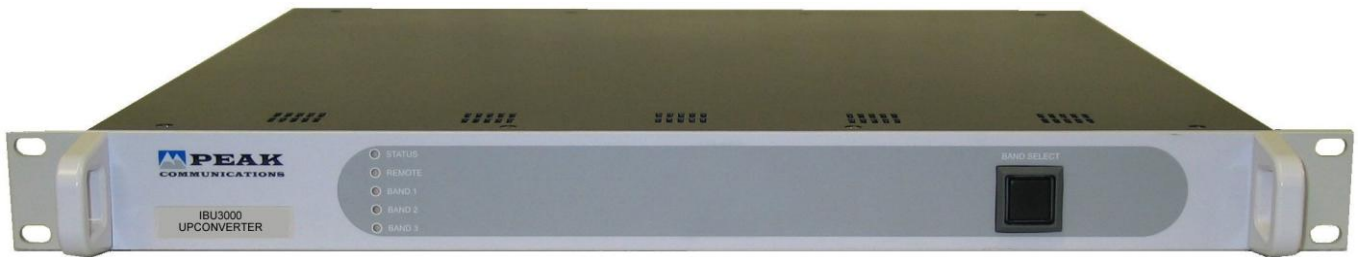


IBU(B) Series

Multi-Range, Rack Mounted Block UpConverters.



High Grade UpConverter Products;

IBU2000	L-Band (950-1950MHz) to full Ku-Band (12.75-14.50GHz), 2 range
IBU3000	L-Band (950-1700MHz) to full Ku-Band (12.75-14.50GHz), 3 range
IBU3003	L-Band (950-1700MHz) to Dual-Band (C & extended Ku-Band), 2 range
IBU3004	L-Band (950-1700MHz) to Tri-Band (C, X & extended Ku-Band), 3 range
IBU3005	L-Band (950-1950MHz) to Dual-Band (C & full Ku-Band), 3 range
IBU3006	L-Band (950-1950MHz) to Tri-Band (C, X & full Ku-Band), 4 range

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

For single-range Block UpConverters please see IBU(A) series datasheet.

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






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

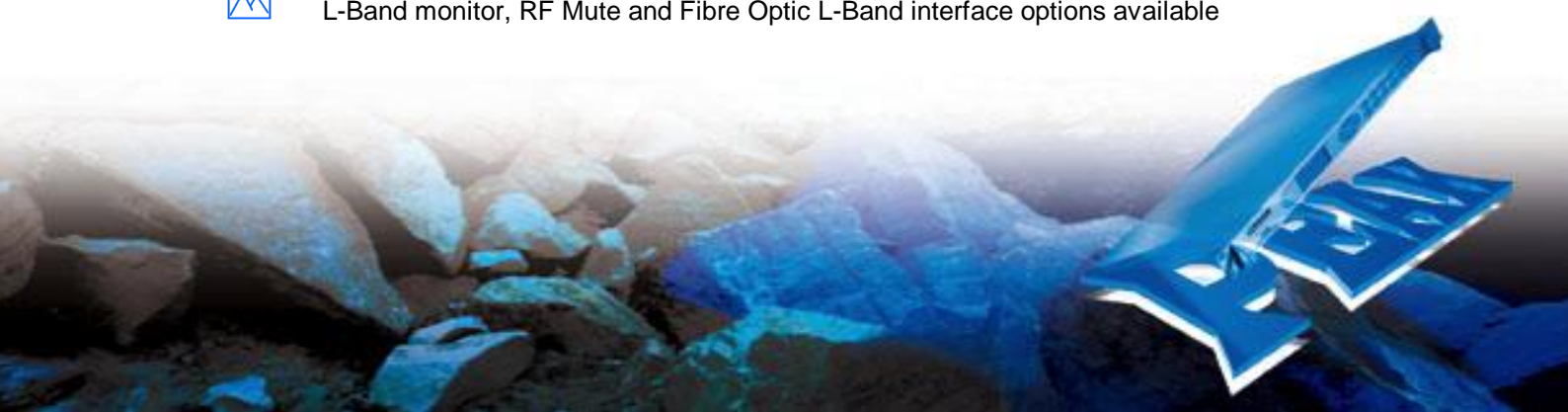
The 19 inch 1U rack mounted **IBU(B) series** of Block Frequency UpConverter units from Peak Communications are designed to take the output of an UpConverter or modem at L-Band and produce an output at SHF.

