Multi-band Block Frequency Converters

Features

- Selectable band of operation
- Cost effective solution
- Full range of block and agile converters
- Meets or exceeds IESS 308/309 requirements
- High linearity
- Low group delay
- Front panel control (local)
- Full remote control (remote)

Overview

The Advantech HP range of converters uses the latest technology in conversion, local and remote control thus providing the ultimate in performance and user friendly operation at a very competitive price.

The spectral purity, low phase noise and stability exceed the requirements of all major international satellite network operators.

The flexible and comprehensive monitor and control features on the HP converter ensure that it will fit into any network management system architecture. The user-friendly front panel or the RS485 remote interface will provide full set-up and fault monitoring facilities. The RS232 will provide the Monitor and Control functions via a PC and will also allow for software upgrades downloading.

The PLL oscillator used in the converter is either locked to a highly stable internal 10 MHz reference or if the external reference option is fitted and the proper level of signal is present, the PLL will automatically lock to the external reference.

Operating Bands

Up-Converters		
Front panel Selectable band	**Input**	**Output**
C band	950-1750 MHz	5850-6650 MHz
Kx Band	950-1700 MHz	13750-14500 MHz

Down-Converters		
Front panel Selectable band	**Input**	**Output**
C band (NINV)	3400-4200 MHz	950-1750 MHz
Ku band 1 (NINV)	10950-11700 MHz	950-1700 MHz
Ku band 2 (NINV)	11700-12750 MHz	950-2000 MHz

Applications

The HP range of converters is particularly suited for use in VSAT, SCPC Networks, SNG, DVB-RCS and Hub systems. This makes them an ideal choice for large earth stations requiring cost effective solutions for frequency conversion. The lightweight, rugged and compact design also ensures that the HP converter provides the ideal solution for mobile truck or flyaway DSNG systems. With a fully welded aluminum chassis and robust modular internal construction the converter can even meet the demands of military installations.

The HP range of converters provides an industry leading MTBF of over 120,000 hours.

Options

- Ethernet port and SNMP Interface
- External 10 MHz with Autosensing
- Connectors : SMA,N, BNC

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Technical Specifications			
Up-Converter		**Down-Converter**	
IF Input		**RF Input**	
Frequency range	Band 1: 950-1750 MHz Band 2: 950-1700 MHz	Frequency range	Band 1: 3400-4200 MHz Band 2: 10950-11700 MHz Band 3: 11700-12750 MHz
Impedance	50 Ω	Impedance	50 Ω
Input Connector	BNC (female)	Input Connector	N (female)
Return loss	16 dB	Return loss	14 dB
RF Output		**IF Output**	
Frequency range	Band 1: 5850-6650 MHz Band 2: 13750-14500 MHz	Frequency range	Band 1: 950-1750 MHz Band 2: 950-1700 MHz Band 3: 950-2000 MHz
Output level	+10 dBm at P1dB	Output level	+15 dBm at P1dB
IMD3 (two tone)	40 dBc @ 0 dBm output	IMD3 (two tone)	40 dBc @ 0 dBm output
Output connector	N (female)	Output connector	BNC (female)
Connector Impedance	50 Ω	Connector Impedance	50 Ω
Return loss	14 dB	Return loss	16 dB
Transfer Characteristics		**Transfer Characteristics**	
Conversion Gain	30 dB @ max gain setting	Conversion Gain	30 dB @ max gain setting
Gain adjustment	20 dB (10 to 30dB gain)	Gain adjustment	20 dB (10 to 30dB gain)
Attenuator step size	0.1 dB	Attenuator step size	0.1 dB
Gain flatness	±1.5 dB p-p over the full band	Gain flatness	±1.5 dB p-p over the full band
	1.0 dB p-p over 40 MHz		+1.0 dB p-p over 40 MHz
Gain stability	±0.25 dB max. /24 hours	Gain stability	±0.25 dB max. / 24 hours
	±1 dB over temp. range		±1 dB over temp. range
In band Spurious	-55 dBc with signal @ 0 dBm < -75 dBm signal independent	In band Spurious	-55 dBc carrier related @ 0 dBm < -75 dBm signal independent
		Image rejection	60 dB
		Noise Figure	15 dB
Phase noise	100Hz 62dBc/Hz 1kHz 72dBc/Hz 10kHz 82dBc/Hz 100kHz 92dBc/Hz	Phase noise	100Hz 62dBc/Hz 1kHz 72dBc/Hz 10kHz 82dBc/Hz 100kHz 92dBc/Hz
Reference		**Mechanical**	
External Reference	10 MHz, +/- 3 dBm input level With fallback to internal reference.	Dimensions	Width 19" (482.6 mm)
Internal reference stability	± 2 x 10^{-10} / day		Height 1U 1.75" (44.5 mm)
Aging	± 5 x 10^{-8} / year		Depth 22" (558.8 mm)
Environmental		**Power Supply**	
Operational	0°C to +50°Cstandard	Voltage	90 – 265 VAC (47 – 63 Hz)
Storage	-55°C to +85°C	Power	50W (typical, single converter)
Humidity	Non-condensing	Connector	IEC 603320 10A
Altitude	3,000m AMSL		
		Monitor and Control	
		RS 485	DB9
		RS 232	DB9

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