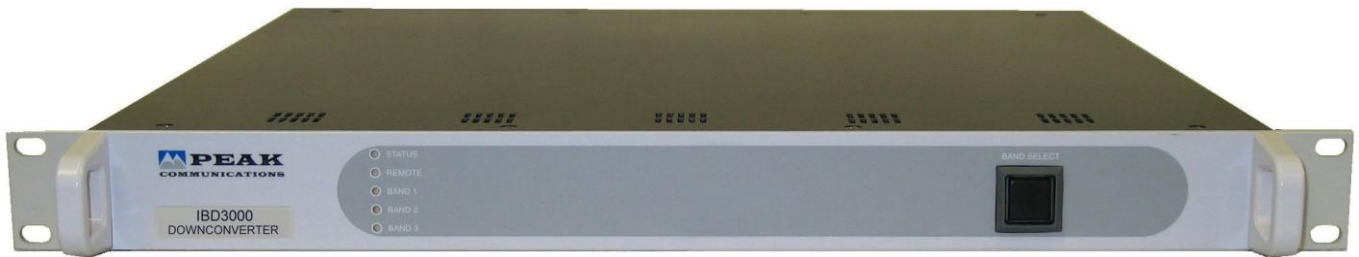


IBD(B) series

Multi-Range, Rack Mount, Block DownConverters



High Grade DownConverter Products;

IBD2000	Ku-Band (10.95-12.75GHz) to L-Band (950-2000MHz max) 2 ranges
IBD2001	Ku-Band (10.70-12.75GHz) to L-Band (950-2000MHz max) 2 ranges
IBD2003, 4	C-Band (3.4-4.8GHz) to L-Band (950-1750MHz max) 2 ranges
IBD3000	Ku-Band (10.95-12.75GHz) to L-Band (950-1700MHz max) 3 ranges
IBD3001	Ku-Band (10.70-12.75GHz) to L-Band (950-1750MHz max) 3 ranges
IBD3000-2	Ku-Band (10.95-11.70+12.25-12.75GHz) to L-Band (950-1700MHz max) 2 ranges
IBD3003	Dual-Band (C inverted, Ku-Hi, Ku-Lo) to L-Band (950-2000MHz max) 3 ranges
IBD3003b	Dual-Band (C non-inverted, Ku-Hi, Ku-Lo) to L-Band (950-2000MHz max) 3 ranges
IBD3004	Tri-Band (C inverted, X, Ku-Hi, Ku-Lo) to L-Band (950-2000MHz max) 4 ranges

For other non-standard frequency requirements, please contact the factory.

For single-range Block DownConverters please see IBD(A) series datasheet.

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






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

The 19 inch, 1U rack mounted **IBD(B) series** of Multi-stage 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(B) series** of units are mains powered and are constructed of high grade components to give the ultimate performance. They utilise Externally Phase Locked Dielectric Resonator Oscillators (XPDRs) and are far superior in stability and phase noise to Voltage Controlled Oscillators (VCOs), as commonly used in other BUC designs.

These Multi-range converters are offered as standard with internal range switching and a single input and output connection. Range selection is performed manually from the front panel. Separate inputs and outputs for each range/band are available as options to allow simultaneous range/band operation.

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 series** for N+1 redundancy units
-  L-Band monitor, Manual Attenuation and Fibre Optic L-Band interface options available

IBD(B) series - Typical Specification

SHF Input

Frequency	
IBD2000	10.95-11.70, 11.70-12.75GHz
IBD2001	10.70-11.70, 11.70-12.75GHz
IBD2003	3.4-4.2 (inverted output), 4.5-4.8GHz
IBD2004	3.4-4.2 (non inverted), 4.5-4.8GHz
IBD3000	10.95-11.70, 11.70-12.25, 12.25-12.75GHz
IBD3001	10.70-11.45, 11.45-12.25, 12.25-12.75GHz
IBD3000-2	10.95-11.70, 12.25-12.75GHz
IBD3003	Dual-Band; C-Band 3.4-4.2GHz (inverted output) & Ku-Bands 10.70-11.70 & 11.70-12.75GHz

IBD3003b

IBD3004

Connector	50Ω, SMA (f)
Option 1a;	50 Ω, N-Type (f)
Return loss	>18dB

L-Band Output

Frequency	Up to 950-2000MHz, dependent upon model
Spectrum Sense	Non-inverting unless specified above
Connector	50Ω, SMA (f)
Option 1b;	50Ω, N-Type (f)
Option 3;	75Ω, BNC (f)
Return loss	>15dB
1dB GCP	+8dBm

Transfer Characteristics

Conversion gain	30dB ±1dB at band centre 20dB ±1dB for non-inverted C-Band ranges
Gain stability	±0.5dB from 0 to 50°C
Gain flatness	±1dB across each sub-band (±1.5dB if bandwidth >800MHz) ±1.5dB across full Ku-band ±0.5dB across any 40MHz in-band dependent on model
LO Frequency	

Manual Attenuation (Option 10)

Attenuation range	30dB nominal
Control	Continuously variable from front panel.

Typical RF Performance

LO Phase noise	-55dBc/Hz at 10Hz
(typical with good phase noise ext. 10MHz ref)	-75dBc/Hz at 100Hz -92dBc/Hz at 1kHz -100dBc/Hz at 10kHz -107dBc/Hz at 100kHz -125dBc/Hz at 1MHz
Harmonics	Better than -50dBc
Spurious	<-80dBm (in-band non-carrier related) <-75dBc (in-band carrier related)

Note: C-Band ranges specified at Input of -40dBm

3rd Order Intercept	>+18dBm
LO leakage	<-80dBm (always out of band)

SHF & L-Band Monitor (Option 2)

Connector	
Option 2a;	L-Band monitor, 50Ω, SMA (f) on rear panel
Option 2b;	L-Band monitor, 50Ω, SMA (f) on front panel
Option 2c;	SHF monitor, 50Ω, SMA (f) on rear panel
Option 2d;	SHF monitor, 50Ω, SMA (f) on front panel

Note: for other connector types please consult the factory

Level	-20dBc ±3dB
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Internal Reference Stability

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

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	50Ω, BNC (f)
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 (2 range) ~534mm (21"), plus connectors (3 & 4 range)
Construction	Aluminium chassis
Weight	4-6kgs (9-13lbs) 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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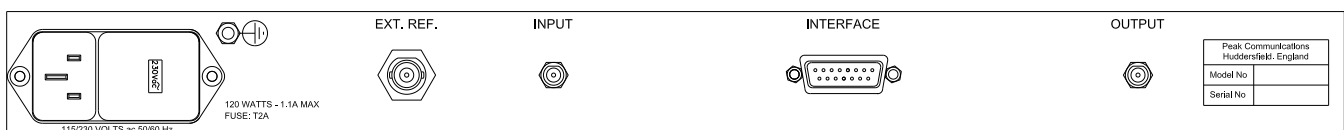
Options

- 1a) N-Type (f) SHF Interface connection
- 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)
- 2c) -20dBc SHF monitor on rear panel (SMA)
- 2d) -20dBc SHF monitor on front panel (SMA)
- 3) 75Ω interface at L-band (6dB gain loss)
- 6) Fibre optic L-band interface connection
- 8) High stability internal reference option
- 10a) Manual Variable Attenuator, 0-30dB, at L-band
- 10b) Manual Variable Attenuator, 0-30dB, at SHF
- 11) Separate inputs & outputs for simultaneous range/ band operation

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



Rear panel View (sample)



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

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