

## FEATURES

- Covers the band from 28.0 GHz to 31.0 GHz (in sub-bands)
- Remote Monitor & Control
- High gain and linearity
- Output power 100W
- Gain adjustment
- Output sample monitor port
- Temperature gain compensation
- Automatic over-temperature shutdown
- Automatic high reflected power shutdown
- Infinite VSWR protection
- Power factor correction
- CE Marking

## OPTIONS

- Ethernet Interface
- Receive Reject Filter
- Redundant system

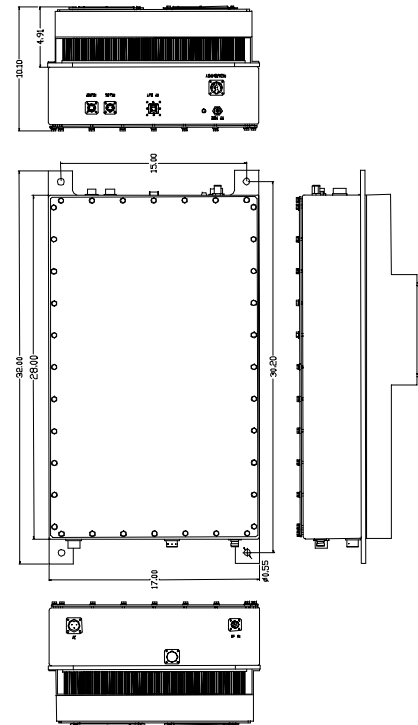
## OVERVIEW

The AWMA-Ka series are the outdoor solid-state power amplifiers (SSPA's), operating in Ka-band frequency range. The amplifier is an integrated unit, complete with power supply and cooling system. Intended for outdoor operation, the AWMA-4000Ka<sup>®</sup> are weatherproof and provide the utmost in convenience and efficiency. Built-in microprocessor controller provides the capability for serial port interfaces (RS232/485) for remote monitoring and control.

Advantech's hub-mount SSPA's 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.

## REDUNDANCY

With the addition of the appropriate waveguide and switch kit, the AWMA-4000Ka<sup>®</sup> 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. Single Monitor and Control interface is required to manage redundant system.



## APPLICATION

The SSPA's are designed for Ka-band satellite up-link applications. They are mounted outdoors, near the hub of an antenna. The AWMA-Ka series are available in output power from 2W to 100W.

More SSPA's are available for operation at other satellite frequency bands. Also available from Advantech are the SSPB series with all the features of the AWMA-Ka plus a built-in block up-converter. Please contact Advantech AMT for more information.



Ka-BAND HUB-MOUNT SSPA 100W  
 AWMA-4000Ka<sup>®</sup> series



TECHNICAL SPECIFICATIONS		100W
<b>Electrical Characteristics</b>		
Frequency range	28.0 – 31.0 GHz (in sub-bands)	
Output power (P <sub>SAT</sub> ) (dBm)	+50	
Output power (P1dB) min. (dBm)	+49	
Conversion gain @ maximum setting	60 dB min	
Max input power without damage	+5 dBm	
Gain flatness	±2.0 dB max over 500 MHz, ± 0.5 dB over 40 MHz @25°C	
Gain slope	0.04 dB/MHz, max	
Gain variation over temperature	±1.5 dB over full operating range	
Gain variation over 24 hours	±0.25 dB max at constant temperature & drive level	
Gain adjustment range	20 dB min (1 dB steps)	
Input VSWR	1.4:1	
Output VSWR	1.4:1	
Noise Power Density	Transmit band: -70 dBW/4kHz Receive band: -150 dBW/4kHz (with optional RRF)	
Spurious at rated power	-65 dBc max	
Harmonics at rated power	-65 dBc max	
AM/PM conversion	<2°/dB @ 3 dB back-off	
Third order IMD (2 equal tones 5 MHz apart)	-24 dBc max @ 6 dB total back-off from rated P1dB	
Group Delay	Linear: 0.01 nsec/MHz max. Parabolic: 0.002 nsec/MHz <sup>2</sup> max. Ripple: 0.5 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 -85 dBc	
<b>Power Requirements</b>		
AC input voltage	220 VAC (47-63 Hz)	
Power consumption, (nominal) (W)	1750	
<b>Mechanical Characteristics</b>		
Dimensions (L x W x H)	32"x 17" x 10" (81.28 x 43.18 x 25.4 cm)	
Weight (nominal)	101.3 lbs (46 kg)	
Interfaces:	RF input WR28 cover	Redundancy MS3112E16-26P RF output WR28 cover
	Discrete port MS3112E12-10P	RS-232 MS3112E10-6P
	AC Line MS3102E20-19P	RS-485 MS3112E10-6P
<b>Environmental Conditions</b>		
Temperature	Operating	-30°C to +55°C Option 1: -40°C to +55°C; option 2: -50°C to +50°C
	Storage	-55°C to +85°C
Humidity	100%, condensing (2" rain/hour)	
Altitude	10,000' AMSL, derated 2°C/1,000' from AMSL	



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Specifications are subject to change without notice

An ISO9001: 2000 Company



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Ka-band High Power SSPA