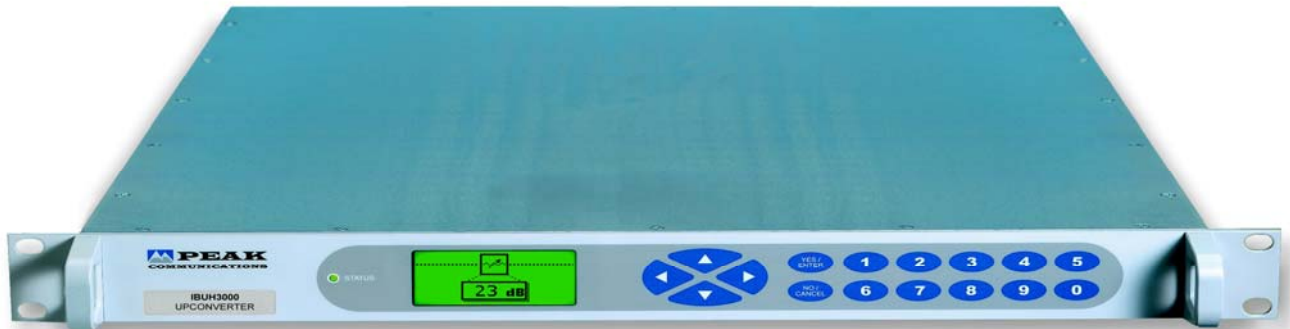


## IBUH(B) series

### Multi-range, Rack Mounted Block UpConverters with User Interface



#### High Grade UpConverter Products;

<b>IBUH2000</b>	L-Band (950-1950MHz) to Ku-Band (12.75-14.50GHz), 2 range.
<b>IBUH3000</b>	L-Band (950-1700MHz) to Ku-Band (12.75-14.50GHz), 3 range.
<b>IBUH3003</b>	L-Band (950-1700MHz) to Dual-Band (C, Ku-Band), 2 range.
<b>IBUH3004</b>	L-Band (950-1700MHz) to Tri-Band (C, X, Ku-Band), 3 range.

For other 'non-standard' frequency requirements, please contact the factory.  
 For single-range Block UpConverters please see IBUH(A) series datasheet.  
 For equivalent lower cost BUC units without the full user interface please see IBU(B) series datasheet.  
 For equivalent remote mount units, please see PBU(B) series datasheet.

The 19 inch 1U rack mounted **IBUH(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 **IBUH(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 (XPDR Os) and are far superior in stability and phase noise to Voltage Controlled Oscillators (VCOs), as commonly used in other BUC designs.

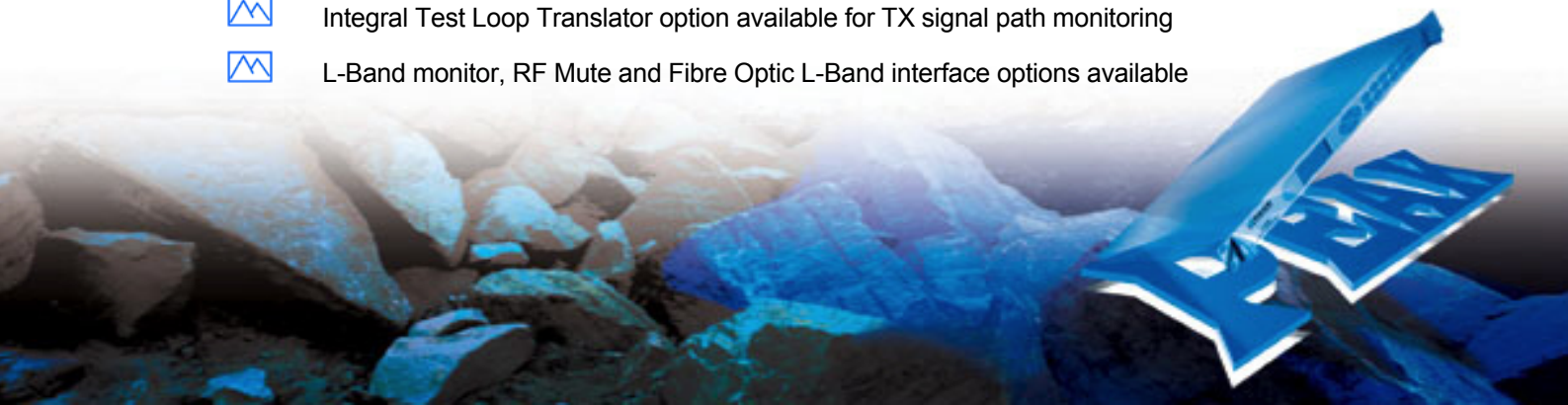
These Multi-range converters are offered with internal range switching and a single input and output connection. Range selection is performed via the front panel or via the remote control facility.

For redundancy the **IBUH(B)** uses a simple CANBUS® interface and has an integral redundancy controller for 1+1 & 2+1 operation (for use with external **T1000HH**, **T2000HH** switch units), for N+1 systems a separate external control and switch unit is provided (**RCU1002 series**).

