

## IBD series

### Rack Mount Block DownConverters



### High Grade DownConverter Products;







<b>IBD340</b>	C-Band (3.40-4.20GHz) to L-Band (950-1750MHz) Non-inverted spectrum
<b>IBD420</b>	C-Band (3.40-4.20GHz) to L-Band (1750-950MHz) Inverted spectrum
<b>IBD725</b>	X-Band (7.25-7.75GHz) to L-Band (950-1450MHz)
<b>IBD1070</b>	Ku-Band (10.70-11.70GHz) to L-Band (950-1950MHz)
<b>IBD1095</b>	Ku-Band (10.95-11.70GHz) to L-Band (950-1700MHz)
<b>IBD1120</b>	Ku-Band (11.20-11.70GHz) to L-Band (950-1450MHz)
<b>IBD1145</b>	Ku-Band (11.45-11.95GHz) to L-Band (950-1450MHz)
<b>IBD1170</b>	Ku-Band (11.70-12.20GHz) to L-Band (950-1450MHz)
<b>IBD1225</b>	Ku-Band (12.25-12.75GHz) to L-Band (950-1450MHz)
<b>IBD2000</b>	Ku-Band (10.95-12.75GHz) to L-Band (950-2000MHz max) 2 stage
<b>IBD3000</b>	Ku-Band (10.95-12.75GHz) to L-Band (950-1700MHz max) 3 stage
<b>IBD3000-2</b>	Ku-Band (10.95-11.70+12.25-12.75GHz) to L-Band (950-1700MHz max) 2 stage

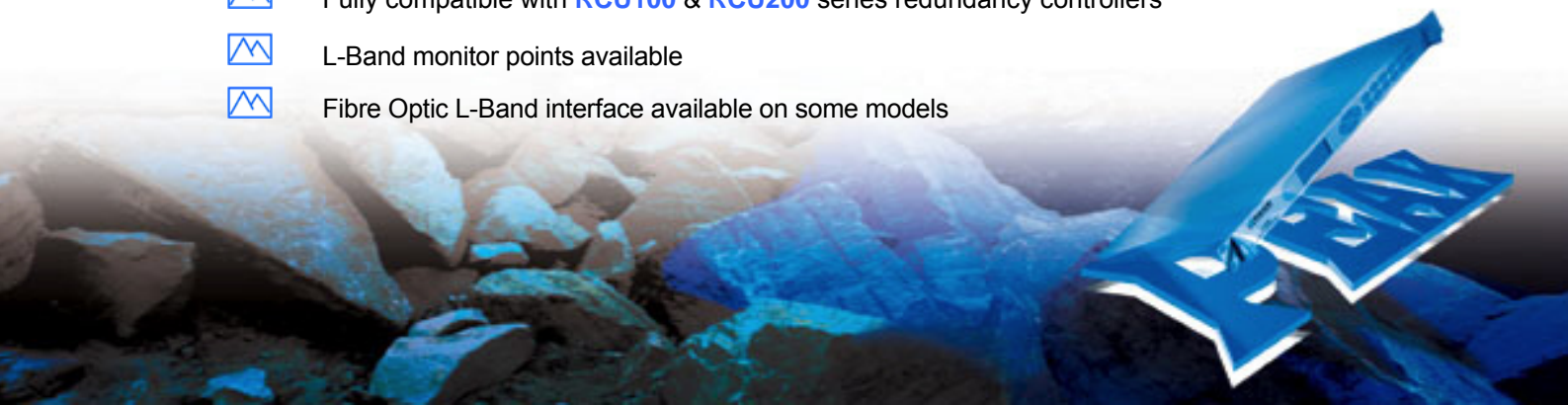
For other non-standard frequency requirements, please contact the factory.

The 19 inch 1U rack mounted **IBD 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 further conversion typically by a **P7000** converter. These converters are single stage converters apart from the **IBD340** which is a dual stage unit.

The **IBD 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.

### 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** series redundancy controllers
-  L-Band monitor points available
-  Fibre Optic L-Band interface available on some models



## IBD Series - Typical Specification

### SHF Input

Frequency	3.40-4.20GHz (IBD340) 3.40-4.20GHz (IBD420) ** 7.25-7.75GHz (IBD725) 10.70-11.70GHz (IBD1070) 10.95-11.70 (IBD1095) 11.20-11.70 (IBD1120) 11.45-11.95 (IBD1145) 11.70-12.20 (IBD1170) 12.25-12.75 (IBD1225) 10.95-12.75 (IBD2000/IBD3000)
Connector	50Ω SMA (Option 1a; N-Type)
Return loss	>18dB

### L-Band Output

Frequency	950 up to 1950MHz, depending on model
Spectrum Sense	**Non inverting apart from IBD420
Connector	50Ω SMA (Option 1b; N-Type) (Option 3; 75Ω BNC)
Return loss	>15dB
1dB GCP	+8dBm

### Transfer Characteristics

Conversion gain	30dB ±1dB at band centre 20dB (IBD340 dual converter)
Gain stability	±0.5dB from 0 to 50°C
Gain flatness	±1dB full band ±0.5dB across any 40MHz in band.
LO Frequency	dependant on model

### Typical RF Performance

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

### L-Band Monitor (Option 2)

Connector	option 2a; 50Ω SMA on rear panel
Connector	option 2b; 50Ω SMA on front panel
Level	-20dBc ±3dB

### Standard Internal Reference

Stability	<1 x 10 <sup>-10</sup> per second
Temp. Stability	<±5 x 10 <sup>-8</sup> (0 to +50°C)
Ageing	<±5 x 10 <sup>-9</sup> per day

### External Reference Input

Frequency	10MHz (5MHz factory settable)
Level	0dBm ±3dB
Connector	50Ω BNC
Locking delay	<2 mins to stabilise from cold

### Mechanical

Width	19" standard rack mount
Height	1U (1.75")
Depth	~400mm (15.7"), plus connectors
Construction	Aluminium chassis
Weight	4.5kgs (10lbs) approx.

### Environmental

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

### Power Supply

Voltage	115/230VAC±10%, selectable, Linear power supply
Frequency	50/60Hz
Power	50 Watts max.

### Control System Interface

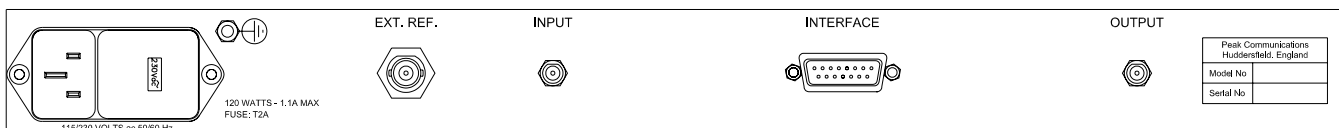
Alarms	LO lock fail PSU fail
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### Options

- 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)
- 3) 75Ω interface at L-band (6dB gain loss)
- 6) Fibre optic L-band interface connection

Other 'IBU' options do not apply to these products

## Rear panel View



Peak Communications reserves the right to alter the specifications of this equipment without prior notice. IBDseries-090805.

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