MODEL AR-5030
AR-5000 SERIES
80 WATTS CW/PEP
700 to 960 MHz

AR Modular RF's **AR-5000 Series** is the next generation of wideband, Class A/AB linear amplifier designed for use with modern digital modulations. Engineered with a flexible system architecture, **AR-5000 Series** amplifiers are tailored to meet specific user needs over the frequency range of 80 kHz to 1000 MHz and power range of up to 1000 Watts CW and 4000 Watts peak.

Key Features:

- Lightweight 19", 2U/3U Chassis
- Rack Mount Enclosure
- AC Powered, Single Phase
- Ethernet Remote Control
- Automatic Level Control (ALC)
- Input Overdrive Protection
- Output VSWR Protection
- Over Temperature Protection
- Unconditionally Stable
- Forward & Reflected Power Monitoring
- Blanking

The following specifications apply to the standard **Model AR-5030** amplifier – a standard amplifier in the **AR-5000 Series**. Model **AR-5030** is a class A amplifier designed with optimized performance for constant-envelope modulation with Automatic Level Control (ALC) to maintain constant output power for varying input levels.

For information on all **AR-5030** model configurations available, see table, "ORDERABLE MODEL CONFIGURATIONS" below.

PERFORMANCE SPECIFICATIONS – MODEL AR-5030 AMPLIFIER

ELECTRICAL

SPECIFICATION	Units	Minimum	Typical	Maximum	Notes
Amplifier Class	-		A/B		Optimized for constant-envelope modulation
Frequency Response	MHz	700		960	Amplifier operating range
Output Power	W	25		80	Continuous operation. Output power limited by ALC setting and may exceed 80W; specifications herein apply at, and below, 80W output power
	dBm	44		49	
Power Gain	dB	5		19	Gain is **automatically adjusted** to provide between 25 to 80 Watts output power with 30-39 dBm input power
Input Power	W	1		8	Input drive above 39 dBm requires corresponding reduction in amplifier gain
	dBm	30		39	
ALC Range	dB	5			Automatic Level Control (ALC) – ALC is set to limit the maximum output power of the amplifier independent of input power (provided input power is within the limits of the amplifier)
ALC Response Time	ms			120	
Outpower Power Flatness	dB			±1	
Blanking	µs			450	RF on/off, rear connector control (DB9) Power transistor shut off completely during blanking
Noise Figure	dB		19	25	
Input / Output Impedance	Ohm		50		
VSWR Tolerance	-			3:1	No Shutdown @ 80 W CW or below; power may be reduced above 3:1 (limited to 50 Watts).
	-			Infinite	No Shutdown @ 50 W CW or below
Spurious Outputs	dBc			55	@ Rated output, < 100 kHz from carrier, 10 Hz RBW
				70	@ Rated output, > 100 kHz from carrier, 10 Hz RBW
Harmonic Performance	dBc			-45	
OIP3	dBm	55	60		2 tones, 100 kHz spacing, 20 Watts per tone
Input Power (AC)	VAC	100		240	
	Hz	50		60	
Power Consumption	W			500	During active transmission
				100	When amplifier is blanked
				10	Idle – Amplifier at rest for an extended period

MECHANICAL & ENVIRONMENTAL

SPECIFICATION	Units	Details	Notes
Size	Inches	19.0" W x 20.8" L x 3.5" H	Standard 19" Rack Mount, 2U
Weight	kg	~16	
Operating Temperature, Ambient	°C	+5 to +40	
Relative Humidity	%	95	Maximum, non-condensing
Cooling	-		Forced Air (Integrated Fans, Automatically Controlled)

PERFORMANCE STANDARDS

AR-5000 Series amplifiers are designed to meet many military standards including, but not limited to:

- MIL-STD-810x
- MIL-STD-461x
- MIL-STD-1399x

Please speak with your AR Modular RF Sales Representative if documented compliance to these or any other standards is required.

