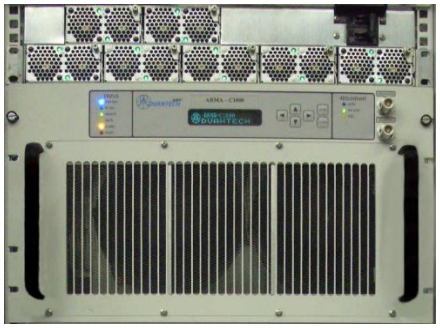
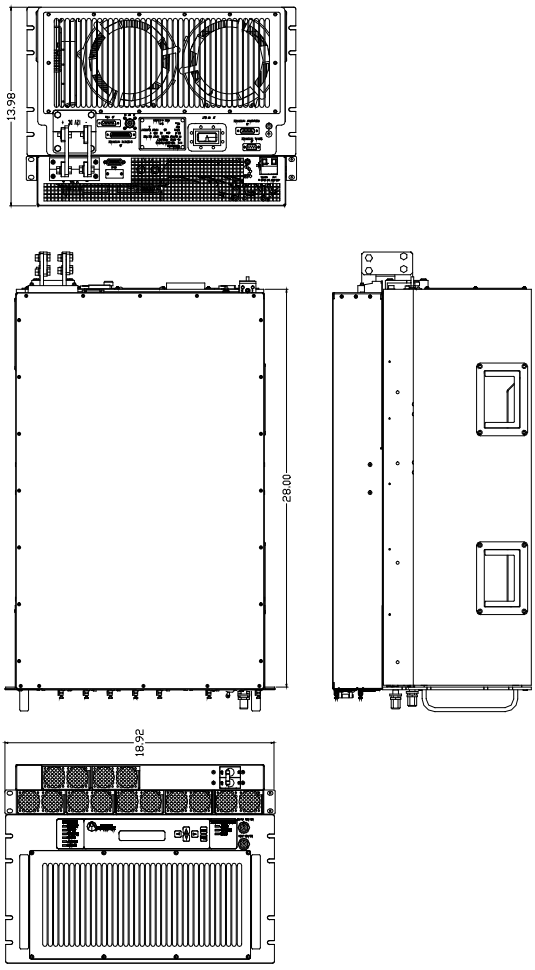
Advantech Wireless

X-Band Rack-mount

700W / 800W / 1000W
ARMA-5000X® series





Features

- High gain and linearity
- Output power up to 1000W (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-5000X® 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 nine rack-mounting spaces (9 RU - 15¾") 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 1000W. 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	700 800 1000

*Other frequency sub-bands are available. Please consult

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.

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	700W	800W	1000W
Electrical Characteristics			
Output power (Psat)	+58.5 dBm	+59 dBm	+60 dBm
Output power (P1dB)	+57.5 dBm	+58 dBm	+59 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^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)	4300W	4800W	5200W
Mechanical Characteristics			
Panel height	8 RU of 19" rack (6 RU amplifier + 2 RU power supply unit)		
Weight	80kg (176lbs)		
Interfaces:	RF input N-Type (F) RF output CPR-112 contact	Redundancy D-sub 15S RS-485 D-sub 9S Discrete port D-sub 25S	AC Line IEC 309 inlet Output sample port 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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Ref.: PB-ARMA-X-700-1000-12222

Specifications are subject to change without prior notice