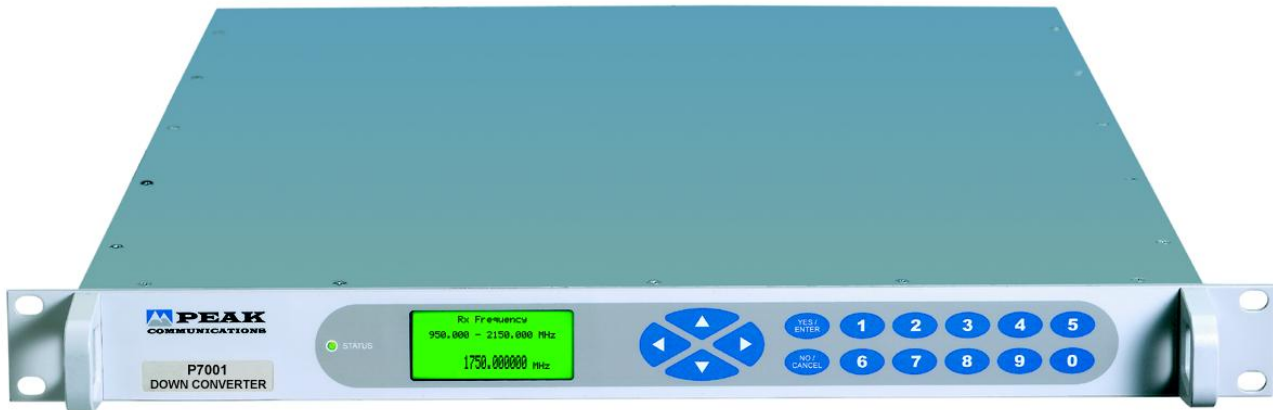


## P7001D

### Dual L-Band to IF DownConverter, Fully Synthesised











The **P7001D** is a next generation fully synthesised Dual L-Band DownConverter which provides a low-cost solution for systems requiring an IF interface at 70MHz  $\pm$ 18MHz or 140MHz  $\pm$ 36MHz. 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 **P7001D** uses a simple CANBUS<sup>®</sup> interface and has an integral redundancy controller for 1+1 & 2+1 operation. For channel to channel 1+1 switching see external **R1000L** switch unit, for complete chassis 1+1 or 2+1 switching see external **R1000LD**, **R2000LD** switch units, or for N+1 chassis switching systems a separate external control and switch unit is provided (**RCU1000D 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.

Each DownConverter can be configured individually for parameters such as frequency, gain etc., as shown in the specification.

### 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 points



# P7001D – Typical Specification

## L-band Inputs

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

## IF Outputs

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 (front panel control)
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)
	±0.5 dB 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 Drives

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

## L-Band Monitor

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

## External Reference Input

Frequency	Factory selectable 5 or 10MHz
Connection	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>-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 9.5kgs (21lbs)
	Option 4; Lightweight Aluminium chassis 7.5kg (15.5lb)

## Environmental

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

## Power supply

Voltage	90-264VAC
Frequency	47-63Hz
Power	100 Watts

## Control System

Remote Control	RS232/ 485 port
	Option 9; Ethernet; Embedded web server & SNMP network management support
Redundancy	CANBUS® 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

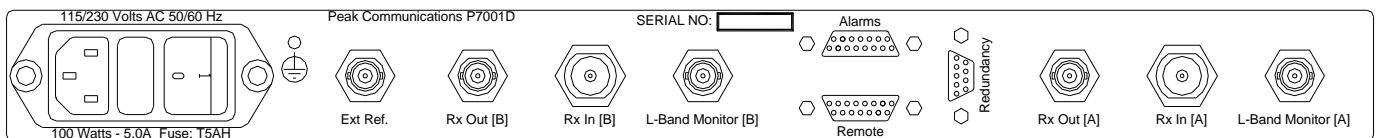
## Options

- 1b) 140MHz IF Outputs
- 1d) IF switchable between 70MHz and 140MHz output
- 2) Custom front panel logo and colour
- 3b) 75Ω IF Outputs
- 4) Lightweight Aluminium chassis
- 4b) Short chassis (Aluminium)
- 7) Wide band D/C input 950 – 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. P7001D-250112.

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