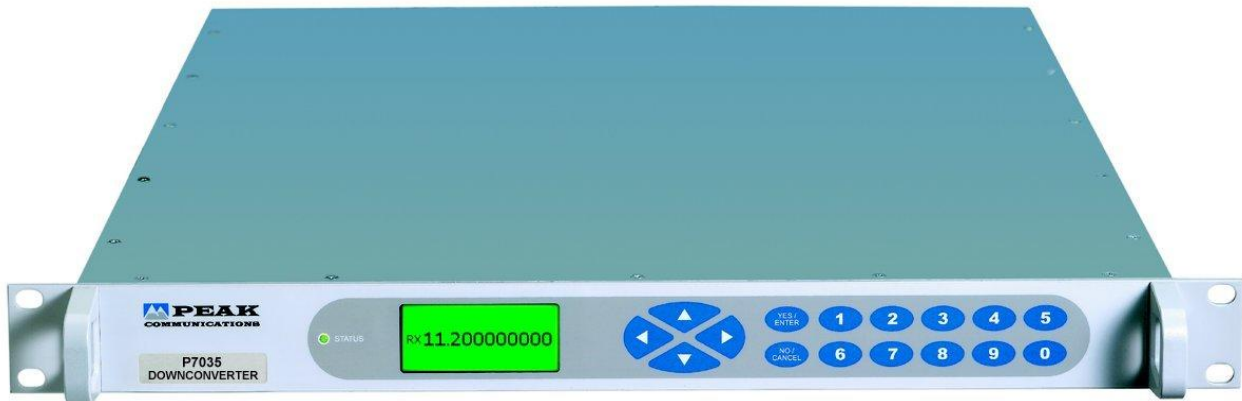


## P7025 Series

### Fully Synthesised Ku-Band to IF DownConverters











The **P7025 series** are next generation, fully synthesised Ku-Band DownConverters which provide a low-cost solution for systems requiring IF interfaces at 70MHz  $\pm$ 18MHz, 140MHz  $\pm$ 36MHz or switchable between 70 & 140MHz. The units incorporate a graphics display module, membrane keyboard and feature a clear and intuitive control and configuration menu, fully utilising the unique graphics display.

For redundancy the **P7025 series** utilise a simple CANBUS<sup>®</sup> interface and have an integral redundancy controller for 1+1 & 2+1 operation (for use with external **R1000H**, **R2000H** switch units), for N+1 systems a separate external control and switch unit is provided (**RCU1000 series**).

The **P7000** series of converters are designed to meet the phase noise, spurious, level and frequency stability requirements of Intelsat IBS/ Eutelsat SMS specifications and is compliant with IESS308/ 309. The product is most suitable for both high and low rate data and both digital and analogue TV signals.

### Peak Features

-  Compliant with IESS308/ 309 requirements
-  Suitable for use with latest high order modulation schemes in excess of 100Mbits/sec
-  Auxiliary L-Band Output in 2 bands
-  Integral 1+1 & 2+1 CANBUS<sup>®</sup> redundancy control & N+1 switch systems available
-  Gain/ temperature compensated
-  Software trimming of internal 10MHz reference
-  External alarm monitoring
-  Software switched spectrum Inversion



## P7025 series – Typical Specification

### Input

|             |   |
|-------------|---|
| Frequency   | <b>P7025A</b> 10.70-12.75GHz (2 bands), 10.70-11.70GHz & 11.70-12.75GHz, switched |
|             | <b>P7025B</b> 10.95-12.75GHz (2 bands), 10.95-11.70GHz & 11.70-12.75GHz, switched |
| Connection  | N-type (f), 50Ω   |
| VSWR        | Better than 1.5:1   |
| Level Range | -20dBm absolute max<br>-30dBm 1dB GCP   |

### IF Output

|            |  |
|------------|--|
| Frequency  | 70 ±18MHz                                    |
| Option 1b; | 140 ±36MHz                                   |
| Option 1d; | Switchable between 70 ±18MHz & 140MHz ±36MHz |
| Connection | BNC (f), 50Ω                                 |
| Option 3b; | BNC (f), 75Ω                                 |
| VSWR       | Better than 1.3:1                            |
| Level      | +10dBm max.                                  |

### Transfer Characteristics

|                  |  |
|------------------|--|
| Conversion Gain  | +60dB ±1dB   |
| Attenuation      | 0 to 30dB, stepped 0.1dB                                     |
| Gain stability   | ±1dB from 0 to 50°C<br>±0.1dB per week (constant temp.)      |
| Gain flatness    | ±1.5dB across full sub-bands<br>±0.5dB across any 36MHz band |
| Synth resolution | 1Hz  |

