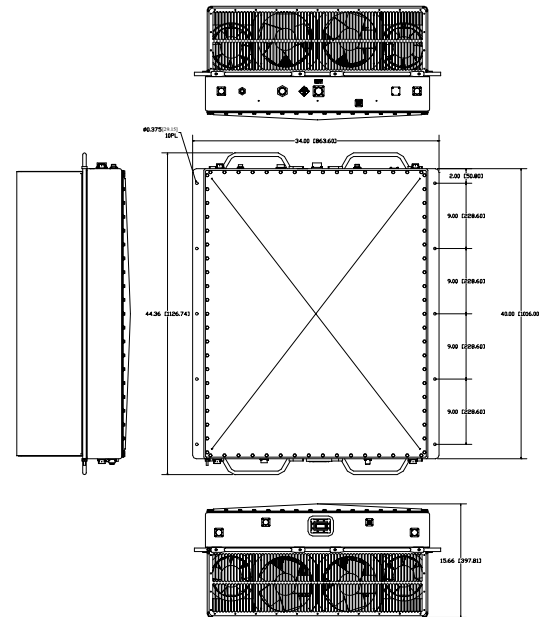


FEATURES

- Converts synthesized L-Band to X-Band
- Integrated amplifier with an output power of 500W to 800W
- 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
- Compact packaging
- CE Marking
- Built-in Receive Reject Filter (35 dB rejection @ 7.25 – 7.75 GHz)

OPTIONS

- Additional high performance external Receive Reject Filter
- Internal High Stability 10MHz Reference
- Redundant System
- Remote M&C panel (Ethernet port optional)



Outline Drawing for 500W to 800W

OVERVIEW

The SSPB-5000X[®] series are hub-mount up-converter transmitters, operating in the X-Band. The SSPB-5000X[®] is an integrated unit, complete with power supply, phase-locked oscillator, mixer, filter and cooling mechanism.

Intended for outdoor operation, the SSPB-5000X[®] provides the utmost in convenience and efficiency. Other SSPBs are also available for higher powers or for operation at other up-link frequencies.

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 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.

APPLICATION

The SSPB-5000X[®] series convert an L-Band signal to the X-band frequency. Designed for X-Band satellite up-link applications, the SSPB series are available in output power from 10W to 1000W. The SSPB5000X[®] series are fully integrated units with 500W to 800W output power designed for mounting outdoors, near the hub of an antenna. The 500W to 800W units are packaged in a hub with dimensions of 44.36" x 34" x 15.66".

Advantech AMT[™]'s SSPB product line includes variety of units operating in various satellite band frequencies with full range of output power levels.

REDUNDANCY

The SSPB-5000X[®] series are available in redundant configuration with single Monitor and Control interface. Redundancy kits are required for redundant operation.

X-BAND HUB-MOUNT SSPB (Solid State Power Block-Up Converter) 500W TO 800W

SSPB-5000X[®] series



TECHNICAL SPECIFICATIONS	500W	600W	700W	800W
Electrical Characteristics				
Output power (P _{SAT})	+57 dBm	+58 dBm	+58.5 dBm	+59 dBm
Output power (P _{1dB}) min	+56 dBm	+57 dBm	+57.5 dBm	+58 dBm
Conversion gain @ max gain setting	77 dB	78 dB	78.5 dBm	79 dB
L-Band input frequency	950 - 1450 MHz			
RF Output frequency	7.9 – 8.4 GHz			
Max input power without damage	+10 dBm			
Gain flatness	± 2.0 dB max full band, 0.3 dB/10 MHz			
Gain variation temperature	3.0 dB p-p max -30°C to +55°C			
Gain adjustment range	20 dB			
Input return loss	18 dB, min			
Output return loss	20 dB, min			
Noise Power Density	-70dBm/Hz in TX band, -110 dBm/Hz in RX band			
Spurious at rated power	-60 dBc, max			
Harmonics at rated power	-75 dBc, max			
AM/PM conversion	2.5°/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)	6.950 GHz			
LO leakage	-20 dBm			
Phase noise*	-60 dBc/Hz at 10Hz	-73 dBc/Hz at 1000Hz	-93 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		
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	220 VAC (47-63 Hz)			
Power consumption (nominal)	3020W	3620W	4220W	4820W
Mechanical Characteristics				
Dimensions (L x W x H)	44.36" x 34" x 15.66" (112.67 x 86.36 x 39.78 cm)			
Weight (with mounting frame)	180 lbs (82 kg)			
Interfaces:	RF input Type N (F)	Redundancy MS3112E16-26P	RF output CPR-112G	
	Relay port MS3112E12-10P	RS-232 MS3112E10-6P		
	AC Line MS3102E20-19P	RS-485 MS3112E10-6P		
Environmental Conditions				
Temperature:	Operating	-30°C to +55°C; <i>Option 1: -40°C to +55°C; Option 2: -50°C to +50°C</i>		
	Storage	-55°C to +85°C		
Humidity	100%, condensing (2" rain/hour)			
Altitude	10,000' AMSL, de-rated 2°C/1,000' from AMSL			

* Based on internal 10MHz Reference.



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