

Single / Dual / Triple / Quad  
FCB300



## Features

- L-Band IF
- Cost effective solution
- Fully compliant with IESS 308/309
- High linearity
- 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.

## Application

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.

## Operating Bands Up-Converters

Model Number	Type	RF Output (GHz)	IF Input (MHz)
ARUN-DBS	single	17.3 – 18.1 Non-inverted	950-1750
ARUD-DBS	dual		
ARUT-DBS	triple		
ARUQ-DBS	quad		

## Down-Converters

Model Number	Type	RF Input (GHz)	IF Output (MHz)
ARDN-DBSL	single	17.3-18.1	950 – 1750 Non-inverted
ARDD-DBSL	dual		
ARDT-DBSL	triple		
ARDQ-DBSL	quad		

## Up/Down -Converters

Model	Type	RF (GHz)	IF (MHz).
ARMT-LDBS	Up/Down	17.3-18.1	950-1750

## Options

- Ethernet port and SNMP Interface
- External 10 MHz with Autosensing
- Spectrum INV or NINV on down converter
- Dual, quad, Up/Down, or 1:1 redundant hot swap converters in single 1RU chassis.
- Redundant Ready (for 1:N, consult factory)

# DBS-Band Block Frequency Converters

## Technical Specifications

Up-Converter		Down-Converter	
<b>IF Input</b>		<b>RF Input</b>	
Frequency range	950 – 1750 MHz	Frequency range	17.3 – 18.1 GHz
Impedance	50 Ω	Impedance	50 Ω
Input Connector	BNC (female)	Input Connector	Type N (female)
Return loss	16 dB	Return loss	16 dB
<b>RF Output</b>		<b>IF Output</b>	
Output power (P1dB)	5 dBm	Frequency range	950 – 1750 MHz
Frequency range	17.3 – 18.1 GHz	Output level	+5 dBm at P1dB
IMD3 (two tone)	-40 dBc max @ -5 dBm output	Output Connector	BNC female
Output connector	Type N (female)	Connector Impedance	50 Ω
Connector Impedance	50 Ω	Return Loss	16 dB
Return loss	16 dB		
<b>Transfer Characteristics</b>		<b>Transfer Characteristics</b>	
Conversion Gain	30 dB @ max gain setting	Conversion Gain	30 dB @ max gain setting
Gain adjustment	20 dB	Gain adjustment	20 dB
Attenuator step size	0.1 dB	Attenuator step size	0.1 dB
Gain flatness	±1.5 dB p-p over 500 MHz ± 0.5 dB p-p over 36 MHz	Gain flatness	±1.5 dB p-p over (500 or 750 MHz) ±0.5 dB p-p over 36 MHz
Gain stability	±0.25 dB max. /24 hours ±1 dB over temp. range	Gain stability	±0.25 dB max. / 24 hours ±1 dB over temp. range
In band Spurious	-55 dBc carrier related @ -5 dBm < -60 dBm non-carrier related	Spurious	-55 dBc @ -5 dBm
		Noise Figure	20 dB
Phase noise	Meets or Exceeds IESS 308/309	Phase noise	Meets or Exceeds IESS 308/309
<b>Reference</b>		<b>Mechanical</b>	
External Reference	10 MHz, ± 3 dBm input level	Dimensions	Width 19" (482.6 mm)
Internal reference stability	±2 x 10 <sup>-10</sup> / day		Height 1U 1.75" (44.5 mm)
Aging	±5 x 10 <sup>-8</sup> / year		Depth 22" (558.8 mm)
<b>Environmental</b>		<b>Power Supply</b>	
Operational	0°C to +50°C standard	Voltage	90 – 265 VAC (47 – 63 Hz)
Storage	-55°C to +85°C	Power	40W (typical, single converter)
Humidity	Non-condensing	Connector	IEC 603320 10A
Altitude	3,000m AMSL		
		<b>Monitor and Control</b>	
		RS 485	DB9
		RS 232	DB9
		Discrete	DB9
		Ethernet (optional)	RJ45 F

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