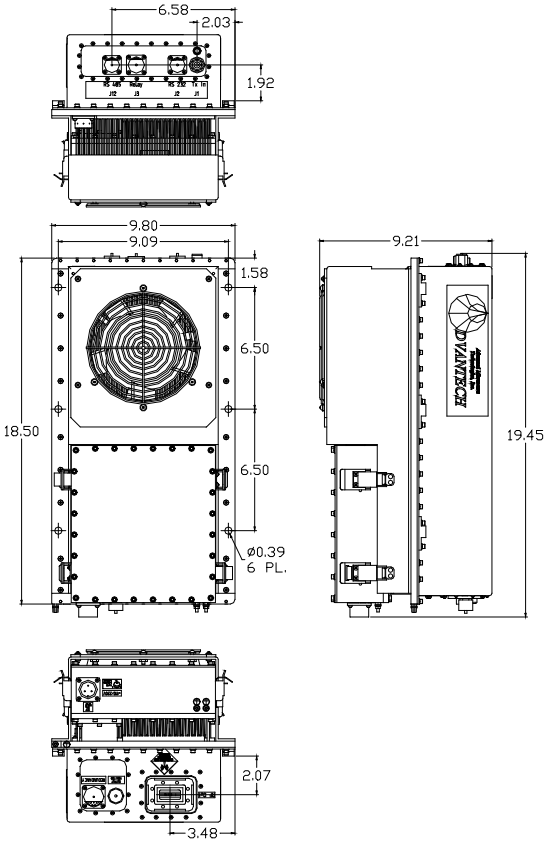
X-Band Hub-mount SSPB

50W to 250W
SSPB-2000X® series

Features

- Converts L-Band signal to X-Band frequency
- Integrated amplifier with an output power from 50W 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



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 AMT™ 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 50W to 250W output power designed for mounting outdoors, near the hub of an antenna.

ADVANTECH AMT™ SSPB product line includes variety of units operating in various satellite band frequencies with full range of output power levels. Please contact ADVANTECH AMT™ 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	50W	60W	80W	100W	125W	150W	200W	250W
Electrical Characteristics								
Output power (P_{SAT})	+47 dBm	+48 dBm	+49 dBm	+50 dBm	+51 dBm	+52 dBm	+53 dBm	+54 dBm
Output power (P1dB) min	+46 dBm	+47 dBm	+48 dBm	+49 dBm	+50 dBm	+ 51 dBm	+52 dBm	+53 dBm
Conversion gain @ maximum setting at ambient temperature	67 dB	68 dB	69 dB	70 dB	71 dB	72 dB	73 dB	74 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 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 -73 dBc/Hz at 1000Hz -93 dBc/Hz at 100 kHz -63 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	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)	18.50"x 9.80" x 9.56" (46.99 x 254.9 x 24.28 cm)							
Weight	44 lbs (20 Kg)							
Interfaces:	RF input Type N (F) Relay port MS3112E12-10P AC Line MS3102R16-10P		Redundancy MS3112E16-26P RS-232 MS3112E10-6P RS-485 MS3112E10-6P		RF output CPR-112G			
Environmental Conditions								
Temperature: Operating Storage	-30°C to +55°C; *Option 1: -40°C to +55°C; Option 2: -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							

** Based on internal 10MHz Reference.*

NORTH AMERICA
USA
Tel: +1 678 889-1831
Fax: +1 678 889-1756
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

SOUTH AMERICA
USA
Tel: +1 678 889-1831
Fax: +1 678 889-1756
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-50-250-12106