RCU100 series
1 for 1 Redundancy Switch Units

RCU100 for use with;
L500 series Block DownConverters
IBU/IBUH/IBD/IBDH series Block Converters

RCU100(Ka) for use with;
IBU(Ka)/IBUH(Ka)/IBD(Ka)/IBDH(Ka) series Block Converters

RCU101 for use with;
F1201/ F1202 Fixed Frequency L-Band Converters

RCU102 for use with;
F1200 Fixed frequency L-Band Up & DownConverter

RCU103 for use with;
ILA/ILAH series Line amplifiers

The **RCU100 series** 1+1 Redundancy switch units are designed to provide redundancy for single-feed systems, maintaining maximum availability whilst allowing routine maintenance and repair work to be carried out on the standby unit without the normally associated down-time.

The **RCU100 series** maintains one converter/amplifier on-line whilst the other is held in hot standby, allowing the user to select the on-line unit. The redundancy unit can be controlled from the front panel (Local mode) or by the RS232/485 link to a host computer (Remote mode). In remote mode, the on-line converter/amplifier can be selected and monitored whilst keeping switch-over automatic in case of failure. Ethernet options are available.

In AUTO mode, the unit monitors the converter/amplifier alarm signals via the interface connecting cables and if a fault condition develops within the on-line unit, the **RCU100 series** unit automatically switches traffic to the standby unit.

Factory alignment for the complete 1+1 system including Peak supplied high quality cables is recommended for this product to optimise Gain flatness and other parameters. If bought as a complete set of equipment, factory alignment is automatically undertaken.

**Peak Features**
- Standard 5MHz to 18GHz operation
- Keys removable for security in any position
- Dual mains input & redundant power supplies fitted as standard
- Remote RS232/485 remote control fitted as standard (Ethernet option available)
- Dual switching arrangement (L-Band and RF) minimises insertion loss
- Transfer switching option for convenient off-line unit monitoring/test
- Optional, high quality, matched cable sets to interface to the Peak converter/amplifier range
**RCU100 series – Typical Specification**

The following gives the performance of the RCU units in isolation;

### IF, L-Band & RF Interfaces
- **Frequency**
  - 5MHz to 18GHz
  - Ka-band to 31GHz
- **Connections**
  - 50Ω, SMA (f)
  - Option 6a: 50Ω, N-Type (f) ‘system input’
  - Option 6b: 50Ω, N-Type (f) ‘system output’
  - Ka-Band 50Ω, K-Type (f) or 2.92mm (f)
- **Insertion loss**
  - 40MHz in-band: 3dB (not including converter gain)
- **Switching speed**
  - <150ms (from fault to switch completion)

### Frequency Dependent Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Single Switch Insertion Loss (maximum)</th>
<th>Switch Return Loss (typical)</th>
<th>Switch Isolation (typical)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LC-Band Section</strong></td>
<td>L-band 0.15dB</td>
<td>23dB</td>
<td>80dB</td>
</tr>
<tr>
<td></td>
<td>S-band 0.15dB</td>
<td>23dB</td>
<td>80dB</td>
</tr>
<tr>
<td></td>
<td>C-band 0.2dB</td>
<td>21dB</td>
<td>70dB</td>
</tr>
<tr>
<td></td>
<td>X-band 0.3dB</td>
<td>18dB</td>
<td>65dB</td>
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<tr>
<td></td>
<td>Ku-band 0.35dB</td>
<td>16dB</td>
<td>60dB</td>
</tr>
<tr>
<td><strong>RF Section</strong></td>
<td>DBS-band 0.4dB</td>
<td>15dB</td>
<td>60dB</td>
</tr>
<tr>
<td></td>
<td>Ka-band 0.75dB</td>
<td>13dB</td>
<td>50dB</td>
</tr>
</tbody>
</table>

### Typical System Performance

The following gives the typical performance that can be expected from a factory aligned I+1 system comprising Peak converters & using the high quality matched IF, L-Band & RF cable set (option 1);

- **Gain flatness**
  - ±0.5dB full band, ±0.25dB across any 40MHz in-band (C-band, with IBU600 converters)
- **Insertion loss**
  - 3dB (not including converter gain)
- **Switching speed**
  - <150ms (from fault to switch completion)

### RCU100 Unit General

#### Mechanical
- **Width**
  - 19”, standard rack mount
- **Height**
  - 1U (1.75”)
- **Depth**
  - 4200mm (16.5”), plus connectors
- **Weight**
  - 4.0kgs (8.8 lbs)
- **Construction**
  - Aluminium chassis

#### Environmental
- **Operating temp**
  - 0 to +50°C
- **EMC**
  - EN 55022 part B & EN 50082-1
- **Safety**
  - EN 60950

### Power Supply (dual, redundant)
- **Connection**
  - IEC (dual feed cables provided)
- **Voltage**
  - 90-264VAC
- **Frequency**
  - 47-63Hz
- **Power**
  - 50 Watts max

### Control System
- **Rem/ Loc switch**
  - 2 position key switch, selects remote or local mode
- **Auto/ A/ B switch**
  - 3 position key switch, selects converter A or B to traffic manually, or automatic mode
- **Remote control**
  - RS232/ 485 port (internally user settable)
- **Connector**
  - 15-way, D-type
  - Option 9; Ethernet; embedded web server & SNMP network management support
- **Interface connector**
  - 15-way, D-type to redundant units

### Options
- **1a)** High quality, matched L-Band, RF (C, X or Ku-Band) & control cables to interface to the IBU/ IBUH/ IBDS/ IBDOH/ LS50 series converter products, when mounted adjacent to the RCU100 unit.
- **1b)** See option 1a above but includes DBS-Band SHF cables.
- **1c)** See option 1a above but includes Ka-Band SHF cables.
- **1d)** High quality, matched IF, L-Band and control cables to interface to the F1201/ F1202 converter products, when mounted adjacent to the RCU101 unit.
- **1e)** High quality, matched IF, L-Band & control cables to interface to the F1200 converter products, when mounted adjacent to the RCU103 unit.
- **1f)** High quality, matched L-Band and control cables to interface to the ILE series line amplifier products, when mounted adjacent to the RCU103 unit.
- **2)** Custom front panel overlay.
- **6a)** N-Type (f), 50Ohm, ‘system input’ interface
- **6b)** N-Type (f), 50Ohm, ‘system output’ interface
- **9)** Ethernet interface with embedded web server & SNMP
- **13)** Transfer switching for offline unit monitoring

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 Peak Communications reserves the right to alter the specifications of this equipment without prior notice. RCU100series-140716.
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