

## RBU137-2

### 2+1 Redundant, High Grade, Ku-Band, Block UpConverter System.









The **RBU137-2** 2+1 Redundant Ku-Band Block UpConverter system comprises three **IBU137** Block UpConverters, plus an **RCU200** control unit along with matched SHF, L-Band and a complete control interface cable set. It includes all that is required to implement a dual-feed 2+1 redundant Ku-Band UpConverter system, maintaining maximum availability whilst allowing routine maintenance and repair work to be carried out on the standby converter without the normally associated down-time.

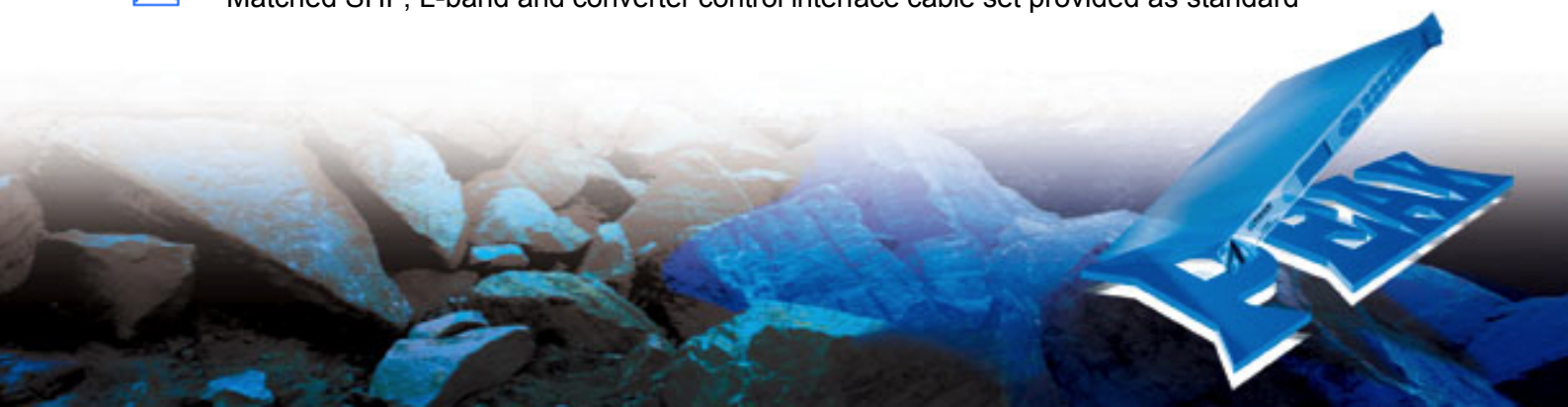
The **RBU137-2** system maintains two converters on-line whilst the other is held in hot standby, allowing the user to select the on-line converters. The redundancy unit can be controlled from the front panel (Local mode) or by the RS232/RS485 link to a host computer (Remote mode). In remote mode, the on-line converters can be selected and monitored whilst keeping switch-over automatic in case of failure.

In AUTO mode, the **RCU200** control unit monitors the converter alarm signals via the interface connecting cables and if a fault condition develops within an on-line converter, the **RCU200** automatically switches traffic to the standby unit.

All units are mains powered and are constructed of high grade components to give the ultimate stability, ripple and phase noise performance

### Peak Features

-  High stability, Low ripple and excellent phase noise
-  10MHz External Reference option fitted as standard with automatic internal reference back-up
-  Dual mains input & redundant power supplies on control unit fitted as standard
-  Keys removable for security in any position
-  Dual switching arrangement (L-band and SHF)
-  Matched SHF, L-band and converter control interface cable set provided as standard



## RBU137-2 Specification

### SHF Outputs

Input Frequency	13.75-14.50GHz
Connector	50Ω, SMA
Return loss	>15dB
1dB GCP	+7dBm (Option 5; +17dBm)

### L-Band Inputs

Output Frequency	950 to 1700MHz
Connectors	50Ω, SMA (option 3; 75Ω, BNC)
Return loss	>15dB

### System Transfer Characteristics

Conversion gain	13dB ±0.5dB at band centre (Option 4; 23dB ±1dB)
Gain stability	±0.5dB from 0 to 40°C
Gain flatness	±1dB full band ±0.5dB across 40MHz in band.
2+1 changeover	1dB max variation (unit to unit)
LO Frequency	12.8GHz

### RF Performance

LO Phase noise	-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 on converters – Option 2

Connection	Option 2a; 50Ω SMA on rear panel
Connection	Option 2b; 50Ω SMA on front panel
Level	-20dBc ±3dB

### 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 selectable)
Connector	50Ω, BNC
Level	0dBm ±3dB
Required phase noise	Better than 50dBc/Hz of output Phase Noise

### Switch Element Parameters

Switching speed	<15ms
Type	Co-axial, latching
Response speed	<150ms (from fault to switch completion).

### Mechanical

Width	19" standard rack mount
System Height	4U (1U (1.75") x 4)
Depth	~400mm (15.7"), plus connectors
Construction	Aluminium chassis
Weight	17kgs (~37lbs) approx.

### 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, Dual PSU on RCU
Frequency	50/60Hz
System Power	150Watts max.

### Control System

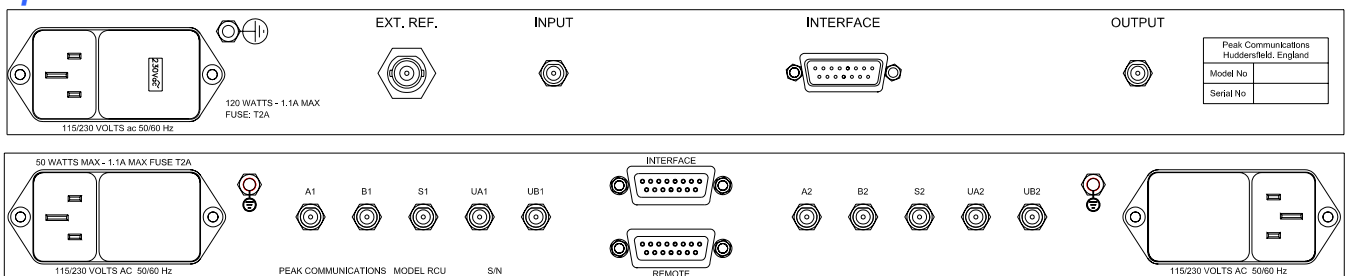
Rem/Loc switch	2 position key switch, selects remote or local mode.
Auto/A/B switch	3 position key switch, selects standby converter to chain A or B manually, or automatically.
Remote control	RS232/RS485 port (Option 9; Ethernet replaces RS232/485 port)
Converter alarm	PSU fail, LO lock fail & Amp fail

### Options

- 2a) -20dBc L-band monitor on rear panel (SMA).
- 2b) -20dBc L-band monitor on front panel (SMA).
- 3) 75Ω interface at L-band (gain reduced by 6dB).
- 4) Extra 10db increase in gain, to +23dB ±1dB.
- 5) 1dB GCP increase to +17dBm (includes extra 10dB Gain option).
- 8) High Stability Internal reference option.
- 9) Ethernet interface, replaces RS232/485 port.

Note; Some of the above options have an impact on the general performance specification, factory guidance should be sought if this is thought to be critical.

## Rear panel Views



Peak Communications reserves the right to alter the specifications of this equipment without prior notice. RBU137-2-291208.

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