

P7002R

Fully synthesised, Remote Mounted IF to L-band UpConverter











The **P7002R** is a remote mounted version of the popular Peak P7002 fully synthesised L-Band UpConverter which provides a low-cost solution for systems requiring an IF interface at $70\text{MHz} \pm 18\text{MHz}$ or $140\text{MHz} \pm 36\text{MHz}$.

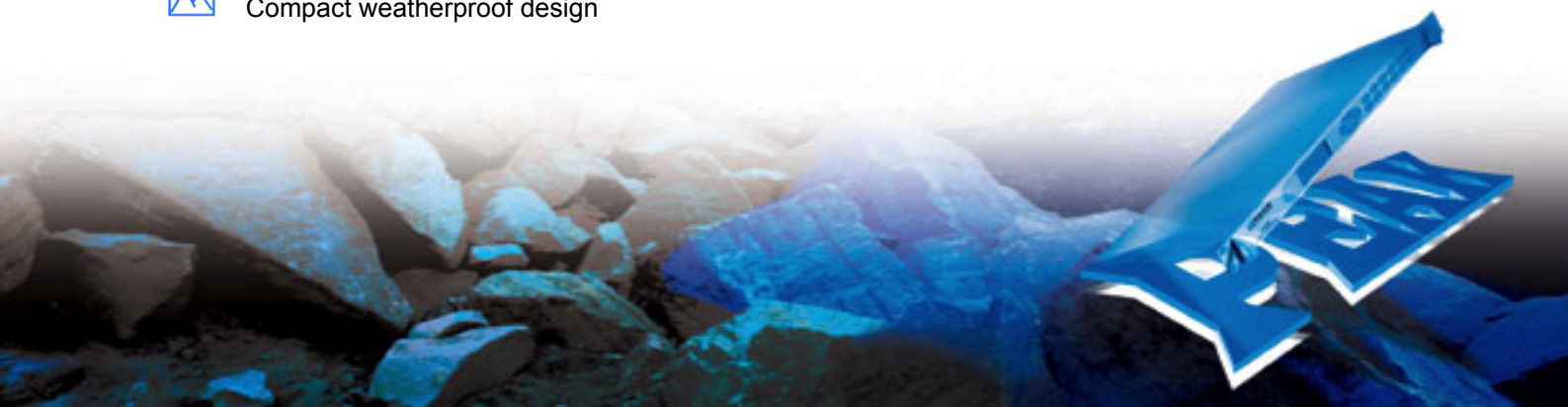
For control, the unit incorporates a serial communications interface as standard and an optional Ethernet interface that supports control from a web-page or SNMP network management system. The **FPC100** is also offered which is a standard 19" rack mount control unit that can interface with up to three **P7002R** units plus the 1+1 or 2+1 redundancy systems.

For redundancy, the **P7002R** uses a simple CANBUS® interface and integral redundancy controller for 1+1 & 2+1 operation (external **T1000LR**, **T2000LR** switch units are available).

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 are 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® redundancy control & external switch units available
-  Aux DC and 10MHz reference outputs for Block Converters
-  Full remote control including optional Ethernet with embedded web server and SNMP NMS
-  External alarm monitoring for Block Converters
-  Software trimming of internal 10MHz reference
-  Compact weatherproof design



P7002R – Typical Specification

IF Input

Frequency	70 ±18MHz (option 1a; 140 ±36MHz)
Connection	50Ω, N-Type

L-band Output

Frequency	950 -1525MHz (option 5; 950-1700MHz)
Connection	50Ω, N-type

Transfer Characteristics

Conversion gain	+20dB ±1dB
Attenuation	0 to 30dB, stepped 0.1dB
1 dB GCP	Input -10dBm, Output +10dBm
Gain stability	±0.5dB from 0 to 40°C, ±0.1dB per week (constant temp.)
Gain flatness	±1dB full band ±0.5dB across any 36MHz in band
Synth. Resolution	1Hz

