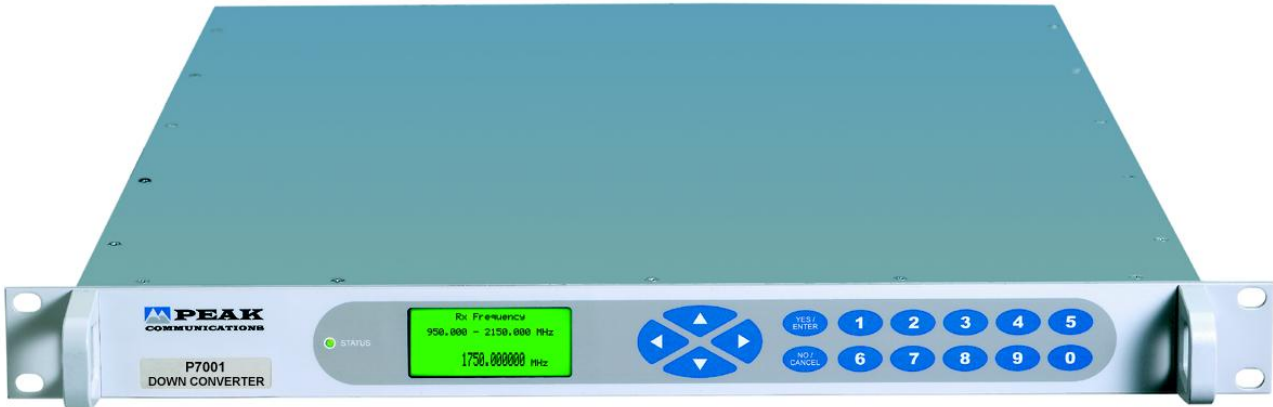


## P7001

### Fully synthesised L-band to IF DownConverter











The **P7001** is a next generation fully synthesised L-Band DownConverter which provides a low-cost solution for systems requiring an IF interface at 70MHz  $\pm$ 18MHz, 140MHz  $\pm$ 36MHz or switchable between 70 & 140MHz. The unit incorporates a graphics display module, membrane keyboard and features a clear and intuitive control and configuration menu fully utilising the unique graphics display.

For redundancy the **P7001** uses a simple CANBUS<sup>®</sup> interface and has an integral redundancy controller for 1+1 & 2+1 operation (for use with external **R1000L**, **R2000L** 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
-  Integral 1+1 & 2+1 CANBUS<sup>®</sup> redundancy control & N+1 switch systems available
-  Aux DC and 10MHz reference outputs for Block Converters
-  Software selectable spectrum inversion
-  External alarm monitoring for Block Converters
-  Software trimming of internal 10MHz reference
-  L-band input monitoring point



# P7001 – Typical Specification

## L-band Input

Frequency	950 - 1750MHz
Option 7;	950 - 2150MHz
Connection	N-type (f), 50Ω

## 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
Spectrum invert	Switchable (from front panel)

## Transfer Characteristics

Conversion gain	+30dB ±1dB
Attenuation	0 to 30dB, stepped 0.1dB
1 dB GCP	Input -10dBm, Output +15dBm
Gain stability	±0.5dB from 0 to 40°C
	±0.1dB per week (constant temp.)
Gain flatness	±1.0dB full band (±1.5dB 950 – 2150MHz option)
	±0.5dB across any 36MHz in band
Synth resolution	1Hz

## RF Performance

Phase noise	-65dBc/Hz at 10Hz
	-75dBc/Hz at 100Hz
	-80dBc/Hz at 1kHz
	-85dBc/Hz at 10kHz
	-96dBc/Hz at 100kHz
	-110dBc/Hz at 1MHz
Harmonics	Better than -50dBc (at input -50dBm, Gain 30dB)
Spurious	<-60dBm (in band non-carrier related)
	<-60dBc (in band carrier related)
Group delay	Linear 0.025ns/MHz
	Ripple 1ns p-p
	Parabolic 0.015ns/MHz <sup>2</sup>
Noise figure	20dB nominal at maximum gain

## Block DownConverter/ LNB Drive

Output reference	10MHz at 0dBm nominal
DC supply	+22.5 volts regulated at 0.5 amps
Connection	Fed on L-band cable
Control	Switchable from front panel

## L-Band Monitor

Connection	BNC (f), 50Ω
Level	-20dBc ±3dB

## 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, 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>-8</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
Option 4b;	Short chassis 400mm (15.7"), plus connectors
Construction	Stainless Steel chassis
Weight	Approx. 9kgs (20lbs)
Option 4;	Lightweight Aluminium chassis 7.5kg (15.5lb)

## 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

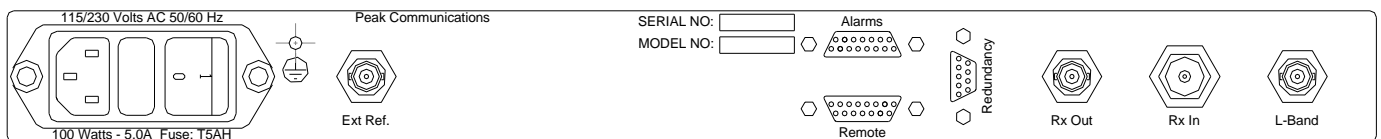
Remote Control	RS232/ 485 port
Option 9;	Ethernet; Embedded web server & SNMP network management support
Redundancy	CANBUS <sup>®</sup> interface for N+1 system
	In-built 1+1 & 2+1 controller
Alarms	LO lock fail
	PSU fail
	External alarm inputs
	Summary failure relay (form C)
Output mute	TTL input, active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

## Options

- 1b) 140MHz IF Output
- 1d) IF switchable between 70MHz and 140MHz output
- 2) Custom front panel logo and colour
- 3b) 75Ω IF Output
- 4) Lightweight Aluminium chassis
- 4b) Short chassis (Aluminium)
- 6b) L-band fibre optic input (please refer to factory)
- 7) Wide band D/C input 950 to 2150MHz
- 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. P7001-250112.

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