The **IBU(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
-  Integral Test Loop Translator option available for TX signal path 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, RF Mute and Fibre Optic L-Band interface options available



IBU(B) series - Typical Specification

SHF Output Frequency

IBU2000	Full Ku-Band (2 ranges; 12.75-13.75GHz, 13.75-14.5GHz)
IBU3000	Full Ku-Band (3 ranges; 12.75-13.50GHz, 13.00-13.75GHz, 13.75-14.5GHz)
IBU3003	Dual-Band; C-Band (5.85-6.425GHz), extended Ku-Band (13.75-14.5GHz)
IBU3004	Tri-Band; C-Band (5.85-6.425GHz), X-Band (7.90-8.40GHz), extended Ku-Band (13.75-14.5GHz)
IBU3005	Dual-Band; C-Band (5.85-6.425GHz), full Ku-Band (2 ranges; 12.75-13.75GHz & 13.75-14.5GHz)
IBU3006	Tri-Band; C-Band (5.85-6.425GHz), X-Band (7.90-8.40GHz), full Ku-Band (2 range; 12.75-13.75GHz & 13.75-14.5GHz)

Connector	SMA (f), 50Ω
Option 1a;	N-Type (f), 50Ω
Return loss	>15dB
1dB GCP	+8dBm
Option 5;	+18dBm

L-Band Input

Frequency	950 up to 1950MHz, dependent upon model
Connector	SMA (f), 50Ω
Option 1b;	N-Type (f), 50Ω
Option 3;	BNC (f), 75Ω
Return loss	>15dB

Transfer Characteristics

Conversion gain	17dB ±1dB at band centre
Option 4;	27dB ±1dB
Gain stability	±0.5dB from 0 to 40°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 dependant on model
LO Frequency	

RF Performance

LO Phase noise (typical with good phase noise ext. 10MHz ref)	-55dBc/Hz at 10Hz -75dBc/Hz at 100Hz -92dBc/Hz at 1kHz -100dBc/Hz at 10kHz -107dBc/Hz at 100kHz -125dBc/Hz at 1MHz
Harmonics Spurious	Better than -50dBc <-80dBm (in-band non-carrier related) <-75dBc (in-band carrier related)
3rd Order Intercept	>+18dBm (standard unit)
LO leakage	-80dBm (always out of band)

SHF & 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
Option 2c;	SHF monitor, SMA (f), 50Ω on rear panel
Option 2d;	SHF monitor, SMA (f), 50Ω on front panel
<i>Note; for other connector types please consult the factory</i>	
Level	-20dBc ±3dB

Manual Attenuation (Option 10)

Attenuation range	30dB nominal
Control	Continuously variable from front panel

RF Mute (Option 13)

Isolation	60dB min
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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	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 (2 ranges)
<i>Note; for 3 & 4 range versions, a longer ~534mm (21") chassis may be provided, depending upon options selected.</i>	

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	50/ 60Hz
Power	50 Watts max, unit and option dependent

Control System Interface

Alarms	LO lock fail PSU fail Amplifier fail
Controls	Mute input (Option 13)

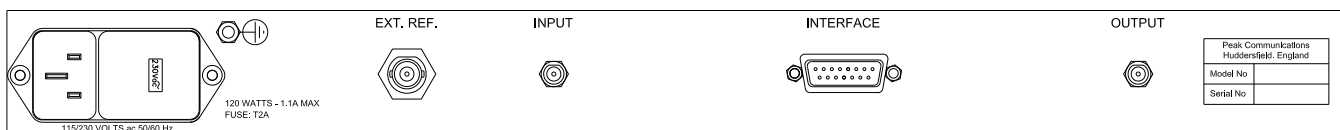
Options

- 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)
- 4) Extra 10db increase in gain, to +27dB
- 5) 1dB GCP increase to +18dBm (includes extra 10dB Gain option)
- 6) Fibre optic L-band interface connection
- 8) High Stability Internal reference option
- 10a) Manual Variable Attenuator, 0-30dB, at L-band
- 11) Separate inputs & outputs for simultaneous range/ band operation.
- 13) RF mute option

Note; 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. IBU(B)series-230511.

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