



C-BAND HUB-MOUNT SSPB (Solid State Power Block-Up Converter) 10 W TO 50W SSPB-1000C® series



KEY FEATURES

- Converts synthesized L-Band to C-Band (see table A)
- Integrated amplifier with an output power of 10W to 50W (see table A)
- Phase-locked oscillator to external 10MHz reference
- High linearity (low intermodulation products)
- Weatherproof package
- Remote Monitor & Control
- Protection against thermal runaway and out-of-lock conditions
- Output sample monitoring port
- Built-in power supply
- Built-in Harmonic Filter
- Compact packaging
- CE Marking

OPTIONS

- Internal High Stability 10 MHz Reference
- Redundant system
- Remote M&C panel (Ethernet port optional)

OVERVIEW

The SSPB-1000C® series are hub-mount up-converter transmitters, operating in the C-Band. The SSPB-1000C® is an integrated unit, complete with power supply, phase-locked oscillator, mixer, filter and cooling mechanism. Intended for outdoor operation, the SSPB-1000C® provides the utmost in convenience and efficiency. They are the smallest fully integrated units on the market today. Other SSPB's are also available for higher powers or for operation at other up-link frequencies.

The design of these units is based on Advantech AMT™ industry proven reliable solid-state high power amplifiers. Built-in design features and assembly methods incorporated with efficient combining techniques result in an amplifier with exceptional linearity and operating efficiency. The use of high efficiency power supply and conservative thermal designs contribute to the trouble-free operation of the amplifier. Built-in microprocessor controller provides the capability for serial port interfaces (RS232/485) for remote monitoring and control.

REDUNDANCY

The SSPB-1000C® series are available in redundant configuration with a single Monitor and Control interface.

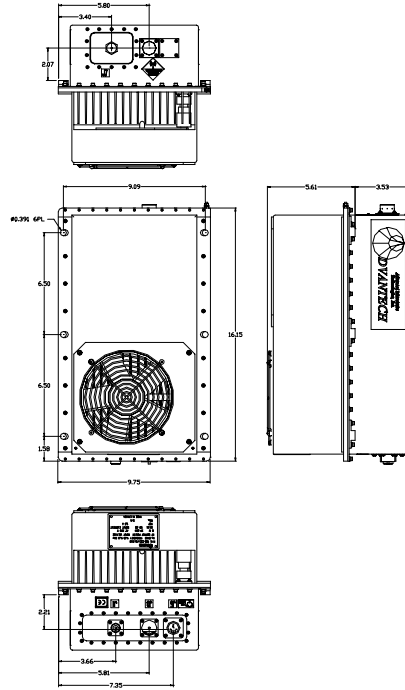


Table A

Band	RF Band (GHz)	IF Band (MHz)	Output Power (W)	LO (GHz)
CL	4.400 – 5.000	950 – 1550	10 - 50	3.450
CP	6.425 – 6.725	1025 – 1325	10 - 40	5.400
CI	6.725 – 7.025	1225 – 1525	10 - 40	5.500
CR	5.725 – 6.025	950 – 1450	10 - 50	4.775
CS	5.850 – 6.425	950 – 1525	10 - 50	4.900
CX	5.850 – 6.725	950 – 1825	10 - 40	4.900

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

APPLICATION

The SSPB-1000C® series convert an L-Band signal to the C-band frequency (see table A). Designed for C-Band satellite up-link applications, the SSPB-C series are available in output power from 2W to 1000W. For higher power Advantech provides phase-combined systems. The SSPB-1000C® series are fully integrated units from 10W to 50W output power designed for mounting outdoors, near the hub of an antenna.

C-band Low Power SSPB



C-BAND HUB-MOUNT SSPB (Solid State Power Block-Up Converter) 10 W TO 50W

SSPB-1000C® series



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TECHNICAL SPECIFICATIONS	10 W	16W	20W	25 W	30 W	40 W	50 W
Electrical Characteristics							
Availability in this series CS, CR, CL CX, CI, CP	√ √	√ √	√ √	√ √	√ √	√ √	√ Note 1
Output power (P _{SAT}) (dBm)	+41	+42	+43	+44	+45	+46	+47
Output power (P _{1dB}) min (dBm)	+40	+41	+42	+43	+44	+45	+46
Conversion gain @ maximum setting at ambient temperature	61 dB	62 dB	63 dB	64 dB	65 dB	66 dB	67 dB
Gain adjustment range	20 dB						
Input/Output frequency range	See table A on front page						
Frequency sense	Non-inverting						
Max input power without damage	+10 dBm						
Gain flatness	±2.0 dB, max over full band, 0.3 dB/10 MHz at 25°C						
Gain variation over temperature	±1.5 dB over full operating range						
Gain variation over 24 hours	±0.25 dB max at constant temperature & drive level						
Input return loss	18 dB						
Output return loss	19 dB						
Noise power density	-70 dBm/Hz max in TX band -140 dBm/Hz max in RX band						
Spurious at rated power	-60 dBc, max						
Harmonics at rated power	-70 dBc, max						
AM/PM conversion at rated power	2.5°/dB max. at P _{1dB} , 1°/dB max. at 3 dB back-off						
Third order IMD (2 tones)	-26 dBc, max at 3 dB back-off from P _{1dB}						
Local Oscillator frequency (LO)	See table A on front page						
LO leakage	-20 dBm						
Phase noise	-50 dBc/Hz at 10Hz	-75 dBc/Hz at 1000Hz	-85 dBc/Hz at 10 kHz	-95 dBc/Hz at 100 kHz	-105 dBc/Hz at 1 MHz		
Group delay (over any 40 MHz)	Linear	0.02 ns /MHz, max					
	Parabolic	0.003 ns/MHz ² , max					
	Ripple	1 nsec p-p, max					
Reference (auto-switching)							
<i>Note: In case external reference is not provided, the unit will automatically switch to internal reference. For 1:1 redundant operation, internal 10MHz reference is recommended</i>							
Reference frequency	10 MHz						
Reference frequency phase noise	-115 dBc/Hz at 10 Hz				-150 dBc/Hz at 10 kHz		
	-135 dBc/Hz at 100 Hz				-160 dBc/Hz at 100 kHz		
	-148 dBc/Hz at 1000 Hz						
Reference frequency level	0dBm ± 5 dB						
Power Requirements							
AC input voltage	110 /220 VAC (47-63 Hz)						
Power consumption (nominal)	100W	120W	180 W	200 W	250 W	350 W	400 W
Mechanical Characteristics							
Dimensions (L x W x H)	16.15" x 9.75" x 9.14" (41.02 x 24.77 x 23.22 cm)						
Weight	16 kg (36lbs)						
Interfaces:	RF input	Type N (F)	Redundancy	MS3112E16-26P	RF output	CPR137 contact (for CL series - Type N (F))	
	Relay port	MS3112E12-10P	RS-232	MS3112E10-6P			
	AC Line	MS3102R10SL-3P	RS-485	MS3112E10-6P			
Environmental Conditions							
Temperature:	Operating	-30°C to +55°C; Option: 1: -40°C to +55°C; 2: -50°C to +50°C					
	Storage	-55°C to +85°C					
Humidity		100%, condensing (2" rain/hour)					
Altitude		10,000' AMSL, de-rated 2°C/1,000' from AMSL					

Note 1: Please refer to SSPB-2000C® product datasheet

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Specifications are subject to change without notice

CE An ISO9001: 2000 Company



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