



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.



KU-BAND HUB-MOUNT SSPA/SSPB
8W to 500W
AWM-K® series



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

*Other frequency sub-bands are available. Please consult factory.

Table B

SSPA/SSPB (BUC) Line

Rated Power W	Psat dBm	P1dB dBm	Gain (dB) (minimum)		Availability in this series			Power consumption W (nominal)	Weight	Dimensions Outline
			SSPA	BUC	KS	KX	KL			
8W	+39	+38	+49	+59	√	√	√	170	36 lbs (16 kg)	16.5"x10"x9" 420x254x229 mm Outline 1
10W	+40	+39	+50	+60	√	√	√	180		
12W	+41	+40	+51	+61	√	√	√	200		
16W	+42	+41	+52	+62	√	√	√	250		
20W	+43	+42	+53	+63	√	√	√	300		
25W	+44	+43	+54	+64	√	√	√	350		
30W	+45	+44	+55	+65	√	√	√	550	48.5 lbs (22kg)	18.5"x10"x9" 470x254x229mm Outline 2
40W	+46	+45	+56	+66	√	√	√	800		
50W	+47	+46	+57	+67	√	√	√	900		
60W	+48	+47	+58	+68	√	√	√	950		
80W	+49	+48	+59	+69	√	√	√	1000		
100W	+50	+49	+60	+70	√	√	√	1100	132 lbs (60kg)	35"x20"x15" 890x508x381 mm Outline 3
125W	+51	+50	+61	+71	√	√	√	1400		
150W	+52	+51	+62	+72	√	√	√	1700		
200W	+53	+52	+63	+73	√	√	√	2000		
250W	+54	+53	+64	+74	√	√	√	2200	176 lbs (80kg)	39"x18.5"x12.1" 990x470x307 mm Outline 4
300W	+55	+54	+65	+75	√	√	√	3500		
400W	+56	+55	+66	+76	√	√	-	4500		
500W	+57	+56	+67	+77	√	-	-	5500		





Ku-BAND HUBMOUNT SSPA/SSPB
8W to 500W
AWM-K® series

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, -145 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 ² 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 phase noise (max)	-115 dBc/Hz at 10Hz	-150 dBc/Hz at 10 kHz	
	-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	

Ku-band Hubmount SSPA/SSPB

