DBU200

Dual ‘Hot-swap’ Block Converter with optional 1+1 Redundancy

The 19-inch 1U rack mounted **DBU200** chassis unit is designed to accept any mix of two of the Converter modules shown below. Modules can be inserted/ replaced in the **DBU200** unit from the rear without the need to remove power or disturb the other channel in any way.

The **DBU200** chassis units are mains powered (redundant power supplies as standard) and are constructed of high-grade components to give the ultimate stability, ripple and phase noise performance.

The **DBU200** unit is available with optional integral 1+1 redundancy switching and control for use when two identical modules are used.

The unit has a highly stable internal reference source and will automatically detect and lock to an external 10MHz signal, when applied.

High Grade Converter Modules;

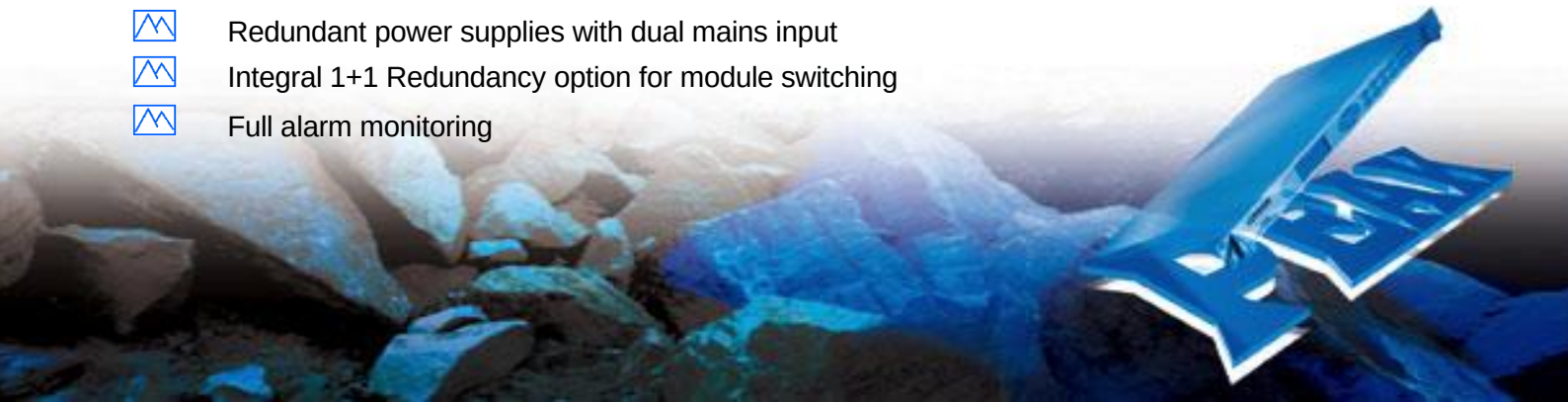
BUC Module	L-Band input (MHz)	SHF output (GHz)
MBU600	950-1525	5.85-6.425 (C)
MBU665	950-1750	5.85-6.65 (extended C)
MBU6725	950-1825	5.85-6.725 (super extended C
MBU7025	950-1275	6.70-7.025 (INSAT C)
MBU7025B	950-1250	6.725-7.025 (INSAT C)
MBU710	950-1350	6.70-7.10 (INSAT C)
MBU790	950-1450	7.90-8.40 (X)
MBU1275	950-1700	12.75-13.50 (low Ku)
MBU1275B	950-1950	12.75-13.75 (low Ku)
MBU130	950-1700	13.00-13.75 (low Ku)
MBU137	950-1700	13.75-14.50 (extended Ku)
MBU140	950-1450	14.00-14.50 (Ku)
MBU145	950-1250	14.50-14.80 (high Ku)
MBU148	950-2000	13.75-14.80 (wide Ku)
MBU180	950-1750	17.30-18.10 (DBS)
MBU184	950-2050	17.30-18.40 (extended DBS)

BDC Module	SHF input (GHz)	L-Band output (MHz)
Standard Rx band coverage		
MBD420	3.40-4.20 (C)	1750-950*
MBD450	4.50-4.80 (INDSAT C)	950-1250
MBD725	7.25-7.75 (X)	950-1450
MBD1070	10.70-11.70 (low Ku)	950-1950
MBD1095	10.95-11.70 (low Ku)	950-1700
MBD1120	11.20-11.70 (mid Ku)	950-1450
MBD1145	11.45-12.20 (mid Ku)	950-1700
MBD1170	11.70-12.20 (mid Ku)	950-1450
MBD1171	11.70-12.75 (high Ku)	950-2000
MBD1225	12.25-12.75 (high Ku)	950-1450
* Inverted output spectrum		
Tx band coverage for ground test & ranging applications		
MBD600	5.850-6.425 (C)	950-1525
MBD665	5.85-6.65 (extended C)	950-1750
MBD790	7.9-8.4 (X)	950-1450
MBD1275	12.75-13.75 (low Ku)	950-1950
MBD140	14.0-14.5 (Ku-Band)	950-1450
MBD137	13.75-14.50 (extended Ku)	950-1700
MBD148	13.75-14.80 (extended Ku)	950-2000
MBD184	17.30-18.40 (Full DBS)	950-1850

If the converter module that you require is not shown above, please contact us with your frequency requirements and we will be pleased to consider adding it to our range.

