

IBD(Ka) series

Ka-Band, Single-range, Single & Multi-Channel, Rack Mount, Block DownConverters



High Grade Single & Multi-Channel DownConverter Products;

IBD1820	Ka-Band (18.20-19.20GHz) to L-Band
IBD1890	Ka-Band (18.90-19.60GHz) to L-Band
IBD1920	Ka-Band (19.20-20.20GHz) to L-Band
IBD1950	Ka-Band (19.50-20.20GHz) to L-Band
IBD1970	Ka-Band (19.70-20.20GHz) to L-Band
IBD2140	Ka-Band (21.40-22.00GHz) to L-Band
IBD2950	Ka-Band (29.50-30.00GHz) to L-Band

For other 'non-standard' frequency requirements and multi-channel units, please contact the factory.

For equivalent units with full user interface, remote control and digital attenuation, please see IBDH(Ka) series datasheet.







For equivalent remote mount units, please see PBD(A) series datasheet.

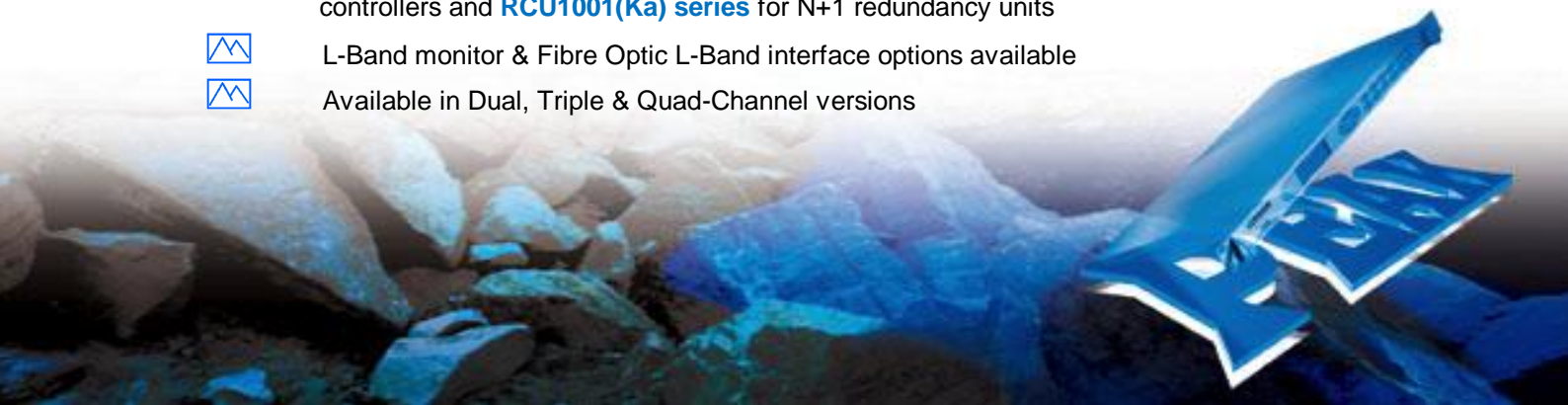
The 19 inch 1U rack mounted **IBD(Ka) series** of Block Frequency DownConverter units from Peak Communications are designed to take the incoming SHF signal and produce an output at L-Band that is suitable for direct connection to an L-band demodulator or for further conversion typically by a **P7001** synthesised DownConverter.

The **IBD(Ka) series** of units are mains powered and are constructed of high grade components to give the ultimate performance.

For 1+1 & 2+1 redundancy the **IBD(Ka) series** are offered with the **RCU100/ RCU200 & RCUH100/ RCUH200 series** redundancy controllers. For N+1 systems the **RCU1001(Ka) series** is offered.

