



300W to 500W
AWMA-5000X™ series



Features

- Remote Monitor & Control
- High gain and linearity
- Output power up to 500W (see table A)
- Gain adjustment
- Output sample monitor port
- Temperature gain compensation
- Automatic over-temperature shutdown
- Automatic high reflected power shutdown
- Infinite VSWR protection
- CE Marking

Overview

The AWMA-X series are the outdoor 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 outdoor operation, the AWMA-5000X® is weatherproof. Built-in microprocessor controller provides the 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 SSPAs are designed for X-Band satellite up-link applications. They are mounted outdoors, near the hub of an antenna. The AWMA-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 AWMA-X, Advantech also offers a built-in converter.

Redundancy

With the addition of the appropriate waveguide and switch kit, the AWMA-5000X™ amplifiers can be easily converted for the operation in 1:1 redundant configuration without the use of any external controller. Full remote Monitor and Control of the redundant system is accessible via the serial port (RS-485).

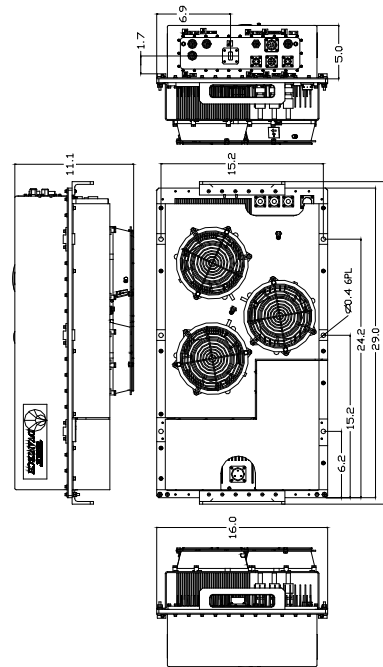


Table A

Band*	RF Band (GHz)	Output Power (W)
X	7.90 – 8.40 GHz	300 - 500

Options

- Integrated Block Up Converter
- Additional harmonic filter
- Extreme temperature operation
- Redundant system
- External Receive Reject Filter

Accessories

- Redundancy Kit
- Mounting Frames
- Remote M&C panel (Ethernet port optional)

X-Band Hub-mount SSPA

Technical Specifications	300W	350W	400W	500W	
Electrical Characteristics					
Availability in this series					
X	√	√	√	√	
Output power (P _{SAT})	+55 dBm	+55.5 dBm	+56 dBm	+57 dBm	
Output power (P1dB) min	+54 dBm	+54.5 dBm	+55 dBm	+56 dBm	
Power gain @ maximum gain setting	65 dB min	66 dB min	66 dB min	67 dB min	
Operating frequency range	See table A on front page				
Max input power without damage	+10 dBm				
Gain slope	0.6 dB max over 40 MHz				
Gain flatness over 500 MHz	±1.0 dB				
Gain variation over temperature	±1.5 dB over full operating temperature range				
Gain variation over 24 hours	±0.25 dB max @ constant temperature & drive level				
Gain adjustment range	20 dB (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 10 kHz - 500 kHz 500 kHz - 1 MHz		-45 dBc -20 (1.25+log F*) dBc -80 dBc		
Power Requirements					
AC input voltage	220 VAC (47-63 Hz)				
Power consumption (nominal)	2000W	2200W	2700W	3500W	
Mechanical Characteristics					
Dimensions (L x W x H)	30.20" x 15.20" x 11.10" (767 x 386.00 x 282 mm)				
Weight	117 lbs (53 kg)				
Interfaces:	RF input Output sample port AC Line	Type N (Female) Type N (Female) MS3102E20-19P	Redundancy Discrete port RS-485	MS3112E14-12P MS3112E16-26P MS3112E10-6P	RF output: CPR112 Contact
Environmental Conditions					
Temperature:	Operating Storage	-30°C to +55°C; Option: 1: -40°C to +55°C; 2: -50°C to +50°C -55°C to +85°C			
Humidity	100%, condensing (2" rain/hour)				
Altitude	10,000' AMSL, de-rated 2°C/1,000' from AMSL				

**NORTH AMERICA
USA**
Tel: +1 703 659 9796
Fax: +1 703 635 2212
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

INDIA
Tel: +91 33 2415 5922
info.india@advantechwireless.com

SOUTH AMERICA
Tel: +1 514 420 0045
Fax: +1 514 420 0073
info.latam@advantechwireless.com

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

An ISO 9001 : 2008 Company



Ref.: PB-AWMA-X-300-500-13150