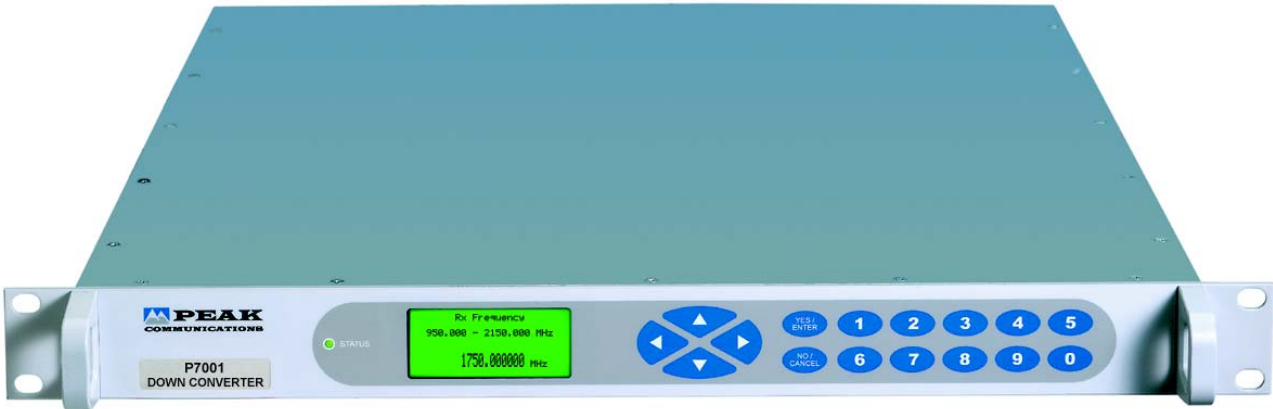


P7001Q

Quad L-Band to IF DownConverter, Fully Synthesised








The **P7001Q** is a next generation, fully synthesised, Quad, L-Band DownConverter which provides a low-cost solution for systems requiring an IF interface at $70 \pm 18\text{MHz}$ or $140 \pm 36\text{MHz}$. 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 **P7001Q** uses a simple CANBUS® interface and has an integral redundancy controller for 1+1 & 2+1 operation. For channel to channel 1+1, 2+1 or 3+1 switching see external **R1000L**, **R2000L** and **R3000L** switch units, for complete chassis 1+1 or 2+1 switching see external **R1000LQ**, **R2000LQ** switch units, or for N+1 chassis switching systems a separate external control and switch unit is provided (**RCU1000Q 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
-  Aux DC and 10MHz reference outputs for Block Converters
-  Software selectable spectrum inversion
-  Software trimming of internal 10MHz reference



P7001Q – Typical Specification

L-band Inputs

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

IF Outputs

Frequency 70 ±18MHz (option 1b; 140 ±36MHz)
 Connection 50Ω, BNC (option 3b; 75Ω)
 Spectrum invert Switchable (from front panel)

Transfer Characteristics

Conversion gain +30dB ±1dB
 Attenuation 0 to 30dB, stepped 0.5dB (front panel control)
 1dB GCP Input -10dBm, Output +10dBm nominal
 Gain stability ±0.5dB from 0 to 40°C
 ±0.1dB per week (constant temp.)
 Gain flatness ±1.0dB full band (±1.5dB for 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/MHz²
 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

External Reference Input

Frequency Factory selectable 5 or 10MHz
 Connection 50Ω, BNC
 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 12hrs
 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
 Construction Stainless Steel chassis
 Weight Approx 10kgs (22lbs)

Environmental

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

Power supply

Voltage 85-132/170-265VAC, auto-select
 Frequency 50/60Hz
 Power 100 Watts

Control System

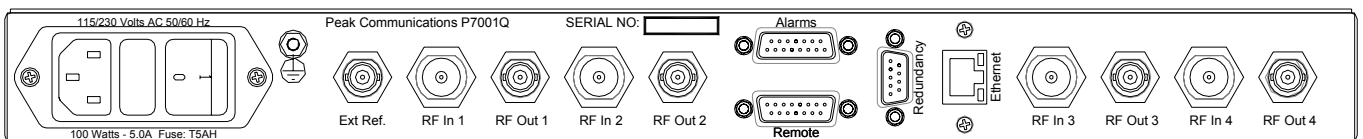
Remote Control RS232/ 485 port
 Ethernet option; Embedded web server & SNMP network management support (option 9).
 Redundancy In-built 1+1 & 2+1 controller
 CANBUS® interface for N+1 systems.
 Alarms Please consult factory for redundancy options.
 LO lock fail
 PSU fail
 External alarm inputs
 Summary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

Options

- 1b) 140MHz IF Outputs
- 2) Custom front panel logo and colour
- 3b) 75Ω IF Outputs
- 4) Lightweight Aluminium chassis
- 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. P7001Q-191010.

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