The unit incorporates a graphics display module, membrane keyboard and features a clear and intuitive control and configuration menu fully utilising the unique graphics display.

#### 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
-  Electronically Variable Attenuator option for both local & remote control of Gain
-  Integral 1+1 & 2+1 CANBUS® redundancy control & N+1 switch systems available
-  Integral Test Loop Translator option available for TX signal path monitoring
-  L-Band monitor, RF Mute and Fibre Optic L-Band interface options available



# IBUH(B) series - Typical Specification

## SHF Output

Frequency

<b>IBUH2000</b>	12.75-13.75GHz, 13.75-14.5GHz.
<b>IBUH3000</b>	12.75-13.50GHz, 13.00-13.75GHz, 13.75-14.5GHz.
<b>IBUH3003</b>	Dual-Band; C-Band 5.85-6.425GHz, Ku-Band 13.75-14.5GHz.
<b>IBUH3004</b>	Tri-Band; C-Band 5.85-6.425GHz, X-Band 7.90-8.40GHz, Ku-Band 13.75-14.5GHz.

Connector  
Return loss  
1dB GCP

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

## L-Band Input

Frequency  
Connector  
Return loss

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

## Transfer Characteristics

Conversion gain  
Gain stability  
Gain flatness  
LO Frequency

17dB ±1dB at band centre (Option 4; 27dB ±1dB)  
±0.5dB from 0 to 40°C  
±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

## Electronically Variable L-Band Attenuation (Option 10)

Attenuation range  
Step size  
Control

30dB nominal  
1dB (Option 10a), 0.1dB (Option 10b)  
Local & remote

## 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  
LO leakage

>+18dBm (standard unit)  
-80dBm (always out of band)

## L-Band Monitor (Option 2)

Connector  
Level

Option 2; 50Ω, SMA (f) on rear panel  
Option 2a; 50Ω, BNC (f) on rear panel  
-20dBc ±3dB

## RF Mute (Option 13)

Isolation 60dB min.

## Internal Reference Stability

Stability  
Temp. Stability  
Ageing

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

## High stability (Option 8)

Stability  
Ageing  
Temp. stability

<2 x 10<sup>-12</sup> over 1s, <2 x 10<sup>-10</sup> per day  
<2 x 10<sup>-9</sup> per year  
<2 x 10<sup>-9</sup> over 0 to 50°C

## External Reference Input

Frequency  
Connector  
Level  
Required phase noise  
Locking delay

10MHz (5MHz factory settable)  
50Ω, BNC  
0dBm ±3dB  
Better than 50dBc/Hz of output Phase Noise  
<2 mins to stabilise from cold

## Mechanical

Width  
Height  
Depth  
Construction  
Weight

19" standard rack mount  
1U (1.75")  
~400mm (15.7"), plus connectors  
Aluminium chassis  
5.5kgs (12lbs)

## Environmental

Operating temp.  
EMC  
Safety

0°C to +50°C  
EN 55022 part B & EN 50082-1  
EN 60950

## Power Supply

Voltage  
Frequency  
Power

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

## Control System Interface

Remote Control  
Redundancy  
Discrete 'Alarms Interface'

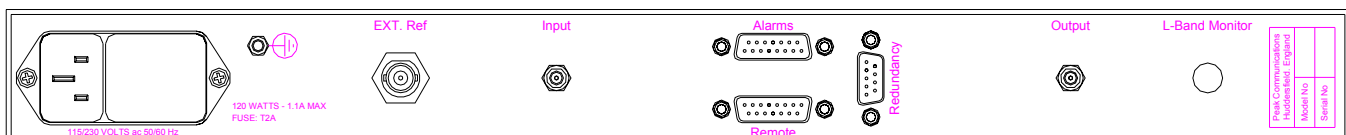
RS232/ 485 port  
Ethernet option; Embedded web server & SNMP network management support (option 9)  
CANBUS® interface for N+1 systems  
In-built 1+1 & 2+1 controller  
LO lock fail alarm  
PSU fail alarm  
Amplifier Fail alarm  
Mute input control (Option 13)

## Options

- 1a) N-Type (f) SHF Interface connection
- 1b) N-Type (f) L-Band Interface connection
- 2) -20dBc L-band monitor on rear panel (SMA)
- 2a) -20dBc L-band monitor on rear panel (BNC)
- 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
- 9) Ethernet interface with embedded web server & SNMP
- 10a) Attenuator with local & remote control, 30dB stepped 1dB
- 10b) Attenuator with local & remote control, 30dB stepped 0.1dB
- 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. IBUH(B)series-281209.

Peak Communications Ltd, 22 West Park Street, Brighouse, HD6 1DU, England

Tel; +44 (0)1484 714200 Sales; +44 (0)1484 714229 Fax; +44 (0)1484 723666 Email; [sales@peakcom.co.uk](mailto:sales@peakcom.co.uk) Web; [www.peakcom.co.uk](http://www.peakcom.co.uk)