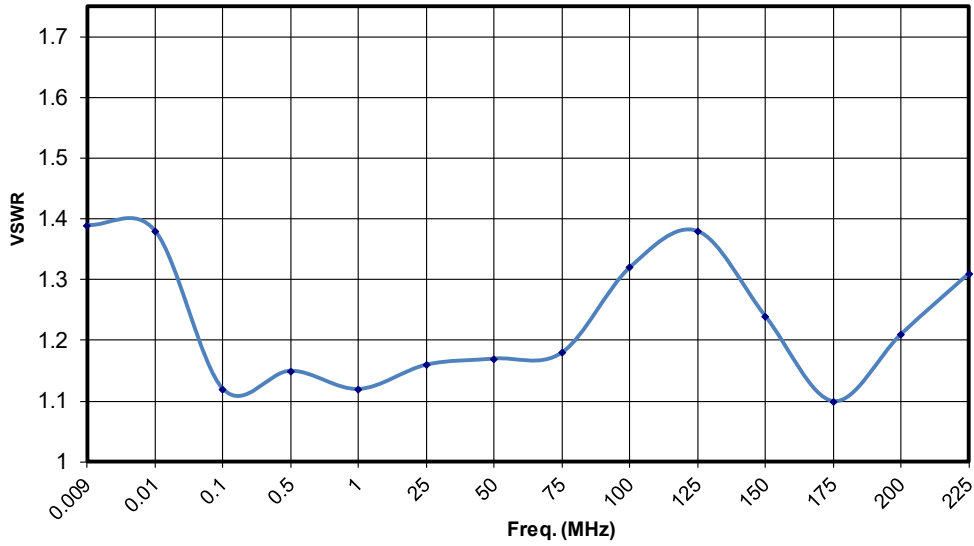
TYPICAL HARMONICS @ 1750 WATTS



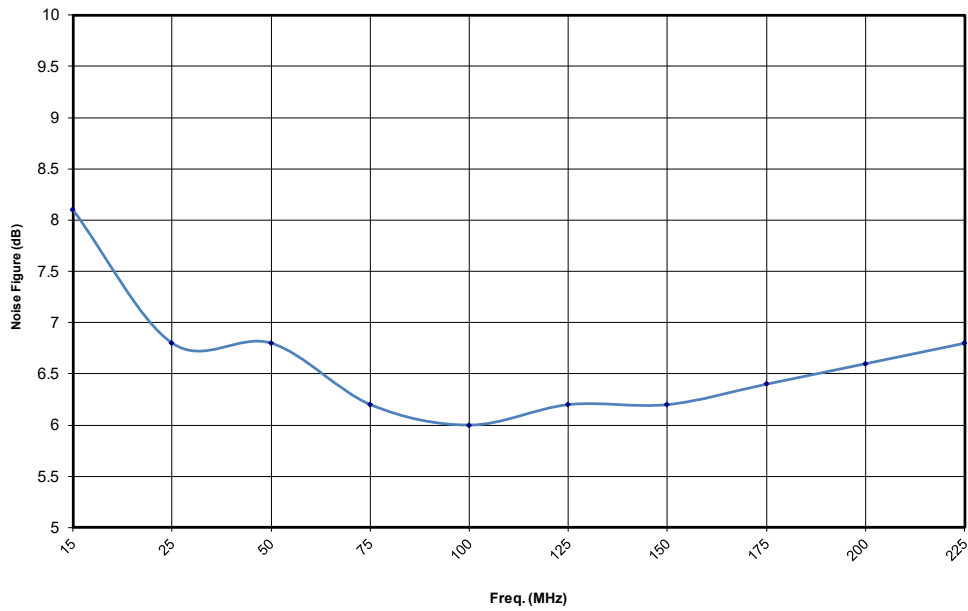
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TYPICAL INPUT VSWR



TYPICAL NOISE FIGURE



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