

## PBU1095

### Remote Mounted Block UpConverter for test loop Applications








The **PBU1095** remote mounted, Block UpConverter unit from Peak Communications is designed to be fully compatible with a wide range of L-Band modulators and frequency converters. This high grade outdoor unit will accept the L-band output of a **P7000 Series UpConverter** or modem and provide the frequency conversion to Ku receive band for Test Loop applications.

The **PBU Series** utilise Externally Phase Locked Dielectric Resonator Oscillators (XPDRs) and are far superior in stability and phase noise to Voltage Controlled Oscillators (VCOs), as commonly used in other BUC designs.

**The unit will automatically detect when an external 10MHz locking signal is applied, alternatively the unit will automatically switch to the stable internal 10MHz reference signal.**

#### Peak Features

-  Automatic Internal and External Reference locking
-  High stability, low ripple and excellent phase noise, using PDRO technology
-  Full Alarm monitoring
-  Rugged weatherproof housing
-  Temperature compensated for thermal stability and fast warm-up



## PBU1095 Specification

### SHF Output

|             |                |
|-------------|----------------|
| Frequency   | 10.95-11.70GHz |
| Connection  | 50Ω N-type     |
| Return loss | >18dB          |
| 1dB GCP     | +8dBm          |

### L-Band Input

|             |             |
|-------------|-------------|
| Frequency   | 950-1700MHz |
| Connector   | 50Ω N-type  |
| Return loss | >15dB       |

### Transfer Characteristics

|                 |  |
|-----------------|--|
| Conversion gain | 17dB ±1dB at band centre                           |
| Gain stability  | ±0.5dB from 0 to 40°C<br>(-0.026dB per +°C)        |
| Gain flatness   | ±1dB full band<br>±0.5dB across any 40MHz in band. |

### RF Performance

|  |  |
|--|--|
| LO Phase noise<br>(typical with good<br>phase noise<br>ext. 10MHz ref) | -75dBc/Hz at 100Hz<br>-92dBc/Hz at 1kHz<br>-100dBc/Hz at 10kHz<br>-107dBc/Hz at 100kHz<br>-125dBc/Hz at 1MHz |
| Spurious   | <-80dBm (in band non-carrier related)<br><-75dBc (in band carrier related)                                   |
| 3rd Order Intercept<br>LO leakage                                      | >+18dBm<br><-80dBm (always out of band)  |

### External Reference Input

|                                    |  |
|------------------------------------|--|
| Frequency                          | 10MHz  |
| Connection                         | Fed in on L-band cable<br>(Option 1; separate 50Ω TNC) |
| Level                              | 0dBm ±3dB  |
| Required phase noise               | Better than 50dBc/Hz of output Phase<br>Noise          |
| Locking delay                      | <2 minutes to stabilise from cold                      |
| <b>Internal back-up reference;</b> |  |
| Stability                          | <1 x 10 <sup>-10</sup> per second                      |
| Temp. Stability                    | <±5 x 10 <sup>-8</sup> (0 to +60°C)                    |
| Ageing                             | <±5 x 10 <sup>-9</sup> per day                         |

### Mechanical

|              |  |
|--------------|--|
| Width        | 123mm (4.85")  |
| Height       | 172mm (6.8"), plus connections &<br>mounting flanges |
| Depth        | 48mm (1.89")   |
| Construction | Die-cast Aluminium, IP66 rated                       |
| Weight       | 1.4kgs (3lbs) approx.                                |

### Environmental

|                 |                              |
|-----------------|------------------------------|
| Operating temp. | -25°C to +70°C               |
| EMC             | EN 55022 part B & EN 50082-1 |
| Safety          | EN 60950                     |

### Power Supply

|            |   |
|------------|---|
| Voltage    | +16.5 to +35VDC   |
| Current    | 500mA nom.  |
| Connection | Fed in on L-band cable<br>(Option 2a; Fed in on 5-pin control<br>interface connection. Option 2b; Fed in on<br>the 5-pin control interface connection as<br>well as the L-Band cable) |

### Control Interface

|            |   |
|------------|---|
| Alarms     | Summary alarm contacts                                |
| Connection | 5-pin circular weatherproof (mating part<br>supplied) |

### Options

- 1) Separate external 10MHz reference input (using a TNC connector), replacing the L-band feed system.
- 2a) DC input connection wired to 5-pin control interface connector, replacing the L-band feed system.
- 2b) DC input connection wired to the 5-pin 'alarms' connector, as well as the standard DC feed system via the L-Band cable.



Peak Communications reserves the right to alter the specifications of this equipment without prior notice. PBU1095-291208.

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