Peak Features

- High stability, low ripple and excellent phase noise
- 10MHz external reference fitted as standard with automatic internal reference back-up
- Fully compatible with RCU series external redundancy units for full chassis switching
- Redundant power supplies with dual mains input
- Integral 1+1 Redundancy option for module switching
- Full alarm monitoring



DBU200 Chassis - Typical Specification

External Reference Input (with automatic detection)

Frequency	10MHz (5MHz factory settable)
Level	0dBm ±5dB
Connector	50Ω, BNC (f)
Locking delay	<2 min to stabilise from cold

Internal Back-up Reference Stability

Allan deviation	5×10^{-11} over 1s
Ageing	$<5 \times 10^{-9}$ per day, $<5 \times 10^{-7}$ per year
Temp stability	$<5 \times 10^{-8}$ over 0 to 50^{0}C

Mechanical

Width	19" standard rack mountable
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 (2off in redundant configuration)

Voltage	90-264VAC
Option 10;	48VDC
Frequency	47-63Hz
Total power	50 Watts max.

Control System Interface

Local interface	Front panel key switches (for option 6)
Remote control	RS232/RS485 port
Option 9;	Ethernet; embedded web server & SNMP network management support
Alarms	LO lock failure
	PSU failure
	Amplifier failure

Integral 1+1 'Module' Redundancy (Option 6)

Connections	SMA (f), 50Ω
Switch type	Rated to 18GHz
Switching speed	<150ms (from fault to switch completion)
Switch isolation	>60dB input to output
RF cables	Includes high grade rear panel links

Note; the connection to the internal redundancy circuitry is made via SMA (f) RF links on the rear panel, this allows for by-pass wiring should the need arise. High grade co-axial linking cables are provided.

DBU200 Chassis Options

6) Integral 1+1 redundancy module switching
9) Ethernet interface with embedded web server & SNMP, replaces RS232/485 port
10) 48VDC prime power supply

Note; the addition of options can modify the typical specification, for details please consult the factory.

MBU/MBD Modules - Typical Specification

SHF Interface

Connector	50Ω, SMA (f)
Option 1a;	50Ω, N-Type (f)
Return loss	>18dB

L-Band Interface

Connector	50Ω, SMA (f)
Option 1b;	50Ω, N-Type (f)
Return loss	>15dB

Transfer Characteristics

Conversion gain	30dB ±1dB at band centre (MBD)
	17dB ±1dB at band centre (MBU)
Option 4;	27dB ±1dB at band centre (MBU)
Option 4b;	40dB ±1dB at band centre (MBD)
RF input power	-25dBm max (MBD)
1dB output GCP	+8dBm
Option 5;	+18dBm (MBU)
Gain stability	±0.5dB from 0 to 40°C
Gain flatness	±1dB full band (±1.5dB if bandwidth >800MHz)
	±0.5dB across any 40MHz in band

RF Performance

Note; for MBU180, MBU184 spurious, harmonic and LO leakage performance please consult the factory.

LO phase noise	-55dBc/Hz at 10Hz
(typical with good	-75dBc/Hz at 100Hz
phase noise	-95dBc/Hz at 1kHz
ext. 10MHz ref.)	-100dBc/Hz at 10kHz
	-105dBc/Hz at 100kHz
	-125dBc/Hz at 1MHz

Note; see table below for band specific typical performance (BUC only).

Spurious	<-80dBm (in band non-carrier related)
	<-75dBc (in band carrier related)

Note; C-Band BDC ranges specified as <-65dBc at input -40dBm.

3rd order intercept	>+18dBm (standard unit)

Monitor Ports (Option 2)

Option 2a;	L-Band monitor
Option 2c;	SHF monitor
Connector	SMA (f), 50Ω, on rear panel
Level	-20dBc ±3dB

MBU/ MBD Module Options

1a) N-Type SHF connector
1b) N-Type L-Band connector
2a) -20dBc L-Band monitor on rear panel
2c) -20dBc SHF monitor on rear panel
4) MBU 10dB increase in gain
4b) MBD 10dB increase in gain
5) MBU 1dB GCP increase to +18dBm (includes extra 10dB Gain option)

Note; the addition of options can modify the typical specification, for details please consult the factory.