RF Performance

Phase noise	-68dBc/Hz at 10Hz -80dBc/Hz at 100Hz -84dBc/Hz at 1kHz -86dBc/Hz at 10kHz -99dBc/Hz at 100kHz -110dBc/Hz at 1MHz
Harmonics Spurious	Better than -50dBc <-65dBm (in band, non-carrier related) <-60dBm with option 5 (in band, non-carrier related) <-60dBc (in band, carrier related)
Group delay	Linear 0.025ns/MHz Ripple 1ns p-p Parabolic 0.015ns/MHz ²
Noise figure	20 to 25dB typical at maximum gain

Block UpConverter Drive

Output reference	10MHz at 0dBm nominal
DC supply	+22.5 volts regulated at 0.5 amps
Connection	Fed to BUC on L-band cable
Control	Switchable on/off

External Reference Input

Frequency	Factory selectable 5 or 10MHz
Connection	50Ω, TNC
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 ⁻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

Dimensions	290 x 230 x 95mm (11.4 x 9.1 x 3.7inch)
Construction	Diecast Aluminium, Weatherproof
Weight	Approx. 4kgs (9lbs)

Environmental

Operating temp.	-10°C to +50°C (less Solar gain)
EMC	EN55022 part B & EN50082-1
Safety	EN60950

Power supply

Voltage	36VDC
Power	35 Watts max.
Connection	5-pin circular weatherproof (mating part supplied)

Control System

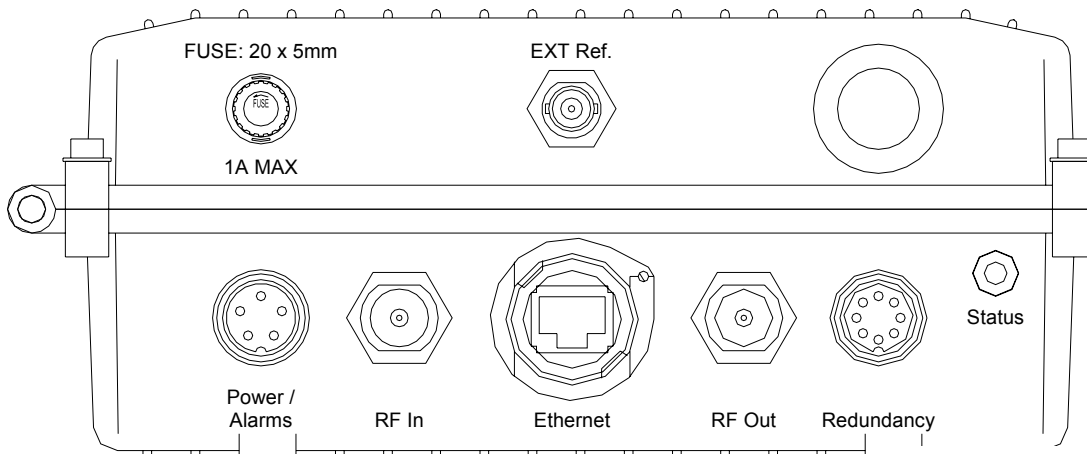
Remote Control	RS232/ 485 port Ethernet option; Embedded web server & SNMP network management support (option 9).
Redundancy	CANBUS [®] interface & in-built 1+1 & 2+1 controller
Alarms	Summary failure relay (form C)

Options

- 1a) 140MHz IF Input
- 5) Wide band U/C input 950 to 1700MHz
- 8) High stability internal reference option
- 9) Ethernet interface with embedded web server & SNMP
- FPC100** Rack mount control Panel (1RU)
- T1000LR** Remote mounted 1+1 Redundancy switch unit
- T2000LR** Remote mounted 2+1 Redundancy switch unit

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.

Connector Panel View



Peak Communications reserves the right to alter the specifications of this equipment without prior notice. P7002R-310810.

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