

IBU(A) Series

Single-Range, Rack Mount Block UpConverters



High Grade UpConverter Products;

IBU600	C-Band (5.85-6.425GHz)
IBU665	Extended C-Band (5.85-6.65GHz)
IBU6725	Super Extended C-Band (5.85-6.725GHz)
IBU7025	INSAT C-Band (6.70-7.025GHz)
IBU710	INSAT C-Band (6.70-7.10GHz)
IBU790	X-Band (7.90-8.40GHz)
IBU1275	Ku-Band (12.75-13.50GHz)
IBU130	Ku-Band (13.00-13.75GHz)
IBU137	Ku-Band (13.75-14.50GHz)
IBU140	Ku-Band (14.00-14.50GHz)
IBU180	DBS-Band (17.30-18.10GHz)
IBU184	DBS-Band (17.30-18.40GHz)

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

For multiple-channel units in a single chassis (Dual, Triple, Quad), please consult 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.

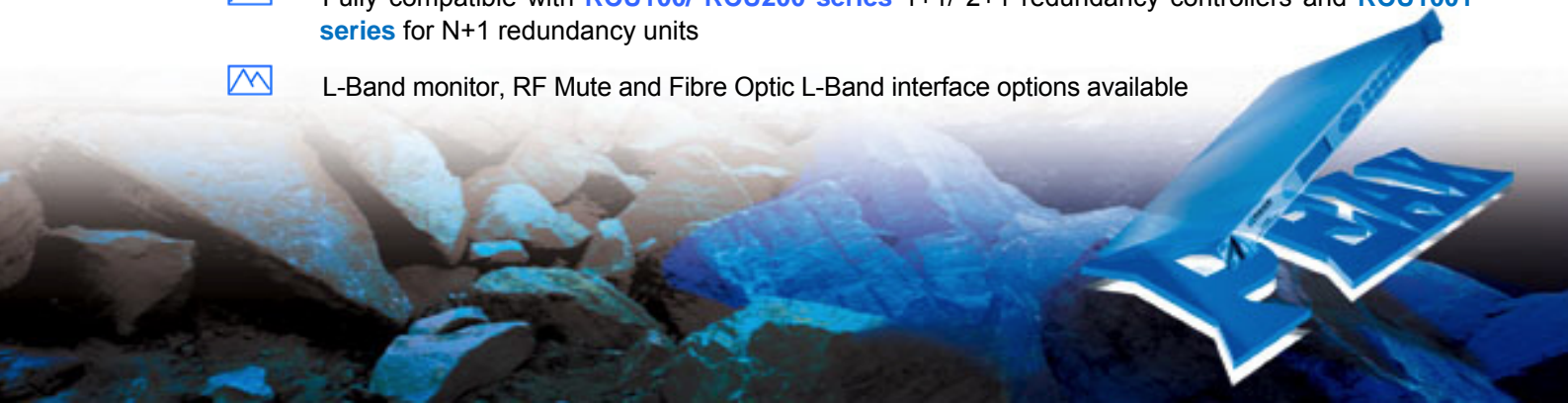
For equivalent remote mount units, please see PBU(A) series datasheet.

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 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(A) series - Typical Specification

SHF Output

Frequency	
IBU600	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	14.00-14.50GHz
IBU180	17.30-18.10GHz
IBU184	17.30-18.40GHz
Connector	50Ω, SMA (Option 1a; N-Type)
Return loss	>15dB
1dB GCP	+8dBm (Option 5; +18dBm)

L-Band Input

Frequency	950 up to 2050MHz, depending on model
Connector	50Ω, SMA (Option 1b; N-Type) (Option 3; 75Ω, BNC)
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 ±0.5dB across any 40MHz in band. dependant on model
LO Frequency	

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 (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	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)

L-Band Monitor (Option 2)

Connector	Option 2a; 50Ω, SMA on rear panel (other types available)
Connector	Option 2b; 50Ω, SMA on front panel
Level	-20dBc ±3dB

Integral Test Loop Translator (Option 12)

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

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	50Ω, BNC
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 mount
Height	1U (1.75")
Depth	~400mm (15.7"), plus connectors
Construction	Aluminium chassis
Weight	4.5kgs (10lbs)

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 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)
- 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 Huddersfield, England	
Model No	
Serial No	

Peak Communications reserves the right to alter the specifications of this equipment without prior notice. IBU(A)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 Web; www.peakcom.co.uk