Peak Features

-  High stability, low ripple and excellent phase noise, using PDRO technology
-  10MHz External Reference option fitted as standard with automatic internal reference back-up
-  Full Alarm monitoring
-  Fully compatible with **RCU100/ RCU200 & RCUH100/ RCUH200 series** 1+1/ 2+1 redundancy controllers and **RCU1001(Ka) series** for N+1 redundancy units
-  L-Band monitor & Fibre Optic L-Band interface options available
-  Available in Dual, Triple & Quad-Channel versions



IBD(Ka) series - Typical Specification

SHF Input

Frequency	
IBD1820	18.2-19.2GHz
IBD1890	18.9-19.6GHz
IBD1920	19.2-20.2GHz
IBD1950	19.5-20.2GHz
IBD1970	19.7-20.2GHz
IBD2140	21.4-22.0GHz
IBD2950	29.5-30.0GHz
Connector	K-Type (f), 50Ω or 2.92mm (f)
	<i>Note: for multi-channel version, multiple connectors are provided</i>
Return loss	>14dB
RF input power	-20dBm max

L-Band Output

Frequency	
IBD1820	950-1950MHz
IBD1890	950-1650MHz
IBD1920	950-1950MHz
IBD1950	950-1650MHz
IBD1970	950-1450MHz
IBD2140	950-1550MHz
IBD2950	950-1450MHz
Connector	SMA (f), 50Ω
	Option 1b; N-Type (f), 50Ω
	<i>Note: for multi-channel version, multiple connectors are provided</i>
Return loss	>15dB
1dB GCP	+8dBm

Transfer Characteristics

Conversion gain	30dB ±1dB at band centre
Gain stability	±1dB over temperature range
Gain flatness	±0.75dB full band
Noise figure	7dB max

Manual L-Band Attenuation (Option 10a)

Attenuation range	30dB nominal
Control	Continuously variable from front panel

Typical RF Performance

LO Phase noise	-38dBc/Hz at 10Hz
(typical with good phase noise ext. 10MHz ref)	-65dBc/Hz at 100Hz
	-85dBc/Hz at 1kHz
	-95dBc/Hz at 10kHz
	-100dBc/Hz at 100kHz
	-120dBc/Hz at 1MHz
Harmonics	Better than -50dBc
Spurious	<-65dBm (in-band non-carrier related)
	<-60dBc (in-band carrier related)
LO leakage	<-60dBm (always out of band)
3rd Order Intercept	>+18dBm

L-Band Monitor (Option 2)

Connector	
	Option 2a; L-Band monitor, SMA (f), 50Ω on rear panel
	Option 2b; L-Band monitor, SMA (f), 50Ω on front panel
	<i>Note: for other connector types please consult the factory</i>
Level	-20dBc ±3dB

Internal Reference Stability

Stability	<1 x 10 ⁻¹⁰ per second, <±5 x 10 ⁻⁹ per day
Temp. Stability	<±5 x 10 ⁻⁸ (0 to +50°C)
Ageing	<±5 x 10 ⁻⁷ per year

High stability (Option 8)

Stability	<2 x 10 ⁻¹² over 1s, <2 x 10 ⁻¹⁰ per day
Ageing	<2 x 10 ⁻⁸ per year
Temp stability	<2 x 10 ⁻⁹ over 0 to 50°C

External Reference Input

Frequency	10MHz (5MHz factory settable)
Connector	BNC (f), 50Ω
Level	0dBm ±3dB
Required phase noise	better than 50dBc/Hz of output Phase Noise
Locking delay	<2 min to stabilise from cold

Mechanical

Width	19" standard rack mountable
Height	1U (1.75")
Depth	~400mm (15.7"), plus connectors

Note: for multi-channel versions, a longer ~534mm (21") chassis may be provided, depending upon options selected.

Construction	Aluminium chassis
Weight	3.5-6kgs (8-13lbs) approx., unit and option dependent

Environmental

Operating temp	0°C to +50°C
EMC	EN 55022 part B & EN 50082-1
Safety	EN 60950

Power Supply

Voltage	90-264VAC
Frequency	47-63Hz
Power	50 Watts max.

Control System Interface

Alarms	LO lock fail PSU fail
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Options

- 1b) N-Type (f) L-Band Interface connection
- 2a) -20dBc L-band monitor on rear panel (SMA)
- 2b) -20dBc L-band monitor on front panel (SMA)
- 6) Fibre optic L-band interface connection
- 8) High stability internal reference option
- 10a) Manual Variable Attenuator, 0-30dB, at L-band

Notes; other 'IBU' options do not apply to these products.

The addition of options can modify the typical specification, for details please consult the factory



Rear panel View



Peak Communications reserves the right to alter the specifications of this equipment without prior notice. IBD(Ka)series-260112

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