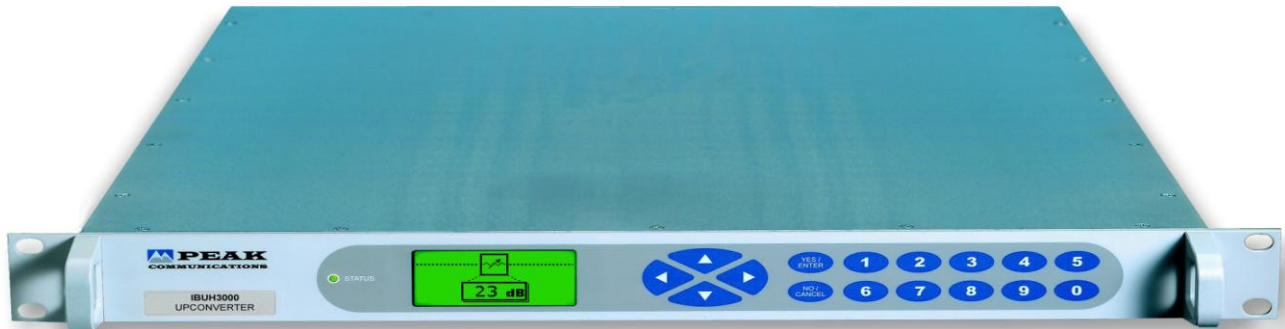


IBUH(B) series

Multi-range, Rack Mounted Block UpConverters with User Interface



High Grade UpConverter Products;

IBUH2000	L-Band (950-1950MHz) to full Ku-Band (12.75-14.50GHz), 2 range.
IBUH3000	L-Band (950-1700MHz) to full Ku-Band (12.75-14.50GHz), 3 range.
IBUH3003	L-Band (950-1700MHz) to Dual-Band (C & extended Ku-Band), 2 range.
IBUH3004	L-Band (950-1700MHz) to Tri-Band (C, X & extended Ku-Band), 3 range.
IBUH3005	L-Band (950-1950MHz) to Dual-Band (C & full Ku-Band), 3 range.
IBUH3006	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 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. Separate inputs and outputs for each range/band are available as options to allow simultaneous range/band operation.

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 series** switch units), also compatible with the **RCUH100/ RCUH200 series** 1+1/ 2+1 'stand alone' redundancy controllers. For N+1 systems the **RCU1002 series** is offered.

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

IBUH2000	Full Ku-Band (2 range; 12.75-13.75GHz, 13.75-14.5GHz)
IBUH3000	Full Ku-Band (3 range; 12.75-13.50GHz, 13.00-13.75GHz, 13.75-14.5GHz)
IBUH3003	Dual-Band; C-Band (5.85-6.425GHz), extended Ku-Band (13.75-14.5GHz)
IBUH3004	Tri-Band; C-Band (5.85-6.425GHz), X-Band (7.90-8.40GHz), extended Ku-Band (13.75-14.5GHz)
IBUH3005	Dual-Band; C-Band (5.85-6.425GHz), full Ku-Band (2 range; 12.75-13.75GHz, 13.75-14.5GHz)
IBUH3006	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

Option 1a; SMA (f), 50Ω

Return loss

Option 1b; N-Type (f), 50Ω

1dB GCP

Option 3; >15dB

Option 5; +8dBm

+18dBm

L-Band Input

Frequency

950 up to 1950MHz, dependent upon model

Connector

Option 1b; SMA (f), 50Ω

Option 3; N-Type (f), 50Ω

Return loss

Option 3; BNC (f), 75Ω

>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

dependent on model

LO Frequency

Electronically Variable L-Band Attenuation (Option 10)

Attenuation range

30dB nominal

Step size

Option 10a; 0.5dB

Option 10b; 0.1dB

Control

Local & remote

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)

3rd Order Intercept

>+18dBm (standard unit)

LO leakage

-80dBm (always out of band)

RF Mute (Option 13)

Isolation

60dB min

Input Power Detector & Alarms (Option 14)

Detection range

0 to -50dBm

Display

Actual input and calculated output power, graphical via front panel and available via remote control

Low input power Alarm

User settable via front panel interface

Compression Alarm

Automatic 'preset' warning alarm for input/output compression point. User settable via front panel interface

L-Band & SHF Monitor (Option 2)

Connector

Option 2a; L-Band monitor, SMA (f), 50Ω on rear panel

Option 2b; SHF monitor, SMA (f), 50Ω on rear panel

Note; other connector styles available, please consult the factory

Level

-20dBc ±3dB

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 mins to stabilise from cold

Mechanical

Width

19" standard rack mountable

Height

1U (1.75")

Depth

~400mm (15.7"), plus connectors (2 range)

~534mm (15.7"), plus connectors (3 & 4 range)

Construction

Aluminium chassis

Weight

4-6.5kgs (9-15lbs) 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

Remote Control

RS232/ 485 port

Option 9;

Ethernet; Embedded web server & SNMP network management support

Redundancy

CANBUS® interface for N+1 system

In-built 1+1 & 2+1 controller

Discrete 'Alarms

LO lock fail alarm

Interface'

PSU fail alarm

Amplifier Fail alarm

Option 13;

Mute input control

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 SHF monitor on rear 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

9)

Ethernet interface with embedded web server & SNMP

10a)

Attenuator with local & remote control, 30dB stepped 0.5dB

10b)

Attenuator with local & remote control, 30dB stepped 0.1dB

11)

Separate inputs & outputs for simultaneous range/ band operation

13)

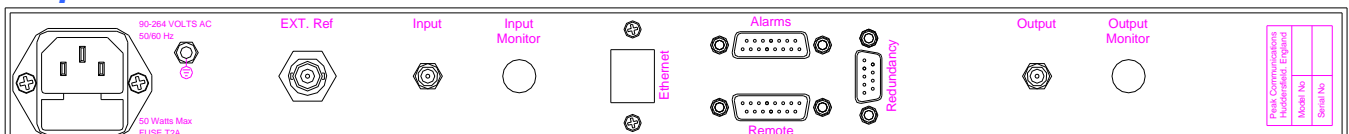
RF Mute option

14)

Input signal power detector and alarms

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-260112.

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 Web; www.peakcom.co.uk