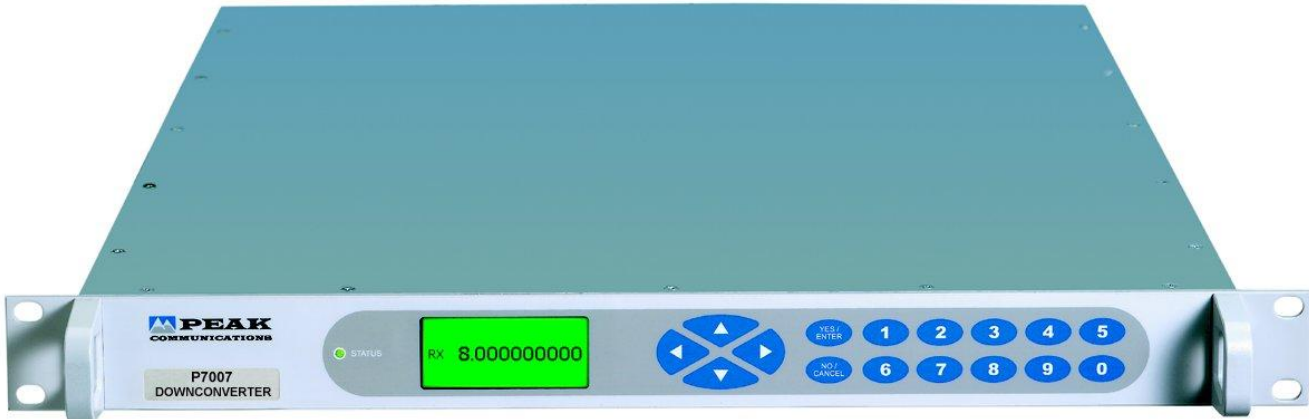


P7007

Fully Synthesised X-Band to IF DownConverter










The **P7007** is a next generation fully synthesised X-Band DownConverter which provides a low-cost solution for systems requiring an IF interface at $70\text{MHz} \pm 18\text{MHz}$ or $140\text{MHz} \pm 36\text{MHz}$. 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 **P7007** uses a simple CANBUS[®] interface and has 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
-  Integral 1+1 & 2+1 CANBUS[®] redundancy control & N+1 switch systems available
-  Gain/Temperature compensated
-  Software trimming of internal 10MHz reference
-  External alarm monitoring



P7007 – Typical Specification

Input

Frequency	7.25-7.75GHz
Connection	50Ω, N-type (f)
VSWR	Better than 1.3:1
Level Range	-20dBm absolute max -30dBm 1dB GCP

IF Output

Frequency	70 ±18MHz
Option 1b;	140 ±36MHz
Option 1d;	Switchable between 70 ±18MHz & 140MHz ±36MHz
Connection	50Ω, BNC (f)
Option 3b;	75Ω, BNC (f)
VSWR	Better than 1.3:1
1dB GCP	+15dBm

Transfer Characteristics

Conversion Gain	+40dB
Attenuation	0 to 30dB, stepped 0.1dB
Gain stability	±1dB from 0 to 40°C ±0.1dB per week (constant temp.)
Gain flatness	±0.5dB across any 36MHz band
Synth resolution	1Hz

RF Performance

Phase noise	-73dBc/Hz at 100Hz -76dBc/Hz at 1kHz -85dBc/Hz at 10kHz -93dBc/Hz at 100kHz -110dBc/Hz at 1MHz
Harmonics	Better than -50dBc (at input -50dBm, gain 30dB)
Spurious	-55dBc/4kHz
Group delay	Linear 0.025ns Ripple 1ns p-p Parabolic 0.015ns/MHz ²

Auxiliary L-band Output

Frequency	950-1450MHz
Connector	50Ω, BNC (f)
Level	-10dBc ±3dB

External Reference Input

Frequency	Factory selectable 5 or 10MHz
Connector	50Ω, BNC (f)
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 ⁻¹⁰ over 1s, <5 x 10 ⁻⁹ per 12 hrs
Ageing	<5 x 10 ⁻⁷ per year
Temp stability	<5 x 10 ⁻⁸ over 0 to 40°C

High stability (Option 8)

Stability	<2 x 10 ⁻¹² over 1s, <2 x 10 ⁻¹⁰ per day
Ageing	<2 x 10 ⁻⁸ per year
Temp stability	<2 x 10 ⁻⁹ over 0 to 50°C

Mechanical

Width	19", standard rack mount
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 & 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® interface for N+1 system, In-built 1+1 & 2+1 controller
Alarms	1 st & 2 nd LO lock fail PSU fail External alarm inputs Summary failure relay (form C)
Output mute	TTL input, active low

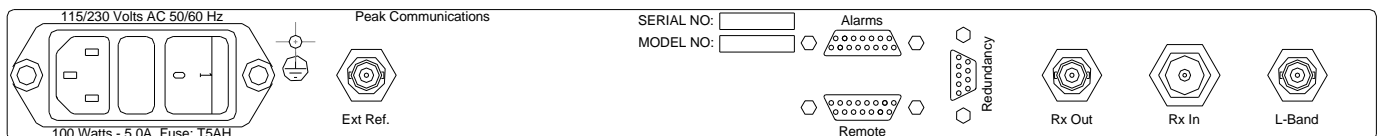
Options

- 1b) 140MHz IF output
- 1d) IF switchable between 70MHz and 140MHz output
- 2) Front panel with custom logo and colours
- 3b) 75Ω IF output
- 4) Lightweight Aluminium chassis
- 4b) Short chassis (Aluminium)
- 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. P7007-250112.

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