



## C-BAND HUBMOUNT SSPA/SSPB 16W to 1000W AWM-C® series



### FEATURES

- Full range of output power from 16W to 1000W 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 harmonic 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
- Remote M&C panel with optional SNMP
- Handheld terminal

### DESCRIPTION

Advantech AMT C-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 60W in C-Band, mainly intended for mobile applications...

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

Please contact factory for more details.

The AWM-C series 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.

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

### REDUNDANCY

Advantech AMT C-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,



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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>CS</b>	5.850 – 6.425	950 – 1525	4.900	16 - 1000
<b>CX</b>	5.850 – 6.725	950 – 1825	4.900	16 - 800
<b>CL</b>	4.400 – 5.000	950 – 1550	3.450	16 - 1000
<b>CI</b>	6.725 – 7.025	1225 – 1525	5.500	16 - 700
<b>CP</b>	6.425 – 6.725	1025 – 1325	5.400	16 - 800
<b>CR</b>	5.725 – 6.025	950 – 1450	4.775	16 - 800

*\*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
			SSP A	BUC	CS	CX CP	CI			
16W	+42	+41	+52	+62	√	√	√	170	36 lbs (16 kg)	16.5"x10"x9" 420x254x229 mm Outline 1
20W	+43	+42	+53	+63	√	√	√	180		
25W	+44	+43	+54	+64	√	√	√	200		
30W	+45	+44	+55	+65	√	√	√	250		
40W	+46	+45	+56	+66	√	√	√	300		
50W	+47	+46	+57	+67	√	√	√	350		
60W	+48	+47	+58	+68	√	√	√	550	48.5 lbs (22kg)	18.5"x10"x9" 470x254x229mm Outline 2
80W	+49	+48	+59	+69	√	√	√	800		
100W	+50	+49	+60	+70	√	√	√	900		
125W	+51	+50	+61	+71	√	√	√	950		
150W	+52	+51	+62	+72	√	√	√	1000		
200W	+53	+52	+63	+73	√	√	√	1100	132 lbs (60kg)	35"x20"x15" 890x508x381 mm Outline 3
250W	+54	+53	+64	+74	√	√	√	1400		
300W	+55	+54	+65	+75	√	√	√	1700		
350W	+55.5	+54.5	+65	+75	√	√	√	2000		
400W	+56	+55	+66	+76	√	√	√	2200	176 lbs (80kg)	39"x18.5"x12.1" 990x470x307 mm Outline 4
500W	+57	+56	+67	+77	√	√	√	2700		
600W	+58	+57	+68	+78	√	√	√	3500		
700W	+58.5	+57.5	+69	+79	√	√	√	4000		
800W	+59	+58	+70	+80	√	√	-	4500		
1000W	+60	+59	+70	+80	√	-	-	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 for SSPA	± 2dB max for SSPB (BUC)	
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	1.3:1 max		
Noise power density	-70 dBm/Hz in Transmit Band, -145 dBm/Hz in Receive Band (3.4 – 4.2 GHz)		
Spurious at P1dB	-65 dBc max		
Harmonics	-60 dBc @ P1dB -3 dB max		
AM/PM conversion	2.5°/dB at P1dB		
Third order intermod (two tones)	-26 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 250W output power	110/220 VAC auto-ranging 47-63 Hz,	
		Option 48V DC	
	300W 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	CPR 137 contact	
	AC line	MS3102 type	
	RS232 serial port	MS3112E10-6P	
	RS485	MS3112 type	
	Ethernet (option)	RJ45	
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	

C-band Hubmount SSPA/SSPB

