



16W to 250W
SSPB-2000X™ series



Features

- Converts L-Band signal to X-Band frequency
- Integrated amplifier with an output power from 16W to 250W
- Phase-locked oscillator to external 10MHz reference
- High linearity (low intermodulation products)
- Weatherproof package
- Field-Replaceable Power Supply
- Remote Monitor & Control
- Protection against thermal runaway and out-of-lock conditions
- Output sample monitoring port
- Built-in power supply
- Compact packaging
- CE Marking
- MIL-STD-188-164A latest revision compliant

Overview

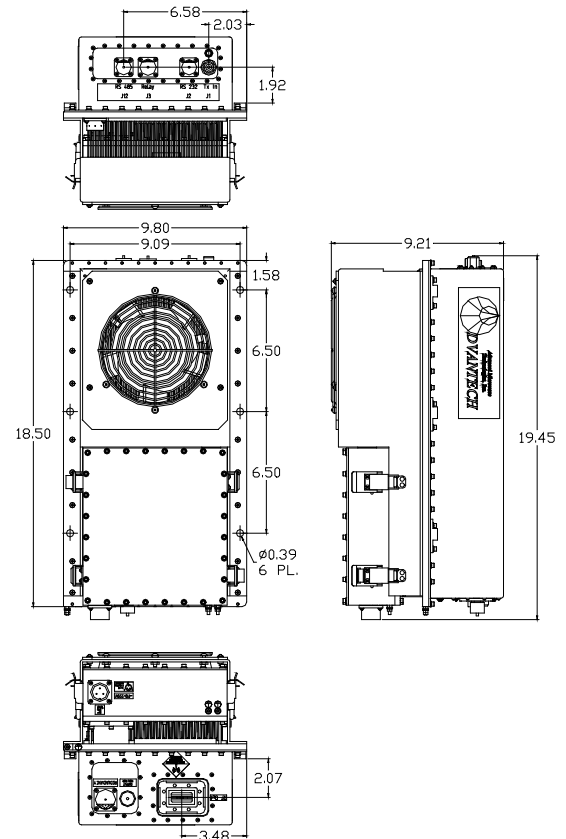
The SSPB-2000X™ series are hub-mount up-converter transmitters, operating in the X-Band. The SSPB-2000X™ is an integrated unit, complete with power supply, phase-locked oscillator, mixer, filter and cooling mechanism. Intended for outdoor operation, the SSPB-2000X™ provides the utmost in convenience 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. 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-2000X™ 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 SSPB-2000X™ series are fully integrated units with 16W to 250W output power designed for mounting outdoors, near the hub of an antenna.

Advantech Wireless SSPB product line includes variety of units operating in various satellite band frequencies with full range of output power levels. Please contact Advantech Wireless for additional information.



Options

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

Redundancy

The SSPB-2000X™ series are available in redundant configuration with single Monitor and Control interface. Redundancy kits are required for redundant operation.

X-Band Hub-mount SSPB

Technical Specifications			16W	20W	25W	30W	40W	50W	60W	80W	100 W	125 W	150 W	200 W	250 W	
Electrical Characteristics																
Output power (P _{SAT}) dBm			+42	+43	+44	+45	+46	+47	+48	+49	+50	+51	+52	+53	+54	
Output power (P1dB) min dBm			+41	+42	+43	+44	+45	+46	+47	+48	+49	+50	+51	+52	+53	
Conversion gain @ maximum setting at ambient temperature dB			62	63	64	65	66	67	68	69	70	71	72	73	74	
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 over 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 -63 dBc/Hz at 100Hz				-73 dBc/Hz at 1000Hz -83 dBc/Hz at 10 kHz				-93 dBc/Hz at 100 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 -135 dBc/Hz at 100 Hz -148 dBc/Hz at 1000 Hz				-150 dBc/Hz at 10 kHz -160 dBc/Hz at 100 kHz									
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) auto ranging													
Power consumption (nominal)			550W		600W		700W		800W		1000W		1250W		1500W	1600W
Mechanical Characteristics																
Dimensions (L x W x H)			16.5"x10"x9" (42.0x254x22.9 cm)							18.50"x 9.80" x 9.56" (46.99 x 254.9 x 24.28 cm)						
Weight			36 lbs (16 Kg)							44 lbs (20 Kg)						
Interfaces:	RF input Relay port AC Line	Type N (F) MS3112E12-10P MS3102R16-10P	Redundancy 26P RS-232 RS-485			MS3112E16- MS3112E10-6P MS3112E10-6P			RF output CPR-112G							
Environmental Conditions																
Temperature:	Operating Storage	-30°C to +55°C; <i>Option 1: -40 °C to +55 °C; Option 2: -50 °C to +50 °C</i> -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.

NORTH AMERICA
USA
Tel: +1 703 659 9796
Fax: +1 703 635 2212
info.usa@advantechwireless.com

CANADA
Tel: +1 514 420 0045
Fax: +1 514 420 0073
info.canada@advantechwireless.com

EUROPE
UNITED KINGDOM
Tel: +44 1480 357 600
Fax: +44 1480 357 601
info.uk@advantechwireless.com

RUSSIA & CIS
Tel: +7 495 971 59 18
info.russia@advantechwireless.com

INDIA
Tel: +91 33 2415 5922
info.india@advantechwireless.com

SOUTH AMERICA
Tel: +1 514 420 0045
Fax: +1 514 420 0073
info.latam@advantechwireless.com

BRAZIL
Tel: +55 11 3054 5701
Fax: +55 11 3054 5701
info.brazil@advantechwireless.com

An ISO 9001 : 2008 Company



Ref.: PB-SSPB-X-16-250-13150