

## IBU(A) Series

### Single-Range, Single & Multi-Channel, Rack Mount Block UpConverters



### High Grade Single & Multi-Channel UpConverter Products;

<a href="#">IBU600, IBU602 (Dual), IBU604 (Quad)</a>	C-Band (5.85-6.425GHz)
<a href="#">IBU665</a>	Extended C-Band (5.85-6.65GHz)
<a href="#">IBU6725</a>	Super Extended C-Band (5.85-6.725GHz)
<a href="#">IBU7025</a>	INSAT C-Band (6.70-7.025GHz)
<a href="#">IBU710</a>	INSAT C-Band (6.70-7.10GHz)
<a href="#">IBU790</a>	X-Band (7.90-8.40GHz)
<a href="#">IBU1275</a>	Ku-Band (12.75-13.50GHz)
<a href="#">IBU130</a>	Ku-Band (13.00-13.75GHz)
<a href="#">IBU137</a>	Ku-Band (13.75-14.50GHz)
<a href="#">IBU140, IBU142 (Dual), IBU144 (Quad)</a>	Ku-Band (14.00-14.50GHz)
<a href="#">IBU180</a>	DBS-Band (17.30-18.10GHz)
<a href="#">IBU184</a>	DBS-Band (17.30-18.40GHz)

For other non-standard frequency requirements or multi-channel units, please contact the factory.

For multi-range Block UpConverters please see IBU(B) series datasheet.







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

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

The 19 inch 1U rack mounted **IBU(A) 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(A) 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 (XPDRos) 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
-  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
-  Available in Dual, Triple & Quad-Channel versions



# IBU(A) series - Typical Specification

## SHF Output

Frequency	IBU600, IBU602 (Dual), IBU604 (Quad)	5.85-6.425GHz
	IBU665	5.85-6.65GHz
	IBU6725	5.85-6.725GHz
	IBU7025	6.70-7.025GHz
	IBU710	6.70-7.10GHz
	IBU790	7.90-8.40GHz
	IBU1275	12.75-13.50GHz
	IBU130	13.00-13.75GHz
	IBU137	13.75-14.50GHz
	IBU140, IBU142 (Dual), IBU144 (Quad)	14.00-14.50GHz
	IBU180	17.30-18.10GHz
	IBU184	17.30-18.40GHz

Connector SMA (f), 50Ω  
 Option 1a; N-Type (f), 50Ω  
 Note; for multi-channel version, multiple connectors are provided

Return loss >15dB  
 1dB GCP +8dBm  
 Option 5; +18dBm

## L-Band Input

Frequency	950 up to 2050MHz, depending on model
Connector	SMA (f), 50Ω
	Option 1b; N-Type (f), 50Ω
	Option 3; BNC (f), 75Ω

Note; for multi-channel version, multiple connectors are provided

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 full band (±1.5dB for IBU184)
	±0.5dB across any 40MHz in-band dependent on model
LO Frequency	dependent on model

## Manual Attenuation (Option 10)

Attenuation range	30dB nominal
Control	Continuously variable from front panel

## RF Performance

Note; for IBU180, IBU184 phase noise & spurious performance please consult the factory.

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)
Channel Isolation	-65dBc (for multi-channel versions only)

## 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

Note; for other connector types please consult the factory

Level -20dBc ±3dB

## Integral Test Loop Translator (Option 12)

TX sample Input	SMA (f), 50Ω on rear panel, 0dBm max.
L-Band Output	SMA (f), 50Ω on rear panel
Translation Loss	15dB

## RF Mute (Option 13)

Isolation 60dB min

## Internal Reference Stability

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
High stability (Option 8)	
Stability	<2 x 10 <sup>-12</sup> over 1s, <2 x 10 <sup>-10</sup> per day
Ageing	<2 x 10 <sup>-8</sup> per year
Temp stability	<2 x 10 <sup>-9</sup> 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

Note; for multi-channel versions, a longer ~534mm (21") chassis may be provided, depending upon options selected.

Construction Aluminium chassis  
 Weight 3.5-6kgs (8-13lbs) 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, unit and option dependent

## Control System Interface

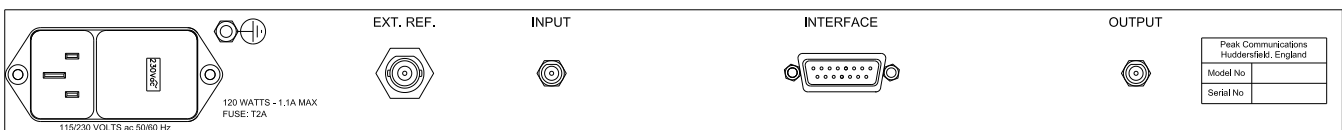
Alarms	LO lock fail
	PSU fail
	Amplifier fail
Controls	Mute input (Option 13)

## 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
- 10b) Manual Variable Attenuator, 0-30dB, at SHF
- 12) Integral TLT for TX signal monitoring
- 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(A)series-230511.

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