



FEATURES

- Up-converts an L-Band input frequency to a standard X-Band (7.9-8.4GHz) frequency
- Output power up to 10W
- Phase-locked local oscillator locks directly to an external 10 MHz reference
- Fully meets IESS 308/309 Phase/Noise requirements
- Robust, weatherproof package
- Power feed (DC) and 10 MHz reference supplied via IFL coaxial cable
- Protection against thermal runaway and out-of-lock conditions
- Integral Receive Reject Filter
- CE Marking

OPTIONS

- RS-485/RS232 serial Interface for remote Monitoring and Control
- Optional AC Power

ACCESSORIES

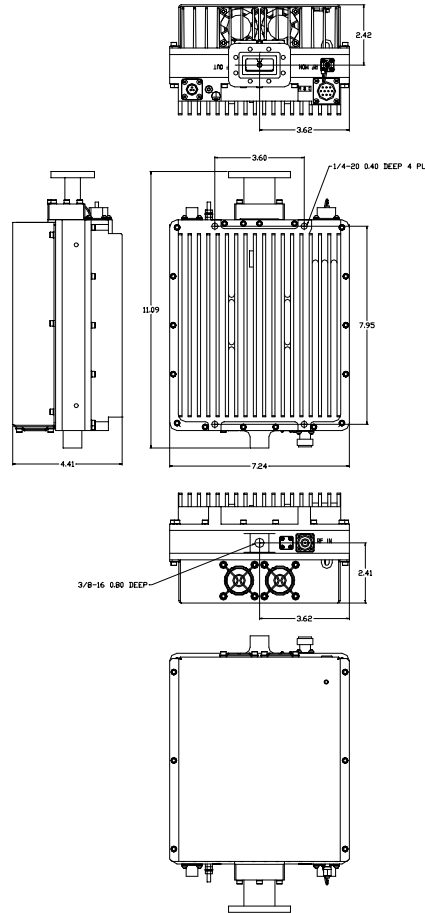
- Hand Held Terminal
- Additional Receive Reject Filter

OVERVIEW

The SSPB-210X[®] series are hub-mount up-converter transmitters, operating in the X-Band. The SSPB-210X[®] is an integrated unit, complete with power supply, phase-locked oscillator, mixer, filter and cooling mechanism. Intended for outdoor operation, the SSPB-210X[®] provides the utmost in convenience and efficiency. Other SSPBs are also available for higher powers or for operation at other up-link frequencies.

The hub-mount SSPB-210X[®] 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 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 (RS485) for remote monitoring and control.

APPLICATION

The SSPB-210X[®] series is intended to operate in conjunction with indoor mounted L-Band Transceivers and modems. The SSPB's convert an L-Band signal (950-1450 MHz) to the X-band frequency (7.90 – 8.40 GHz). Designed for X-Band satellite up-link applications, the SSPB X series are available in output power from 8W to 800W. The SSPB-210X[®] series is fully integrated units up to 10W output power designed for mounting outdoors, near the hub of an antenna.



X-BAND BLOCK-UP CONVERTER

8W & 10W

SSPB-210X[®] series



X-band Block-Up Converter

TECHNICAL SPECIFICATIONS		8W	10W
Electrical Characteristics			
Output power (P _{1dB}) min		+39 dBm	+40 dBm
Conversion gain min.		+60 dB	+61 dB
Input /Output frequency range		L-Band 950-1450 MHz /X-Band 7.90-8.40 GHz (SSPB-210X [®] series)	
Input Level		-22 dBm for P _{1dB}	
Gain flatness		4.0 dB p-p, typical over 500 MHz, 2.0 dB p-p /40 MHz	
Attenuation range		20 dB typical	
Gain variation over temperature		3.0 dB max over full operating range	
Input VSWR, in-band		1.4: 1	
Output VSWR		1.5: 1	
Input impedance		50 Ω	
Noise Power Density		-120 dBm/Hz in 7.25-7.75 GHz	
Spurious (in-band) at rated power		-55 dBc, max	
AM/PM conversion		3°/dB typical (at P _{1dB})	
Third order IMD (2 tones)		-26 dBc, max at 3 dB total back-off from P _{1dB}	
Local Oscillator frequency (LO)		6.95 GHz	
LO leakage		< -20 dBm	
Phase noise		-55 dBc/Hz at 10Hz	-70 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
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		-115 dBc/Hz at 10 Hz	-150 dBc/Hz at 10 kHz
phase noise		-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	
Power Requirements			
Supply voltage		40 V to 60 V DC or 110/220 VAC auto-ranging	
Power consumption (nominal)		75W	95W
Mechanical Characteristics			
Dimensions (W x H x L)		18.39 x 11.20 x 28.17 cm (7.24" x 4.41" x 11.09") DC operation	
		18.39 x 12.45 x 28.17 cm (7.24" x 4.91" x 11.09") AC operation	
Weight		5 kg (11 lbs)	
Interfaces:		RF input Type N (F)	
		RF output CPR112 grooved	
		RS-485/RS-232 Serial Port MS3112E12-10P) (option)	
		MS3102-14S7 (AC option)	
Environmental Conditions			
Temperature:	Operating	-30°C to +55°C	
	Storage	-55°C to +85°C	
Humidity		100%, condensing	
Altitude		10,000' AMSL, de-rated 2°C/1,000' from AMSL	

