

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 $140\text{MHz} \pm 36\text{MHz}$.

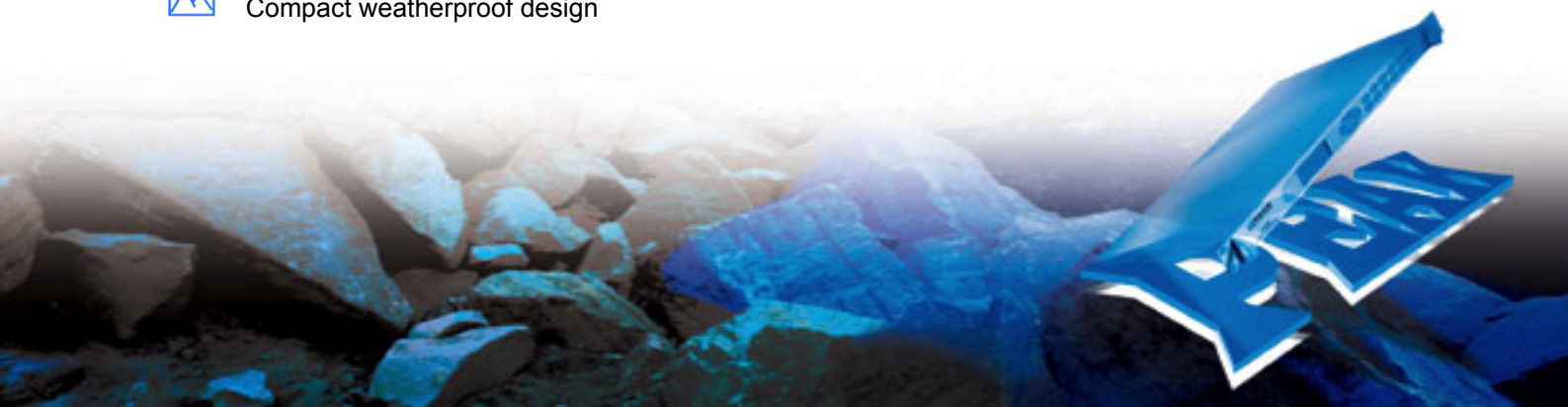
For control, the unit incorporates a serial communications interface as standard and an optional Ethernet interface that supports control from a web-page or SNMP network management system. The **FPC100** is also offered which is a standard 19" rack mount control unit that can interface with up to three **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, option 5a; 950-1750MHz)
 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 (±1.5dB for wideband options)
 ±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 Better than -50dBc
 Spurious <-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/MHz²
 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, IP66 rated
 Weight Approx. 4kgs (9lbs)

Environmental

Operating temp. -10°C to +50°C (less Solar gain)
 EMC EN55022 part B & EN55082-1
 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 output 950 to 1700MHz
- 5a) Wide band output 950 to 1750MHz
- 8) High stability internal reference option
- 9) Ethernet interface with embedded web server & SNMP

FPC100 Rack mount control Panel (1RU)

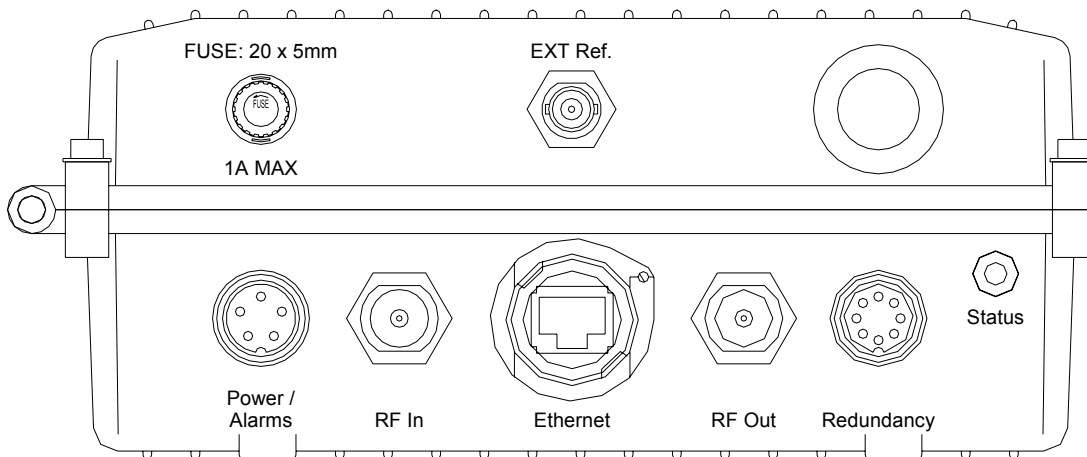
T1000LR Remote mounted 1+1 Redundancy switch unit

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-210211.

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