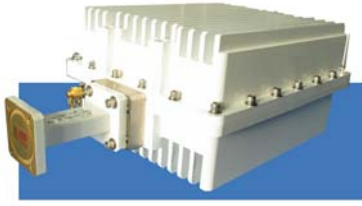




Ku-BAND HUB-MOUNT BLOCK-UP
CONVERTER 2W to 4W
SSPB-100K[®] series



Ku-Band Block-Up Converter 2W to 4W

FEATURES

- Converts L-Band (950-1450 MHz, 950 -1700 MHz, or 950-1200 MHz) to Ku-Band (14.0 – 14.5 GHz, 13.75 – 14.5 GHz, or 13.0-13.25 GHz)
- Phase-locked local oscillator locks directly to an external 10 MHz reference
- Fully meets IESS 308/309 Phase/Noise requirements
- Output power of 2W or 4W
- Robust, weatherproof package
- Power feed (DC) and 10 MHz Reference via coaxial cable
- Protection against thermal runaway and out-of-lock conditions
- Receive Reject Filter
- CE Marking

OPTIONS

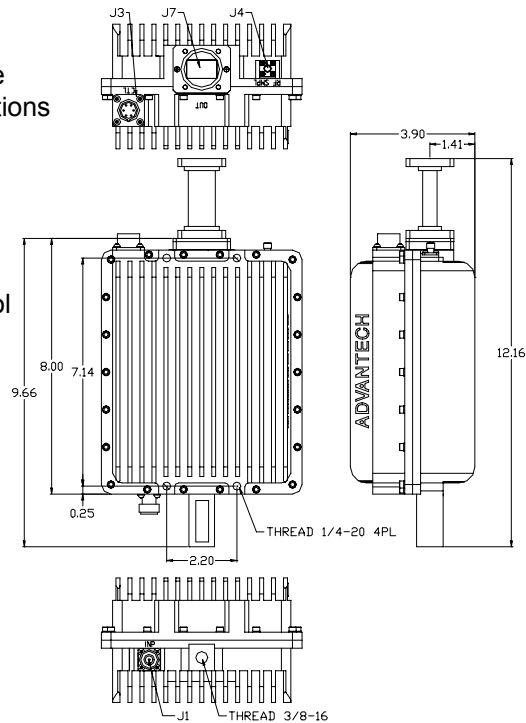
- RS-485 serial Interface for Remote Monitoring and Control
- Power Track™ option via SL or AMT modems

OVERVIEW

The SSPB-100K[®] series are hub-mount up-converter transmitters, operating in the Ku-Band. The SSPB-100K[®] is an integrated unit, complete with power supply, phase-locked oscillator, mixer, filter and cooling mechanism. Intended for outdoor operation, the SSPB-100K[®] provides the utmost in convenience and efficiency. Other SSPB's are also available for higher powers or for operation at other up-link frequencies.

The hub-mount SSPB-100K[®] is constructed in a compact cooling enclosure for outdoor operation. The units are weatherproof. They are the smallest fully integrated units on the market today.

The design of these units is based on ADVANTECHAMT™ 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 (RS485) for remote monitoring and control.



APPLICATION

The SSPB-100K[®] series are intended to operate in conjunction with indoor mounted L-Band Transceivers. The SSPB's convert an L-Band signal (950-1450 MHz or 950 -1700 MHz) to the Ku-band frequency of 14.0-14.5 GHz or extended Ku-band (13.75 -14.5 GHz). Designed for Ku-Band satellite up-link applications, the SSPB K series are available in output power from 1W to 250W. The SSPB-100K[®] series are fully integrated units for 8W output power designed for mounting outdoors, near the hub of an antenna.



Ku-BAND HUB-MOUNT BLOCK-UP
 CONVERTER 2W to 4W
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Ku-Band Block-Up Converter 2W to 4W

TECHNICAL SPECIFICATIONS		
Electrical Characteristics		
	2W	4W
Input /Output frequency range	L-Band 950-1450 MHz / Ku-Band 14.0-14.5 GHz (SSPB-100 KS [®] series); L-Band 950-1200 MHz / Ku-Band 13.0-13.25 GHz (SSPB-100 KL [®] series); L-Band 950-1700 MHz/Ku-Band 13.75-14.5 GHz (SSPB-100 KX [®] series)	
Input Level	-20 dBm for P1dB	
Output power (P1dB) min	+33 dBm	+36 dBm
Conversion gain typical	54 dB	57 dB
Gain flatness	±2.0 dB, typical over 500 MHz, ± 0.75 dB/80 MHz	
Gain variation over temperature	±1.5 dB over full operating range (temperature compensation mode) (±1 dB over full operating range in Power Track™ mode)	
Input VSWR, in-band	1.4: 1	
Output VSWR	1.5: 1	
Input impedance	50 Ω	
Output impedance	50 Ω	
Noise Figure	15 dB, typical	
Spurious at rated power	-55 dBc, max	
Harmonics at rated power	-45 dBc, max	
AM/PM conversion	3°/dB typical (at P _{1dB})	
Local Oscillator frequency (LO)	13.05 GHz (KS series); 12.80 GHz (KX series); 12.05 GHz (KL series)	
LO leakage	< -20 dBm	
Phase noise	-55 dBc/Hz at 10Hz -73 dBc/Hz at 1000Hz	-105 dBc/Hz at 100 kHz
	-65 dBc/Hz at 100Hz -83 dBc/Hz at 10 kHz	-110 dBc/Hz at 1 MHz
Integrated (SSB) Phase Noise	2° RMS typical	
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	
Rejection in receive band	-55 dBc	
External reference		
Reference frequency	10 MHz	
Recommended 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	0 dBm ± 5 dB	
(For 1:1 redundant operation, internal 10MHz reference must be used)		
Power Requirements		
Supply voltage	20 V to 60 V DC	
Power consumption (nominal)	30W	48W
Mechanical Characteristics		
Dimensions (L x W x H)	12.16" x 6.29" x 3.9"	
Weight	8 lbs (3.6 kg)	
Interfaces:	RF input Type N (F) RF output WR75 grooved RS-485 Serial Port with optional Power Track™ MS3102R20-29P (option)	
Environmental Conditions		
Temperature: Operating	-30°C to +55°C; Option: E-40°C to +55°C; G: -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	

PB-BS300-04 Rev 01 issued 9/22/2005, Advantech AMT reserves the right to change this specification without prior notice

An ISO9001 2000 Company



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