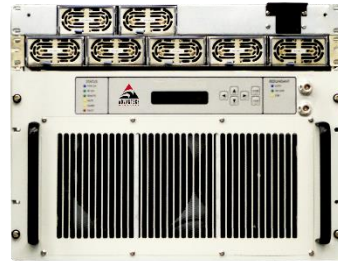


C-Band Rack-mount SSPA/SSPB

ARM-C Series



Features

- Full range of output power from 150W to 1000W
- High linearity
- Redundant ready with no external controller required
- Full M&C capability via RS-232 or RS-485
- Forward and Reflected high precision power monitoring
- Input / Output Sample Ports with precision Calibration Charts
- Redundant Systems shipped fully tested
- Infinite VSWR protection with automatic high reflected power shutdown
- Built-in Harmonic Filter
- PFC (Power Factor Correction)
- CE marking

Overview

Advantech Wireless C-Band line of Amplifiers and BUCs are intended for satellite up-link applications. The design of these units is based on Advantech Wireless' proven techniques resulting in high linearity and operating efficiency. Conservative thermal design contributes to the very 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 and overdrive protection contribute to a trouble free operation.

The ARM-C series 19" rackmount SSPA/SSPB (BUC) is available in output power ranging from 16W to 1000W. Higher power operation may be provided using external phase combining techniques offering an output power up to 6,000W. Please contact factory for more details.

Advantech Wireless also offers the SUMMIT™ and SapphireBlu™ modular SSPA systems for either indoor or outdoor applications.

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

Options

- 1:1 or 1:2 redundant configuration
- Phase combined systems for higher power
- L-Band input (SSPB/BUC operation)
- 10/100BT Ethernet, WEB Interface,
- SNMP v1, v2, v3 Interface
- CLI
- Very high stability 10 MHz OCXO (BUC)
- Button RF On/Mute for fast emergency
- Audible Alarm and ACO (Audible Cut Off) button

Accessories

- Mounting slides
- Remote M&C panel
- 500W, 1kW, 3kW Waveguide Loads
- W/G Circulators
- W/G Switches

Redundancy

Advantech Wireless 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 tested.

C-Band Rack-mount SSPA/SSPB

Technical Specifications

Table A

Band*	RF Band (GHz)	L-Band Input for BUC (MHz)	LO for BUC (GHz)	Output Power (W)
CS	5.850 – 6.425	950 – 1525	4.900	150 - 1000
CX	5.850 – 6.725	950 – 1825	4.900	150 - 800
CL	4.400 – 5.000	950 – 1550	3.450	150 - 1000
CI	6.725 – 7.025	1225 – 1525	5.500	150 - 1000
CP	6.425 – 6.725	1025 – 1325	5.400	150 - 1000
CR	5.725 – 6.325	950 – 1750	4.775	150 - 1000

*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	CS CI CP	CX			
150W	+52	+51	+62	+72	✓	✓	1000	66 lbs (30kg)	4RU Outline #1
200W	+53	+52.3	+63	+73	✓	✓	1100	81.5 lbs (37kg)	5RU Outline #2
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	99 lbs (45kg)	5RU Outline #2
500W	+57	+56	+67	+77	✓	✓	2700	198 lbs (90kg)	8RU Outline #3
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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C-Band Rack-mount SSPA/SSPB