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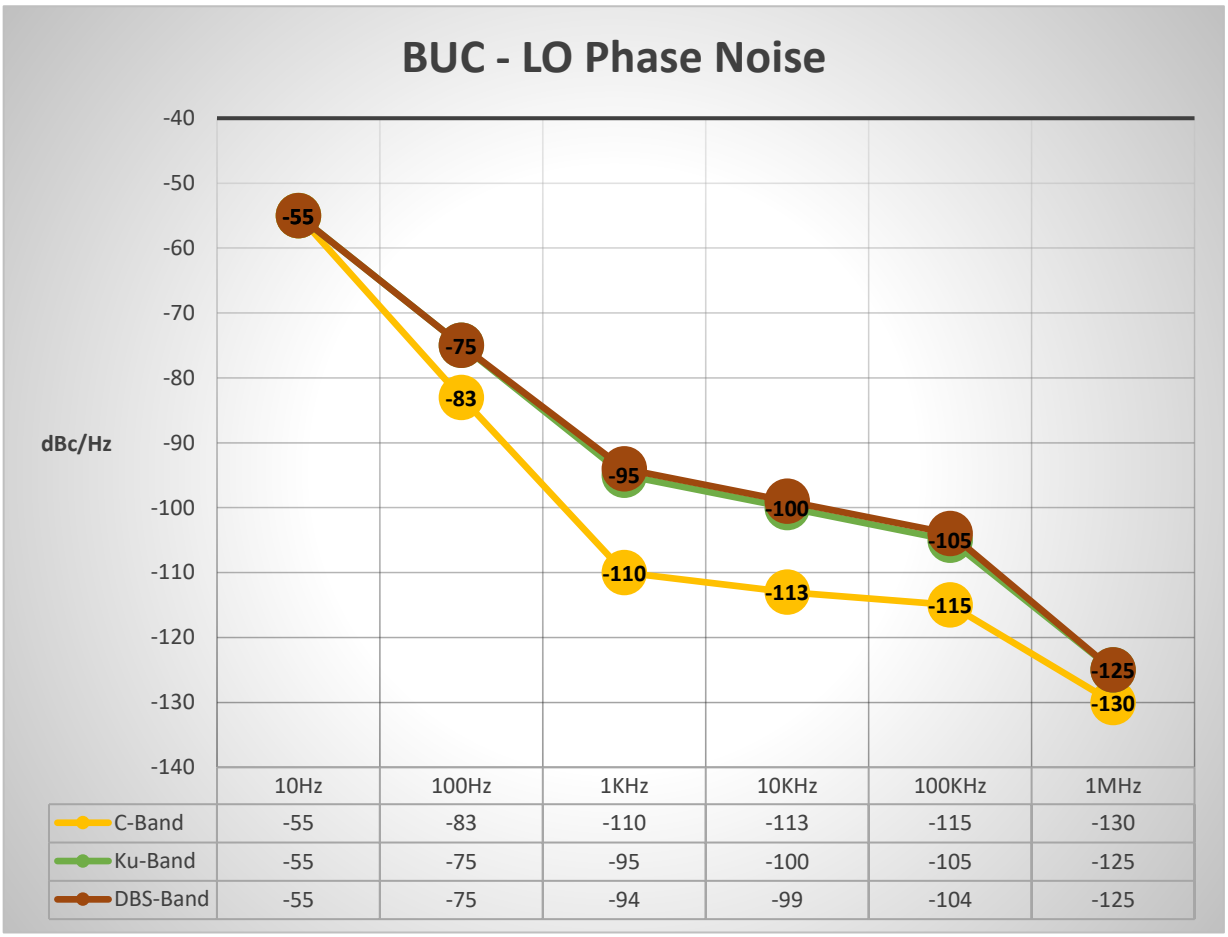
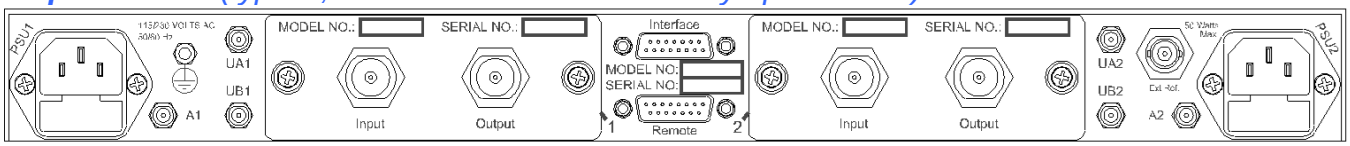


Rear panel view *(typical, shown with 1+1 redundancy option fitted)*



Peak Communications reserves the right to alter the specifications of this equipment without prior notice. DBU200-070322.
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