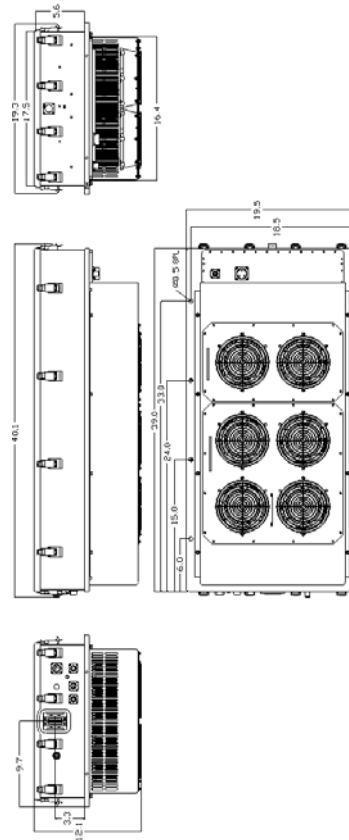


FEATURES

- Converts L-Band signal to C-Band frequencies (see table A)
- Output power from 500W to 1000W (see table A)
- Phase-locked oscillator to external 10MHz reference
- High linearity (low intermodulation products)
- Weatherproof package
- Remote Monitor & Control
- Output sample monitoring port
- Protection against thermal runaway and out-of-lock conditions
- Built-in power supply
- Built-in Harmonic Filter
- CE Marking

OPTIONS

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



OVERVIEW

The SSPB-5000C® series are hub-mount up-converter transmitters, operating in the C-Band. The SSPB-5000C® is an integrated unit, complete with power supply, phase-locked oscillator, mixer, filter and cooling mechanism. Intended for outdoor operation, the SSPB-5000C® are weatherproof and provide the utmost in convenience and efficiency. Other SSPB's are also available for diverse powers or for operation at other up-link frequencies.

The design of these units is based on Advantech's industry proven reliable solid-state high power amplifiers. Built-in design features and assembly methods incorporated with efficient combining techniques result in a device 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 unit. Built-in microprocessor controller provides the capability for serial port interfaces (RS232/485) for remote monitoring and control.

REDUNDANCY

The SSPB-5000C® 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	500 - 800	3.450
CP	6.425 – 6.725	1025 – 1325	500 - 800	5.400
CI	6.725 – 7.025	1225 – 1525	500 - 700	5.500
CR	5.725 – 6.025	950 – 1450	600 - 1000	4.775
CS	5.850 – 6.425	950 – 1525	600 - 1000	4.900
CX	5.850 – 6.725	950 – 1825	500 - 800	7.675

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

APPLICATION

The SSPB's 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-5000C® series are fully integrated units for 500W to 1000W output power designed for mounting outdoors, near the hub of an antenna.



C-BAND HUB-MOUNT SSPB (Solid State Power Block-Up Converter) 500W to 1000W

SSPB-5000C® series



C-band Super Power SSPB

TECHNICAL SPECIFICATIONS		500W	600W	700W	800W	1000W
Electrical Characteristics						
Availability in this series		Note 1	√	√	√	√
CS, CR			√	√	--	--
CI			√	√	√	--
CX, CP, CL		√	√	√	√	--
Output power (P _{SAT})		+57 dBm	+58 dBm	+58.5	+59 dBm	+60 dBm
Output power (P1dB) min		+56 dBm	+57 dBm	+57.5	+58 dBm	+59 dBm
Conversion gain @ maximum setting @ ambient temperature		77 dB	78 dB	78.5 dB	79 dB	80 dB
Frequency range		See table A on front page				
Gain adjustment range		20 dB				
Max input power without damage		+10 dBm				
Gain flatness		±2.0 dB max over 500 MHz, 0.3 dB/10 MHz @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 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 P1dB,				
		1°/dB max. at 3 dB back-off				
Third order IMD		-26 dBc max at 3 dB total back-off from rated P1dB				
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	-95 dBc/Hz at 100 kHz		
		-65 dBc/Hz at 100Hz	-85 dBc/Hz at 10 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>						
External reference frequency		10 MHz				
External 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				
External reference frequency level		0 dBm ± 5 dB				
Power Requirements						
AC input voltage		190 to 265 VAC (47-63 Hz)				
Power consumption, (nominal)		4000W	4500W	5000W	5900W	6100W
Mechanical Characteristics						
Dimensions (L x W x H)		40.10" x 19.50" x 12.10" (101.90 cm x 49.50 cm x 30.70 cm)				
Weight (with mounting frame)		160 lbs (72.6 kg)				
Interfaces:	RF input	Type N (F)	RS-232	MS3112E10-6P	RF output CPR187 contact	
	Sample port	Type N (F)	RS-485 /Ethernet	MS3112 Type	(for CL series - Type N (F))	
	AC Line	MS3102 type				
Environmental Conditions						
Temperature	Operating	-30°C to +55°C; Option F: -40°C to +55°C; option G: -50°C to +50°C				
	Storage	-55°C to +85°C				
Humidity		100%, condensing (2" rain/hour)				
Altitude		10,000' AMSL, derated 2°C/1,000' from AMSL				

Note 1: Please refer to SSPB-4000C® product datasheet



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