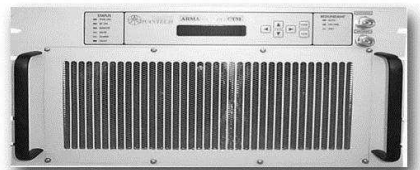




### 500W to 600W ARMA-4000X® series



### Features

- High gain and linearity
- Output power up to 600W (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-4000X® 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 six rack-mounting spaces (6 RU - 10½") of a standard 19-inch rack. Built-in microprocessor controller provides capability for serial port interfaces (RS485) for remote monitoring and control.

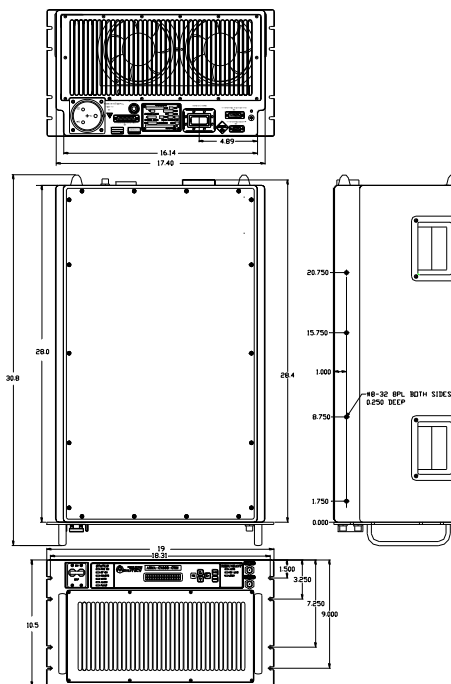
Advantech's SSPAs set the industry standard for linearity and operating efficiency. Built-in design features and assembly methods incorporated with efficient combining techniques result in the trouble-free operation of the amplifier.

### 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	500 - 600

\*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	500W	600W
<b>Electrical Characteristics</b>		
Availability in this series		
X	√	√
Output power (Psat)	+57 dBm	+58 dBm
Output power (P1dB)	+56 dBm	+57 dBm
Power gain at maximum gain setting	70 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 <sup>2</sup> 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	
<b>Power Requirements</b>		
AC input voltage	180-264 VAC (47-63 Hz)	
Power consumption (nominal)	3500W	4000W
<b>Mechanical Characteristics</b>		
Panel height	6 RU of 19" rack	
Weight	65 kg (143 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 309 inlet N-Type (F)
<b>Environmental Conditions</b>		
Operating temperature:	0°C to +50°C	
Humidity	5%-95%, non-condensing	
Altitude	10,000' AMSL, de-rated 2°C/1,000' from AMSL	

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