

## Ku-BAND HUBMOUNT SSPA/SSPB 8W to 500W AWM-K<sup>®</sup> series





#### **FEATURES**

- > Full range of output power from 8W to 500W in a single package
- High linearity
- Redundant ready with no external controller
- Full M&C capability via RS485 or Ethernet port
- Forward and Reflected power monitoring
- Output Sample Port
- Redundant Systems shipped fully tested
- Infinite VSWR protection with automatic high reflected power shutdown
- > Built-in Receive Reject Filter
- Weatherproof construction
- CE marking

#### **OPTIONS**

- > 1:1 or 1:2 Redundant configuration
- Phase combined systems for higher power
- ▶ L-Band input (SSPB/BUC operation)

#### **ACCESSORIES**

- Mounting kits
- External Receive Reject Filter
- Remote M&C panel with optional SNMP
- Handheld terminal

#### **DESCRIPTION**

Advantech AMT Ku-Band line of Amplifiers and BUCs are intended for satellite up-link applications. The design of these units is based on Advantech's proven techniques resulting in high linearity and operating efficiency. Conservative thermal design contributes to the high MTBF for these units. Full monitor and control is provided via the serial or Ethernet ports. Special features such as automatic over-temperature shutdown and high-reflected power protection contribute to a trouble free operation.

Also available from Advantech is the SSPB-2100 series of compact low weight BUCs with output power of to 30W in Ku-Band, mainly intended for mobile applications...

Advantech also offers the SUMMIT modular SSPA system for either indoor or outdoor applications.

The full set of accessories made available will facilitate the integration of these units in any application.

The AWM-K series is available in output power from 8W to 500W. Higher power operation may be provided using external phase combining techniques offering an output power up to 800W. Please contact factory for more details.

#### REDUNDANCY

Advantech AMT Ku-Band line of Amplifiers and BUCs may be configured to operate in 1:1 or 1:2 redundancy mode. No extra controller is required for the redundancy operation as the built-in controller in each unit provides this function. For 1:1 redundancy operation, in addition to the two units (operating and standby) a special redundancy kit is required. For 1:2 redundancy operation another redundancy kit is needed in addition to the three units. The kits include the waveguide switches, terminations, splitter, interconnecting cable assemblies and mounting frames.

All redundancy systems are delivered fully assembled, integrated, and tested.



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## **Technical Specifications**

## Table A

Band*	RF Band (GHz)	L-Band Input for BUC (MHz)	LO for BUC (GHz)	Output Power (W)	
KS	14.0 – 14.50	950 – 1450	13.05	8 - 500	
KX	13.75 – 14.50	950 – 1700	12.80	8- 400	
KL	12.75 – 13.25	950 – 1450	11.80	8- 200	

<sup>\*</sup>Other frequency sub-bands are available. Please consult factory.

### Table B

## SSPA/SSPB (BUC) Line

Rated Power	Psat P1dl dBm dBm	P1dB	Gain (dB) (minimum)		Availability in this series			Power consumption W (nominal)	Weight	Dimensions Outline
W		abiii	SSPA	BUC	KS	KX	KL			Outline
W8	+39	+38	+49	+59	√	1	<b>√</b>	170	36 lbs (16 kg)	16.5"x10"x9" 420x254x229 mm Outline 1
10W	+40	+39	+50	+60	√	1		180		
12W	+41	+40	+51	+61	√	√		200		
16W	+42	+41	+52	+62	√	√	$\checkmark$	250		
20W	+43	+42	+53	+63	√	√	$\checkmark$	300		
25W	+44	+43	+54	+64	√		$\checkmark$	350		
30W	+45	+44	+55	+65		1	$\checkmark$	550	48.5 lbs (22kg)	18.5"x10"x9" 470x254x229mm Outline 2
40W	+46	+45	+56	+66	√	1	$\checkmark$	800		
50W	+47	+46	+57	+67	$\checkmark$	$\sqrt{}$	√	900		
60W	+48	+47	+58	+68	<b>√</b>	1	1	950		
80W	+49	+48	+59	+69	<b>√</b>	1	1	1000		
100W	+50	+49	+60	+70	√	1	1	1100	- 132 lbs (60kg)	35"x20"x15" 890x508x381 mm Outline 3
125W	+51	+50	+61	+71	1	V	<b>V</b>	1400		
150W	+52	+51	+62	+72	√	1	1	1700		
200W	+53	+52	+63	+73	<b>V</b>	<b>V</b>	<b>V</b>	2000		
250W	+54	+53	+64	+74	<b>V</b>	<b>V</b>	<b>V</b>	2200	- 176 lbs (80kg)	39"x18.5"x12.1" 990x470x307 mm Outline 4
300W	+55	+54	+65	+75	<b>V</b>	1	<b>V</b>	3500		
400W	+56	+55	+66	+76	√	<b>V</b>	-	4500		
500W	+57	+56	+67	+77	<b>V</b>	-	-	5500		