### RF Performance

|             |   |
|-------------|---|
| Phase noise | -75dBc/Hz at 100Hz<br>-80dBc/Hz at 1kHz<br>-85dBc/Hz at 10kHz<br>-100dBc/Hz at 100kHz<br>-115dBc/Hz at 1MHz |
| Harmonics   | Better than -50dBc (at input -50dBm, gain 30dB)   |
| Spurious    | <-60dBm (in band non-carrier related)<br><-60dBc (in band carrier related)                                  |
| Group delay | Linear 0.025ns/MHz<br>Ripple 1ns p-p<br>Parabolic 0.015ns/MHz <sup>2</sup>                                  |

### Auxiliary L-band Output

|                 |                                  |
|-----------------|----------------------------------|
| Frequency       | 950 to max 2000MHz (in 2 ranges) |
| First stage LOs | 9.75 & 10.75GHz                  |
| Connector       | BNC (f), 50Ω                     |
| Output power    | +10dBc (full band)               |

### External Reference Input

|             |  |
|-------------|--|
| Frequency   | Factory selectable 5 or 10MHz                    |
| Connector   | BNC (f), 50Ω                                     |
| Level       | 0dBm ±3dB  |
| Phase Noise | To be better than 50dBc/Hz of output Phase Noise |

### Internal Reference

|            |                                   |
|------------|-----------------------------------|
| Frequency  | 10MHz                             |
| Adjustment | ±1.0ppm, software stepped 0.02ppm |

### Standard stability

|                |  |
|----------------|--|
| Stability      | <5 x 10 <sup>-10</sup> over 1s, <5 x 10 <sup>-9</sup> per 12 hrs |
| Ageing         | <5 x 10 <sup>-7</sup> per year                                   |
| Temp stability | <5 x 10 <sup>-6</sup> over 0 to 40°C                             |

### 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                           |

### Mechanical

|              |                              |
|--------------|------------------------------|
| Width        | 19", standard rack mountable |
| Height       | 1U (1.75")                   |
| Depth        | 534mm (21"), plus connectors |
| Construction | Stainless Steel chassis      |
| Weight       | Approx. 9.5kgs (21lbs)       |

### Environmental

|                |                            |
|----------------|----------------------------|
| Operating temp | -10°C to +50°C             |
| EMC            | EN55022 part B & EN50082-1 |
| Safety         | EN60950                    |

### Power supply

|           |           |
|-----------|-----------|
| Voltage   | 90-264VAC |
| Frequency | 47-63Hz   |
| Power     | 60 Watts  |

### Control System

|                |  |
|----------------|--|
| Remote Control | RS232/ 485 port  |
| Option 9;      | Ethernet; Embedded web server & SNMP network management support  |
| Redundancy     | CANBUS <sup>®</sup> interface for N+1 system   |
| Alarms         | In-built 1+1 & 2+1 controller<br>1 <sup>st</sup> & 2 <sup>nd</sup> LO lock fail<br>PSU fail<br>External alarm inputs<br>Summary failure relay (form C) |
| Output mute    | TTL input, active low  |

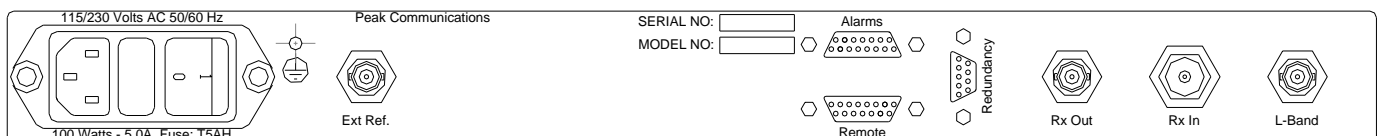
### Options

- 1a) 140MHz IF output
- 1d) IF switchable between 70MHz and 140MHz output
- 2) Front panel with custom logo and colours
- 3b) 75Ω IF output
- 4) Lightweight Aluminium chassis
- 8) High stability internal reference option
- 9) Ethernet interface with embedded web server & SNMP

Notes; Other 'P7000 series' options do not apply to these products.

The addition of Options can modify the typical specification, for details please consult the factory.

## Rear Panel View



Peak Communications reserves the right to alter the specifications of this equipment without prior notice. P7025-150811.

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