



**KEY FEATURES**

- Two hot swappable converters in 1U
- 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 Dual - HP range of converters uses the latest technology in conversion, giving two independent conversion chains in 1 RU package, 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 downloading.

The converter uses a PLL oscillator 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 oscillator will automatically lock to the external reference.

**APPLICATIONS**

The HP range of converters is particularly suited for use in VSAT, SCPC Networks, SNG, DVB-RCS and Hub systems where compact redundancy is required. 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 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.

The hot swappable 1:1 redundancy feature provides for the ultimate flexibility in a very compact package.

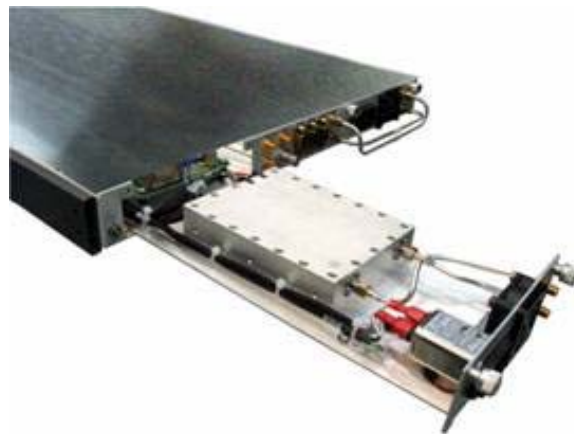
**Operating Bands**

**Up-Converters**

Model Number	RF Output	IF Frequency
ARUD-LKuR	14.00 - 14.50 GHz Non-inverted	950-1450 MHz
ARUD-LKxR	13.75 - 14.50 GHz Non-inverted	950-1700 MHz

**Down-Converters**

Model Number	RF Input	IF Frequency
ARDD-K1LR	10.95 - 11.70 GHz	950 – 1450 MHz Non-inverted
ARDD-K2LR	11.70 - 12.20 GHz	950 – 1450 MHz Non inverted
ARDD-K3LR	12.25- 12.75 GHz	950 – 1450 MHz Non-inverted



## Ku-Band HP-Converters Series

1:1 Redundant High Performance Block  
Frequency Converters



### Up-Converter

#### IF input

Frequency range	(See table on front page)
Impedance	50 Ω
Input Connector	BNC (female)
Return loss	16 dB

#### RF output

Output power (P1dB)	0 dBm
Frequency range	(See table on front page)
IMD3 (two tone)	-40 dBc max @ -10 dBm output
Output connector	Type N (female)
Connector Impedance	50 Ω
Return loss	18 dB

#### Transfer Characteristics

Conversion Gain	20 dB @ max gain setting
Gain adjustment	20 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 stability	±0.25 dB max. /24 hours ±1 dB over temp. range
Spurious	-55 dBc carrier related @ -10 dBm < -60 dBm non-carrier related
Phase noise	Meets or Exceeds IESS 308/309

#### Reference

External Reference	10 MHz , +/- 3dBm input level
Internal reference stability	+/-2 x 10 <sup>-8</sup> / day
Aging	+/-1 x 10 <sup>-7</sup> / year

#### Environmental

Operational	0°C to +50°C standard
Storage	-55°C to +85°C
Humidity	Non-condensing
Altitude	3,000m AMSL

### Down-Converter

#### RF input

Frequency range	(See table on front page)
Impedance	50 Ω
Input Connector	Type N (female)
Return loss	18 dB

#### IF output

Frequency range	(See table on front page)
Output level	+5 dBm at P1dB
Output Connector	BNC female
Connector Impedance	50 Ω
Return Loss	16 dB

#### Transfer Characteristics

Conversion Gain	30 dB @ max gain setting
Gain adjustment	20 dB
Attenuator step size	0.1 dB
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
Spurious	-55 dBc @ -10 dBm
Image rejection	60 dB
Noise Figure	20 dB
Phase noise	Meets or Exceeds IESS 308/309

#### Mechanical

Dimensions	Width 19" (482.6 mm) Height 1U 1.75" (44.5 mm) Depth 24" (609.6 mm)
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#### Power Supply

Voltage	90 – 265 VAC (47 – 63 Hz)
Power	50W (typical)
Connector	IEC 603320 10A

#### Monitor and Control

RS 485	DB9
RS 232	DB9
Discrete	DB9
Ethernet (optional)	RJ45 F

