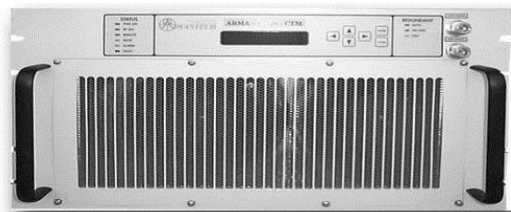




200W to 400W
ARMA-3000X[®] series



Features

- High gain and linearity
- Output power up to 400W (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-3000X[®] 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 five rack-mounting spaces (5 RU - 8³/₄") 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.

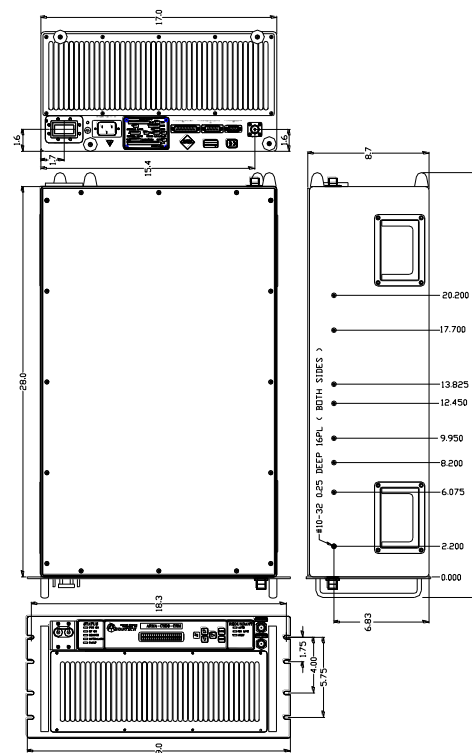


Table A

Band*	RF Band (GHz)	Output Power (W)
X	7.90 – 8.40 GHz	200 - 400

*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

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.

X-Band Rack-mount SSPA

Technical Specifications		200W	250W	300W	350W	400W
Electrical Characteristics						
Availability in this series						
X		√	√	√	√	√
Output power (Psat)		+53 dBm	+54 dBm	+55 dBm	+55.5 dBm	+56 dBm
Output power (P1dB)		+52 dBm	+53 dBm	+54 dBm	+54.5 dBm	+55 dBm
Power gain at maximum gain setting		64 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		180-264 VAC (47-63 Hz)				
Power consumption (nominal)		1250W	1400W	1800W	2100W	2400W
Mechanical Characteristics						
Panel height		5 RU of 19" rack				
Weight		43 kg (95 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				

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