



COMPACT Ku-BAND HUB-MOUNT
SSPB 20W TO 60W
SSPB-2100K[®] series



FEATURES

- Converts L-Band to Ku-Band (see table A)
- Integrated amplifier with an output power of 20W to 60W (see table A)
- Phase-locked oscillator to external 10MHz reference
- High linearity (low intermodulation products)
- Built-in Receive Reject Filter
- Remote Monitor & Control
- Protection against thermal runaway and out-of-lock conditions
- Built-in power supply
- Light weight
- Weatherproof package
- Compact packaging
- CE Marking

OPTIONS

- Remote M&C panel (Ethernet port optional)
- Handheld terminal

OVERVIEW

The SSPB-2100K[®] series are hub-mount up-converter transmitters, operating in the Ku-Band. The SSPB-2100K[®] is an integrated unit, complete with power supply, phase-locked oscillator, mixer, filter and cooling mechanism. Intended for outdoor operation, the SSPB-2100K[®] 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. 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.

APPLICATION

The SSPB-2100K[®] 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-2100K[®] series are fully integrated units from 20W to 50W output power designed for mounting outdoors, near the hub of an antenna.

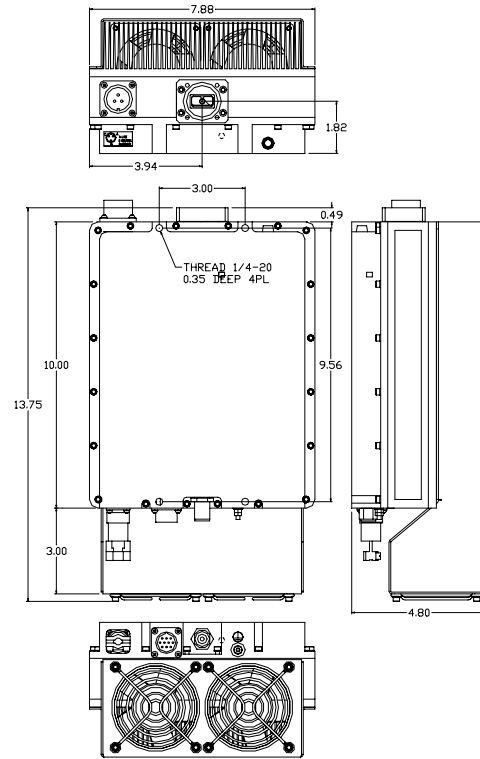


Figure 1: Outline 50W – 60W

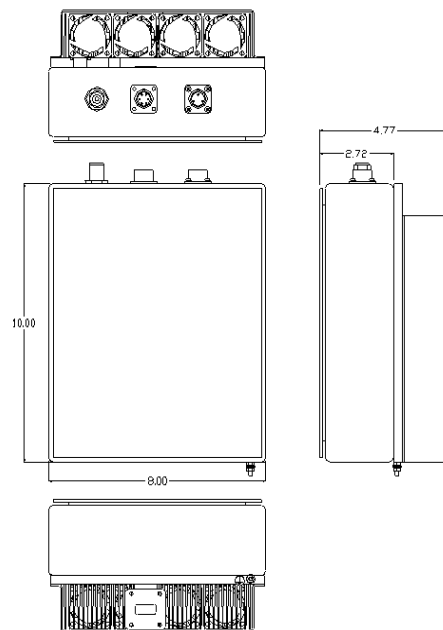


Figure 2: Outline 20 - 30W

Table A

Band	RF Band (GHz)	IF Band (MHz)	Output Power (W)	LO (GHz)
KS	14.00 – 14.50	950-1450	20-60	13.05
KX	13.75 - 14.50	950-1700	20-50	12.80



Ku-BAND HUB-MOUNT SSPB (Solid State Power Block-Up Converter) 20W TO 60W
SSPB-2100K[®] series



Ku-band Low Power SSPB-2100K series

TECHNICAL SPECIFICATIONS		20W	25W	30W	50W	60W							
Electrical Characteristics													
Availability in this series													
KS		√	√	√	√	√							
KX		√	√	√	√	-							
Output power (P _{SAT})		43 dBm	+44 dBm	+45 dBm	+47 dBm	+48 dBm							
Output power (P _{1dB}) min		+42 dBm	+43 dBm	+44 dBm	+46 dBm	+47 dBm							
Conversion gain @ maximum setting		63 dB	64 dB	65 dB	67 dB	68 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		3.0 dB p-p , max over full band, 1 dB p-p dB/40 MHz											
Gain variation over temperature		±1.5 dB over full operating range											
Gain variation over 24 hours		±0.5 dB max at constant temperature & drive level											
Input VSWR		1.5:1 dB, min											
Output VSWR		1.5:1 dB min,											
Noise power density (NPD)		-85 dBm/Hz in TX band -135 dBm/Hz in RX band											
Spurious at rated power		-55 dBc, max											
AM/PM conversion		3°/dB typical (at P _{1dB})											
Third order IMD (2 tones)		-25 dBc, max at 3 dB back-off from P _{1dB}											
Local Oscillator frequency (LO)		See table A on front page											
LO leakage		-20 dBm max											
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		Parabolic		Ripple		0.02 ns /MHz, max		0.003 ns/MHz ² , max		1 nsec p-p, max	
External reference													
Reference frequency		10 MHz											
Reference frequency phase noise		-115 dBc/Hz at 10 Hz		-135 dBc/Hz at 100 Hz		-148 dBc/Hz at 1000 Hz		-155 dBc/Hz at 10 kHz		-160 dBc/Hz at 100 kHz			
Reference frequency level		0 dBm ± 5 dB supplied via input L-Band cable											
Power Requirements													
Input voltage		110 /220V AC (47-63 Hz) auto-ranging (90-132 V / 180-264 V) 24-35V DC or 40-60V DC											
Power consumption (nominal)		250W	270W	300W	400W	450W							
Mechanical Characteristics													
Dimensions (L x W x H)		10" x 8" x4.8" (254 x 203 x 114 mm)			DC 13" x 8" x4.8" (330 x 203 x 114 mm) AC 13" x 8" x5.2" (330 x 203 x 132 mm)								
Weight		14.4 lbs (6.5 kg)			18 lbs (8.2 kg)								
Interfaces:		RF input	Type N (F)	RS-485/RS232	MS3112E12-10P	AC Line	MS3102R16-10P	RF output	WR-75 contact	DC Line	MS3102R16-10PX		
Environmental Conditions													
Temperature:		Operating: -30°C to +55°C; Option: -40°C to +55°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											

