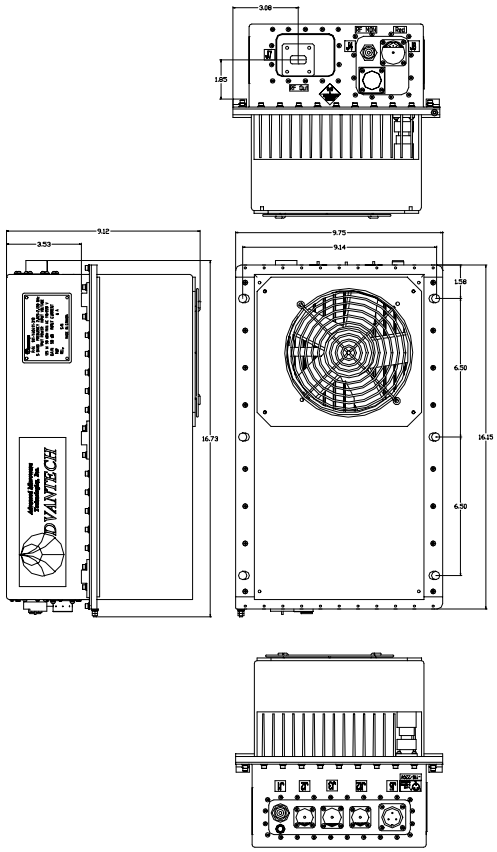
Ku-BAND HUB-MOUNT SSPB (Solid State Power Block-Up Converter) 8W TO 30W

SSPB-2000K® series



FEATURES

- Converts L-Band to Ku-Band (see table A)
- Integrated amplifier with an output power of 8W to 30W (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 Receive Reject Filter
- Compact packaging
- CE Marking

OPTIONS

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

OVERVIEW

The SSPB-2000K® series are hub-mount up-converter transmitters, operating in the Ku-Band. The SSPB-2000K® is an integrated unit, complete with power supply, phase-locked oscillator, mixer, filter and cooling mechanism. Intended for outdoor operation, the SSPB-2000K® 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 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-2000K® series are available in redundant configuration with single Monitor and Control interface.

Table A

Band	RF Band (GHz)	IF Band (MHz)	Output Power (W)	LO (GHz)
KS	14.00 – 14.50	950-1450	8-30	13.05
KX	13.75 - 14.50	950-1700	8-30	12.80

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

APPLICATION

The SSPB-2000K® series convert an L-Band signal to the Ku-band frequency (see table A). Designed for Ku-Band satellite up-link applications, the SSPB K series are available in output power from 1W to 250W. The SSPB-2000K® series are fully integrated units from 8W to 30W output power designed for mounting outdoors, near the hub of an antenna.

Ku-band Low Power SSPB

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TECHNICAL SPECIFICATIONS	8W	10W	12W	16W	20W	25W	30W
Electrical Characteristics							
Availability in this series KS KX	 √ √	 √ √	 √ √	 √ √	 √ √	 √ √	 √ √
Output power (P_{SAT})	+39 dBm	+40 dBm	+41 dBm	+42 dBm	+43 dBm	+44 dBm	+45 dBm
Output power (P1dB) min	+38 dBm	+39 dBm	+40 dBm	+41 dBm	+42 dBm	+43 dBm	+44 dBm
Conversion gain @ maximum setting at ambient temperature	60 dB	60 dB	61 dB	62 dB	63 dB	64 dB	65 dB
Gain adjustment range	20 dB min						
Input/Output frequency range	See table A on front page						
Max input power without damage	+10 dBm						
Gain flatness	±2.0 dB, max over full band, 0.3 dB/10 MHz						
Gain variation over temperature	±1.5 dB over full operating range (temperature compensation mode)						
Gain variation over 24 hours at constant temperature & drive level	±0.5 dB max						
Input return loss	18 dB, min						
Output return loss	20 dB min, 18 dB for coaxial output						
Noise power density (NPD)	-70 dBm/Hz in TX band -130 dBm/Hz in RX band						
Spurious at rated power	-60 dBc, max						
Harmonics at rated power	-60 dBc, max						
AM/PM conversion	3°/dB typical (at P_{1dB})						
Third order IMD (2 tones)	-24 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 -73 dBc/Hz at 1000Hz -93 dBc/Hz at 100 kHz -63 dBc/Hz at 100Hz -83 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						
External reference							
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	0 dBm ± 5 dB						
(For 1:1 redundant operation, internal 10MHz reference is recommended)							
Power Requirements							
AC input voltage	110 /220 VAC (47-63 Hz) autoranging (90-132 V / 180-264 V)						
Power consumption (nominal)	150W	200W	250W	300W	350W	400W	550W
Mechanical Characteristics							
Dimensions (L x W x H)	16.15" x 9.75" x 9.12" (41.02 cm x 24.77 cm x 23.27 cm)						
Weight	25 kg (55 lbs)						
Interfaces: RF input Type N (F) Redundancy MS3112E16-26P RF output WR-75 contact 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: 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						

Specifications are subject to change without notice

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