



## Ku-BAND RACKMOUNT SSPA/SSPB 8W to 500W ARM-K® series



### FEATURES

- Full range of output power from 16W to 500W
- 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
- Power factor correction
- CE marking

### OPTIONS

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

### ACCESSORIES

- Mounting slides
- Remote M&C panel

### 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.

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 ARM-K series 19" rackmount SSPA/SSPB (BUC) is available in output power from 16W 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)
<b>KS</b>	14.0 – 14.50	950 – 1450	13.05	8 - 500
<b>KX</b>	13.75 – 14.50	950 – 1700	12.80	8- 400
<b>KL</b>	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			
<b>8W</b>	+39	+38	+49	+59	√	√	√	170	37.5 lbs (17 kg)	3RU Outline #1
<b>10W</b>	+40	+39	+50	+60	√	√	√	180		
<b>12W</b>	+41	+40	+51	+61	√	√	√	200		
<b>16W</b>	+42	+41	+52	+62	√	√	√	250		
<b>20W</b>	+43	+42	+53	+63	√	√	√	300		
<b>25W</b>	+44	+43	+54	+64	√	√	√	350	66 lbs (30kg)	4RU Outline #2
<b>30W</b>	+45	+44	+55	+65	√	√	√	550		
<b>40W</b>	+46	+45	+56	+66	√	√	√	800		
<b>50W</b>	+47	+46	+57	+67	√	√	√	900		
<b>60W</b>	+48	+47	+58	+68	√	√	√	950		
<b>80W</b>	+49	+48	+59	+69	√	√	√	1000	99 lbs (45kg)	5RU Outline #3
<b>100W</b>	+50	+49	+60	+70	√	√	√	1100		
<b>120W</b>	+51	+50	+61	+71	√	√	√	1400		
<b>150W</b>	+52	+51	+62	+72	√	√	√	1700	198 lbs (90kg)	9RU Outline #4
<b>200W</b>	+53	+52	+63	+73	√	√	√	2000		
<b>250W</b>	+54	+53	+64	+74	√	√	√	2200		
<b>300W</b>	+55	+54	+65	+75	√	√	√	3500		
<b>400W</b>	+56	+55	+66	+76	√	√	-	4500		
<b>500W</b>	+57	+56	+67	+77	√	-	-	5500		

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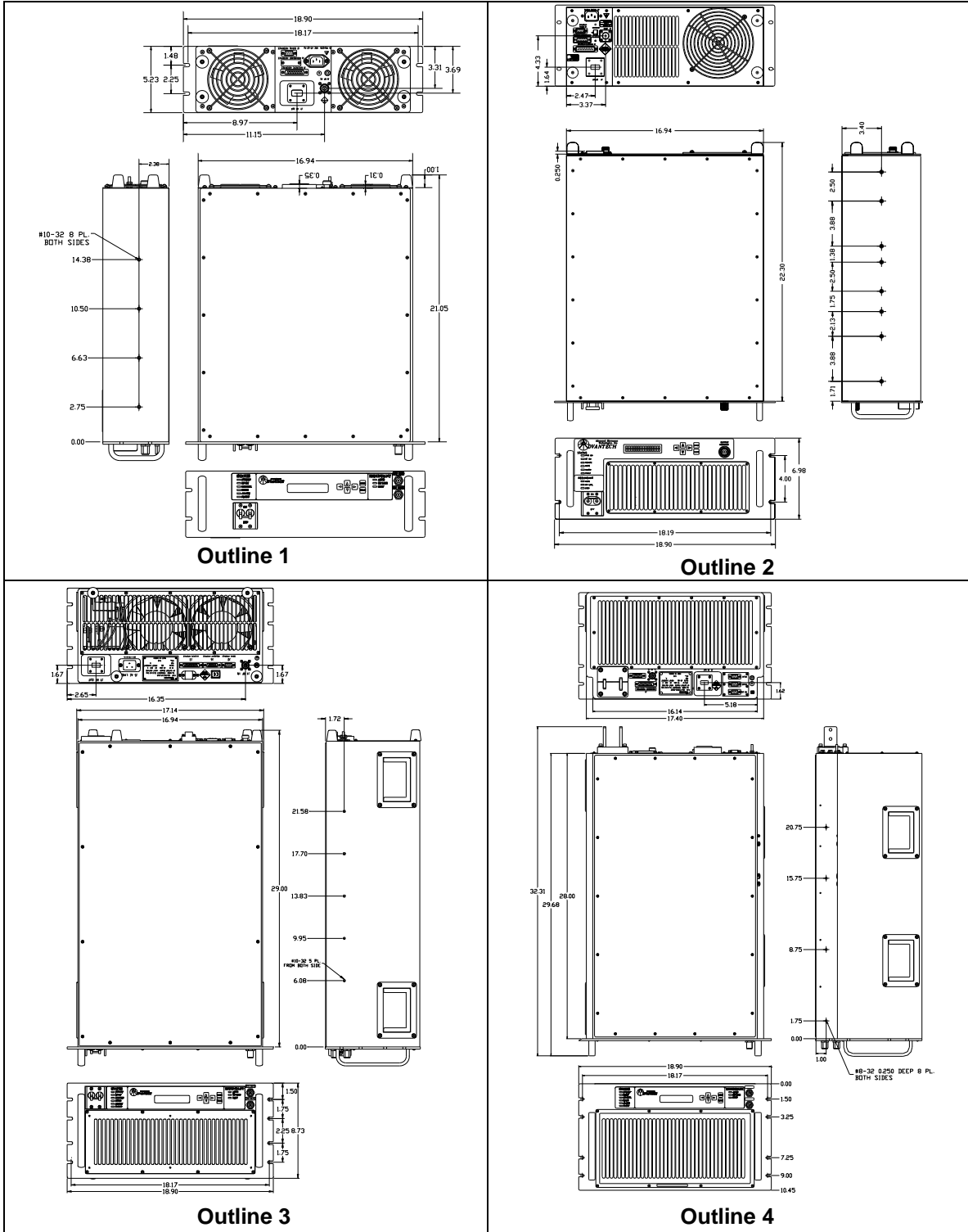
**General Specifications**

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, -150 dBm/Hz in Receive Band (3.40 – 4.20 GHz)	
Spurious at P1dB	-65 dBc max	
Harmonics	-40 dBc @ 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 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	95 - 265 VAC, 47-63 Hz,
	150W output power and higher	Option 48V DC 220VAC 47 – 63 Hz
Interfaces	Input (RF or L-Band)	N type female
	Output Sample Port	N type female
	RF output	WR75
	AC line	IEC 320 inlet
	RS232 serial port	D-sub 9S
	RS485	D-sub 9S
	Ethernet (option)	RJ45
Environmental	Temperature	Operating 0°C to +50 °C Storage -55°C to +85 °C
	Humidity	5% to 95% non-condensing
	Altitude	10,000' AMSL, derated by 2 °C/1000' from AMSL

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Specifications are subject to change without notice

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