



25W to 125W  
SSPB-2100X™ series



### Features

- Converts L-Band to X (see table A)
- Integrated amplifier with an output power of 25W to 125W (see table A)
- Phase-locked oscillator to external 10MHz reference
- High linearity (low inter-modulation products)
- Remote Monitor & Control
- Protection against thermal runaway and out-of-lock conditions
- Output sample monitoring port
- Built-in power supply
- Light weight
- Weatherproof package
- Compact packaging
- CE Marking
- MIL-STD-188-164A latest revision compliant

### Overview

The SSPB-2100™ series are hub-mount up-converter transmitters, operating in the C/X and Ku-Band. The SSPB-2100™ is an integrated unit, complete with power supply, phase-locked oscillator, mixer, filter and cooling mechanism. Intended for outdoor operation, the SSPB-2100™ 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 Wireless 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-2100X™ series converts an L-Band signal to the X-band frequency (see table A). Designed for satellite up-link applications, the SSPB series are available in output power from 1W to 500W. The SSPB-2100X™ series are fully integrated units from 25W to 125W output power designed for mounting outdoors, near the hub of an antenna.

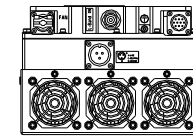
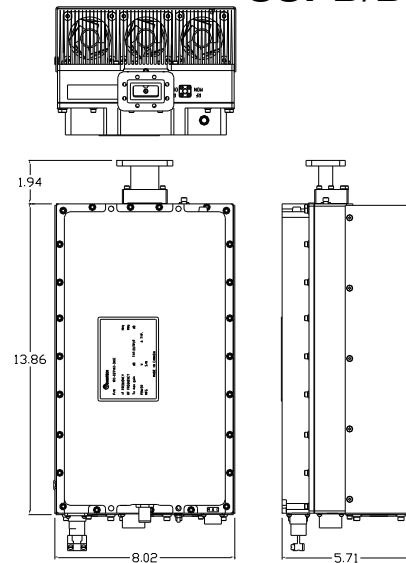


Figure 1: Outline 80-125 W units

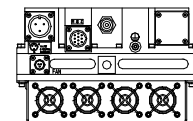
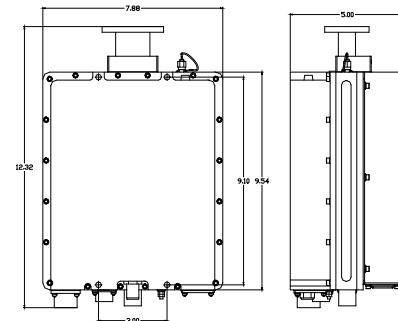
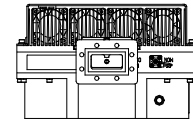


Figure 21: Outline 25-60 W units

**Table A**

Band	RF-Band (GHz)	IF-Band (MHz)	Output Power	LO GHz
X-Band	7.9 – 8.4	950 - 1450	25- 125	6.950

### Accessories

- External Receive Reject Filter
- Remote M&C panel (Ethernet port optional)
- Handheld terminal

# Compact X-Band Hub-mount SSPB/BUC

Technical Specifications		25W	30W	40W	50W	60W	80W	100W	125W	
<b>Electrical Characteristics</b>										
Output power (P <sub>SAT</sub> )	dBm	+44	+45	+46	+47	+48	+49	+50	+51	
Output power (P <sub>1dB</sub> ) min	dBm	+43	+44	+45	+46	+47	+48	+49	+50	
Conversion gain @ maximum setting	dB	64	65	66	67	68	69	50	71	
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 dB p-p, max over full band, 1.0 dB/40 MHz								
Gain variation over temperature		±1.5 dB over full operating range (temperature compensation mode)								
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 -110 dBm/Hz in RX Band								
Spurious at rated power		-55 dBc, max								
AM/PM conversion		2.5°/dB typical (at P <sub>1dB</sub> )								
Third order IMD (2 tones)		-24 dBc, max at 3 dB back-off from P <sub>1dB</sub>								
Local Oscillator frequency (LO)		6.95 GHz								
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 <sup>2</sup> , max 1 nsec p-p, max								
<b>External reference</b>										
Reference frequency		10 MHz								
Reference frequency phase noise		-115 dBc/Hz at 10 Hz		-135 dBc/Hz at 100 Hz		-155 dBc/Hz at 10 kHz		-160 dBc/Hz at 100 kHz		
		-148 dBc/Hz at 1000 Hz								
Reference frequency level		0 dBm ± 5 dB supplied via input L-Band cable								
<b>Power Requirements</b>										
AC input voltage		110 /220 VAC (47-63 Hz) auto-ranging (90-132 V / 180-264 V)								
Power consumption (W nominal)		150	180	200	300	350	400	450	500	
<b>Mechanical Characteristics</b>										
Dimensions (L x W x H)		10" x 8" x 4.8" (254 x 203 x 114 mm)					DC 13" x 8" x 4.8" (330 x 203 x 114 mm) AC 13" x 8" x 5.2" (330 x 203 x 132 mm)			
Weight		14.4 lbs (6.5 kg)					22.0lbs (10.0 kg)			
Interfaces: RF input	Type N (F)	RS-485/RS232		MS3112E12-10P		AC Line MS3102R16-10P				
RF output	CPR112					DC Line MS3102R16-10PX				
<b>Environmental Conditions</b>										
Temperature:	Operating Storage	-30°C to +55°C; Option: E-40°C to +55°C; G: -50°C to +50°C -55°C to +85°C								
Humidity		100%, condensing (2" rain/hour)								
Altitude		10,000' AMSL, de-rated 2°C/1,000' from AMSL								

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