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 (SSPA), ±1.5dB max (SSPB)
Gain slope over 40 MHz	± 0.3 dB max
Gain variation over temperature	± 1.5 dB max
Input Impedance and VSWR	50 Ω SSPA VSWR: 1.3:1, isolator on input; SSPB (BUC) VSWR:1.4:1
Output VSWR	1.25:1, isolator protected from infinite VSWR: power detector/shutdown
Noise power density	-70 dBm/Hz in Transmit Band, -150 dBm/Hz in Receive Band (3.40 – 4.20 GHz)
Spurious at P1dB	-60 dBc max
Harmonics	-70 dBc @ P1dB,
AM/PM conversion	2.5°/dB max at P1dB
Third order intermod (two tones)	-26 dBc at 3 dB total power 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 max 10 kHz – 500 kHz: -20 (1.25 + log F) dBc max, F = Frequency in kHz 500 kHz – 1 MHz: -80 dBc max
SSPB (BUC)	
Local Oscillator frequency	See table A
Reference frequency	10 MHz stability ±1.8 over temp range ±2 ⁻¹⁰ /day
Phase Noise	-60 dBc/Hz at 10 Hz; -85 dBc/Hz at 10 kHz -65 dBc/Hz at 100 Hz; -95 dBc/Hz at 100 kHz -75 dBc/Hz at 1 kHz; -110 dBc/Hz at 1 MHz
External Reference Frequency phase noise (max)	-115 dBc/Hz at 10 Hz; -150 dBc/Hz at 10 kHz -135 dBc/Hz at 100 Hz; -160 dBc/Hz at 100 kHz -145 dBc/Hz at 1 kHz; -160 dBc/Hz at 1 MHz
Weight & Dimensions	See table B
AC input voltage	Up to 250W output power 195 - 265 VAC, 45-65 Hz, Option -48VDC
Cooling system	Forced air with front intake
Interfaces	Input (RF or L-Band) N type female Input / Output Sample Ports N type female, with Calibration Chart RF output CPR-137G (Grooved) AC line IEC 320 inlet RS-232 serial port D-sub 9S RS-485 D-sub 9S Ethernet (option) RJ-45
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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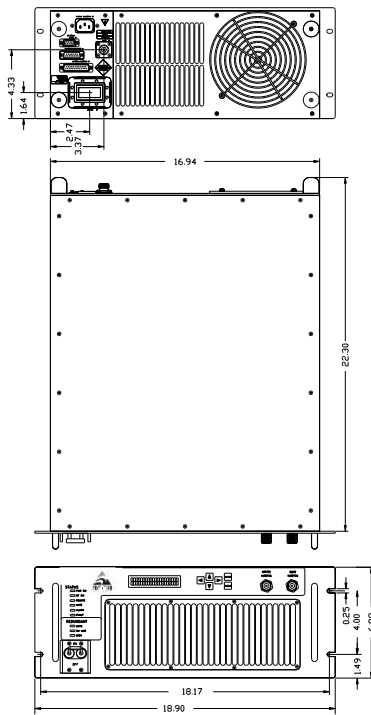
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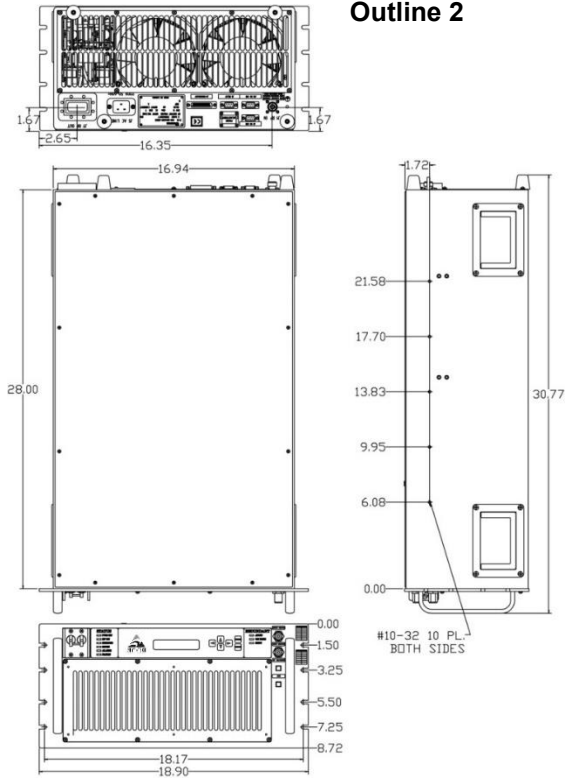
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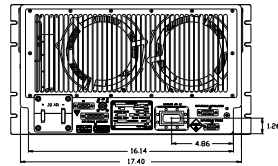
C-Band Rack-mount SSPA/SSPB



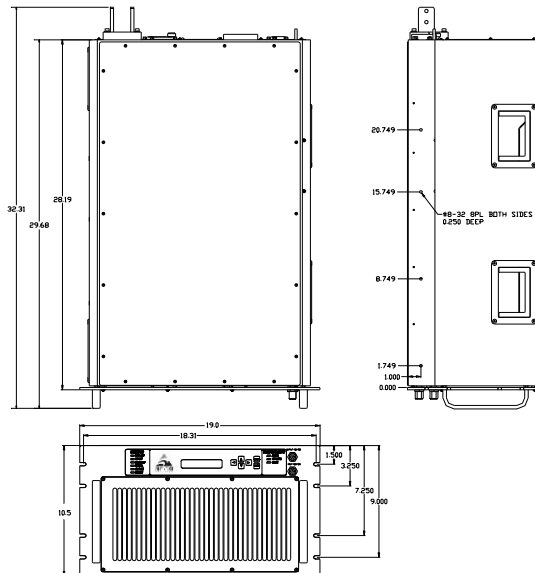
Outline 1



Outline 2



Outline 3



Ref.: PB-ARMA-C-150-1000-001-21070

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