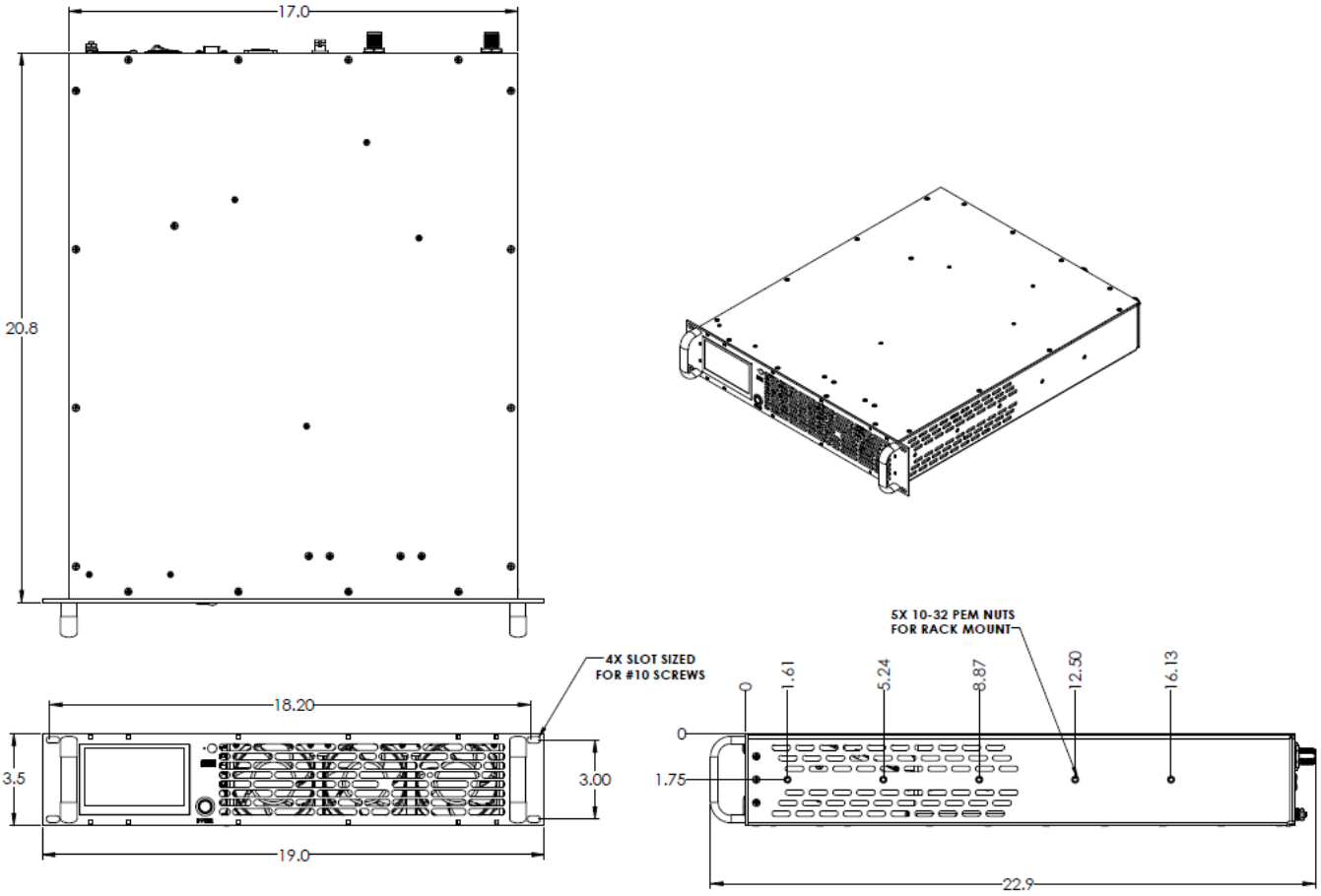
INTERFACE & CONTROL

The AR-5030 has interface and control elements on both the front and rear panels. The amplifier is fully operational using the front-panel interface and can be optionally controlled via a rear-panel Ethernet connection.

Element	Panel	Details	Notes
Ethernet	Rear	RJ45	Ethernet control for remote operation. All amplifier control and monitoring can be performed remotely via Ethernet
Remote Control / Monitor	Rear	DB9	Reserved to meet specific customer needs
RF Input	Rear	N-Type, Female	
RF Output	Rear	N-Type, Female	
Remote Interlock / Blanking	Rear	BNC, Female	Used as a discrete, fast on/off switch
AC Power Connector	Rear	IEC Appliance Inlet C14	
AC Power Control	Rear	Toggle switch	Hard power control
	Front	Push button	Soft power control
Status LED & Push Button	Front	Various indications	AC present, Amplifier ON/OFF, general fault, etc.
Display Screen	Front	Menu based local interface for amplifier operation	Access to forward/reflected power performance, status monitoring, amplifier remote configuration, etc.
Bypass Mode	N/A	Automatic	Amplifier will automatically switch to a full-bypass mode (RF Input directly connected to RF Output) if the unit is not powered or in the event of a detected system failure

ORDERABLE MODEL CONFIGURATIONS

MODEL NAME	SPECIFICATIONS
AR-5030	Standard Configuration (C1) – Specifications as detailed in this document
AR-5030C2	Custom Configuration – See DOC-00000227, AR-5030C2 - APPENDIX TO STANDARD PRODUCT DATASHEET



Outline Drawing

Note – Drawing is representative of the standard AR-5030 model (configuration C1) and may not be applicable to all model variations