



## X-BAND RACK-MOUNT SSPA/SSPB 16W to 1000W ARM-X® series



X-Band Rackmount SSPA/SSPB

### FEATURES

- Full range of output power from 16W to 1000W
- 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 Harmonic 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 X-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.

The ARM-C series 19" rackmount SSPA/SSPB (BUC) is available in output power from 16W to 1000W. Higher power operation may be provided using external phase combining techniques offering an output power up to 1600W. Please contact factory for more details.

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

### REDUNDANCY

Advantech AMT X-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 tested.

**X-BAND RACK-MOUNT SSPA/SSPB**  
**16W to 1000W**  
**ARM-X® series**



**Technical Specifications**

**Table A**

Band	RF Band (GHz)	L-Band Input for BUC (MHz)	LO for BUC (GHz)	Output Power (W)
X	7.9 – 8.4 GHz	950 – 1450	6.95	16 - 800

**Table B**  
**SSPA/SSPB (BUC) Line**

Rated Power W	Psat dBm	P1dB dBm	Gain (dB) (minimum)		Power Consumption W (nominal)	Weight	Dimensions Outline
			SSPA	BUC			
16W	+42	+41	+52	+62	200	36 lbs (16 kg)	16.5"x10"x9" 420x254x229 mm Outline 1
20W	+43	+42	+53	+63	220		
25W	+44	+43	+54	+64	250		
30W	+45	+44	+55	+65	300		
40W	+46	+45	+56	+66	350		
50W	+47	+46	+57	+67	450	48.5 lbs (22kg)	18.5"x10"x9" 470x254x229mm Outline 2
60W	+48	+47	+58	+68	700		
80W	+49	+48	+59	+69	800		
100W	+50	+49	+60	+70	900		
125W	+51	+50	+61	+71	1000		
150W	+52	+51	+62	+72	1200	132 lbs (60kg)	35"x20"x15" 890x508x381 mm Outline 3
200W	+53	+52	+63	+73	1400		
250W	+54	+53	+64	+74	1700		
300W	+55	+54	+65	+75	2000		
350W	+55.5	+54.5	+65	+75	2200		
400W	+56	+55	+66	+76	2700	220 lbs (100kg)	39"x18.5"x12.1" 990x470x307 mm Outline 4
500W	+57	+56	+67	+77	3500		
600W	+58	+57	+68	+78	4000		
700W	+58.5	+57.5	+69	+79	4400		
800W	+59	+58	+70	+80	5400		
1000W	+60	+59	+70	+80	5700		



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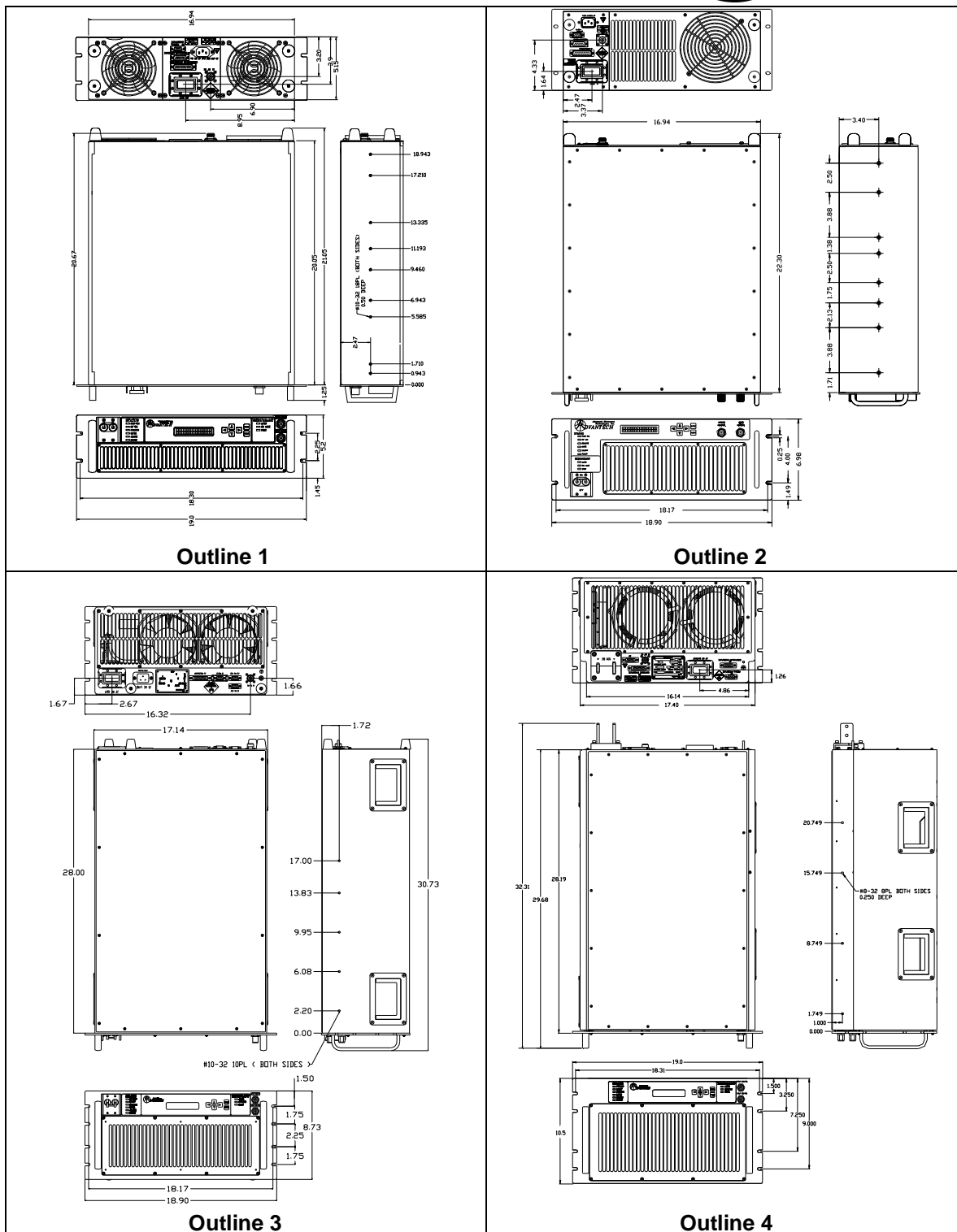
## General Specifications

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	-80 dBm/Hz in Transmit Band, -110 dBm/Hz in Receive Band (7.25 – 7.75 GHz)		
Spurious at P1dB	-60 dBc max		
Harmonics	-60 dBc @ P1dB, -70 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	F = Frequency in kHz
	10 kHz – 500 kHz	-20 (1.25 + log F) dBc	
	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 200W output power	95 - 265 VAC,	47-63 Hz,
		Option 48V DC	
	250W output power and higher	220VAC	47 – 63 Hz
Interfaces	Input (RF or L-Band)	N type female	
	Output Sample Port	N type female	
	RF output	CPR112 contact	
	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	

C-band Rackmount SSPA/SSPB



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PR-CARM-01 Issued 05/08/2008

Specifications are subject to change without notice

CE An ISO9001: 2000 Company



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