

60W to 150W ARMA-2000X[®] series

Features

- High gain and linearity
- Output power up to 150W (see table A)
- Gain adjustment (Local & Remote)
- Remote Monitor & Control (Local & Remote)
- Output sample monitor port
- Temperature gain compensation
- Automatic over-temperature shutdown
- Automatic high reflected power shutdown
- Infinite VSWR protection
- Power factor correction
- CE Marking

Overview

The ARMA-2000X[®] series are the rack-mount solid-state power amplifiers (SSPAs), operating in X-Band frequency range. The amplifier is an integrated unit, complete with power supply and cooling system. Intended for indoor operation, the amplifiers are of compact size and occupy four rack-mounting spaces (4 RU – 7.0") of a standard 19-inch rack. Built-in microprocessor controller provides capability for serial port interfaces (RS485) for remote monitoring and control.

Advantech's SSPAs set the industry standard for linearity and operating efficiency. Built-in design features and assembly methods incorporated with efficient combining techniques result in the trouble-free operation of the amplifier.

Application

The featured SSPAs are designed for X-Band satellite up-link applications. They are designed for 19-inch rack mounting in a protected environment. The ARMA-X series are available in output power from 20W to 800W. For higher power Advantech provides phase-combined systems.

Other SSPAs are available for operation at other satellite frequency bands. With all the features of the ARMA-X, Advantech also offers a built-in converter.

Redundancy

With the addition of the appropriate waveguide and switch kit, the ARMA-X[®] amplifiers can be easily converted for the operation in 1:1 redundant configuration with full remote monitor and control capability of the redundant system via serial interface.

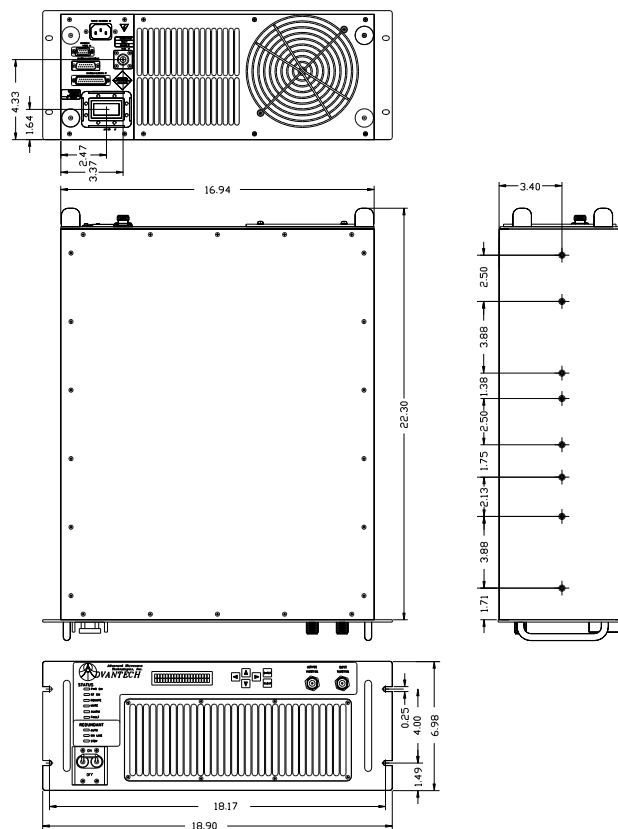


Table A

Band*	RF Band (GHz)	Output Power (W)
X	7.90 – 8.40 GHz	60 - 150

*Other frequency sub-bands are available. Please consult factory.

Options

- Integrated Block Up Converter
- RF input sample port
- Redundant system

Accessories

- Redundancy Kit
- Shelf slides
- Remote M&C panel (Ethernet port optional)
- Receive Reject Filter

X-Band Rack-mount SSPA

Technical Specifications			60W	80W	100W	125W	150W
Electrical Characteristics							
Availability in this series							
X			√	√	√	√	√
Output power (Psat)			+48 dBm	+49 dBm	+50 dBm	+51 dBm	+52 dBm
Output power (P1dB)			+47 dBm	+48 dBm	+49 dBm	+50 dBm	+51 dBm
Power gain at maximum gain setting			56 dB min	60 dB min			
Operating frequency range			7.90 – 8.40 GHz				
Max input power without damage			+10 dBm				
Gain slope			0.6 dB max over 40 MHz				
Gain flatness over 500 MHz			±1.0 dB max				
Gain variation over temperature			±1.5 dB over full operating temperature range				
Gain variation over 24 hours			±0.25 dB max at constant temperature & drive level				
Gain adjustment range			20 dB min. (0.1 dB resolution)				
Input return loss			18 dB				
Output return loss			19 dB				
Noise power density			-70dBm/Hz max in TX band -110 dBm/Hz max 7.25 – 7.75 GHz RX band				
Spurious at rated power			-65 dBc, max				
Harmonics at rated power			-60 dBc, max				
AM/PM conversion at rated power			2.5°/dB max. at P1dB, 1°/dB max. at 3 dB back-off				
Third order IMD (2 tones 5 MHz apart)			-25 dBc max. at 3 dB total back-off from rated P1dB				
Group delay			Linear: 0.02 nsec/MHz max. Parabolic: 0.003 nsec/MHz ² max. Ripple: 1.0 nsec p-p max.				
Residual AM (F* - frequency in kHz)			0-10 kHz -45 dBc 10 kHz - 500 kHz -20 (1.25+log F*) dBc 500 kHz - 1 MHz -80 dBc				
Power Requirements							
AC input voltage			90-264 VAC auto ranging (47-63 Hz)				
Power consumption (nominal)			630W	710W	850W	900W	1400W
Mechanical Characteristics							
Panel height			4 RU of 19" rack				
Weight			30 kg (66 lbs)				
Interfaces:	RF input RF output	N-Type (F) CPR-112 contact	Redundancy RS-485 Discrete port	D-sub 15S D-sub 9S D-sub 25S	AC Line Output sample port	IEC 320 inlet N-Type (F)	
Environmental Conditions							
Operating temperature:			0°C to +50°C				
Humidity			5%-95%, non-condensing				
Altitude			10,000' AMSL, de-rated 2°C/1,000' from AMSL				

NORTH AMERICA
USA
Tel: +1 678 889-1831
Fax: +1 678 889-1756
info.usa@advantechwireless.com

CANADA
Tel: +1 514 420 0045
Fax: +1 514 420 0073
info.canada@advantechwireless.com

EUROPE
UNITED KINGDOM
Tel: +44 1480 357 600
Fax: +44 1480 357 601
info.uk@advantechwireless.com

RUSSIA & CIS
Tel: +7 495 971 59 18
info.russia@advantechwireless.com

SOUTH AMERICA
USA
Tel: +1 678 889-1831
Fax: +1 678 889-1756
info.latam@advantechwireless.com

BRAZIL
Tel: +55 11 3054 5701
Fax: +55 11 3054 5701
info.brazil@advantechwireless.com

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