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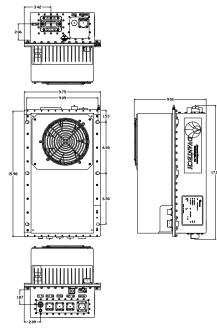
## **General Specifications**

Operating Frequency	See table A				
L-Band input (BUC)	See table A				
Output Power	See table B				
Gain	See table B				
Gain adjustment range	20 dB in 0.1 dB steps				
Gain flatness over full band	± 1dB max				
Gain slope over 40 MHz	± 0.3 dB max				
Gain variation over temperature	± 1.5 dB max				
Input Impedance and VSWR	50 Ω SSPA 1.3:1 SSPB (BUC) 1.4:1				
Output VSWR	1.25:1				
Noise power density	-70 dBm/Hz in Transmit Band,				
	l5 dBm/Hz in Receive Band (10.95 – 12.75 GHz)				
Spurious at P1dB	-65 dBc max				
Harmonics	-40 dBc at P1dB, -50 dBc @ P1dB -3 dB max				
AM/PM conversion	2.5%dB at P1dB				
Third order intermod (two tones)	-25 dBc 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 nsec p-p max				
Residual AM Noise	0 – 10 kHz -45 dBc				
	10 kHz – 500 kHz-20 (1.25 + log F) dBc F = Frequency in kHz				
	500 kHz – 1 MHz -80 dBc				
SSPB (BUC)					
Local Oscillator frequency	See table A				
Reference frequency	10 MHz				
Phase Noise	-60 dBc/Hz at 10Hz -85 dBc/Hz at 10 kHz				
	-65 dBc/Hz at 100Hz -95 dBc/Hz at 100 kHz				
	-75 dBc/Hz at 1000Hz				
External Reference Frequency	-115 dBc/Hz at 10Hz -150 dBc/Hz at 10 kHz				
phase noise (max)	-135 dBc/Hz at 100Hz -160 dBc/Hz at 100 kHz				
	-148 dBc/Hz at 1000Hz				
Weight & Dimensions	See table B				
AC input voltage	Up to 125W output power 110/220 VAC auto-ranging 47-63 Hz,				
	Option 48V DC				
	150W output power and higher 220 VAC 47-63 Hz				
Interfaces	Input (RF or L-Band) N type female				
	Output Sample Port N type female				
	RF output WR75 Cover				
	AC line MS3102 type				
	RS232 serial port MS3112E10-6P				
	RS485/Ethernet MS3112 type				
Environmental	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				
	Altitude 10,000' AMSL, derated by 2 °C/1000> from AMSL				

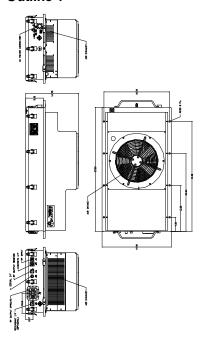


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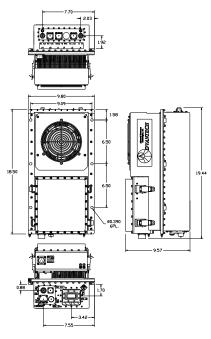




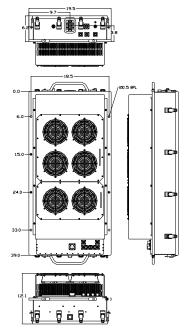
**Outline 1** 



Outline 3



Outline 2 (with field replaceable power supply)



**Outline 4** 

PB-CAWM-01 Issued 05/07/2008

Specifications are subject to change without notice

C € An ISO9001: 2000 Company



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