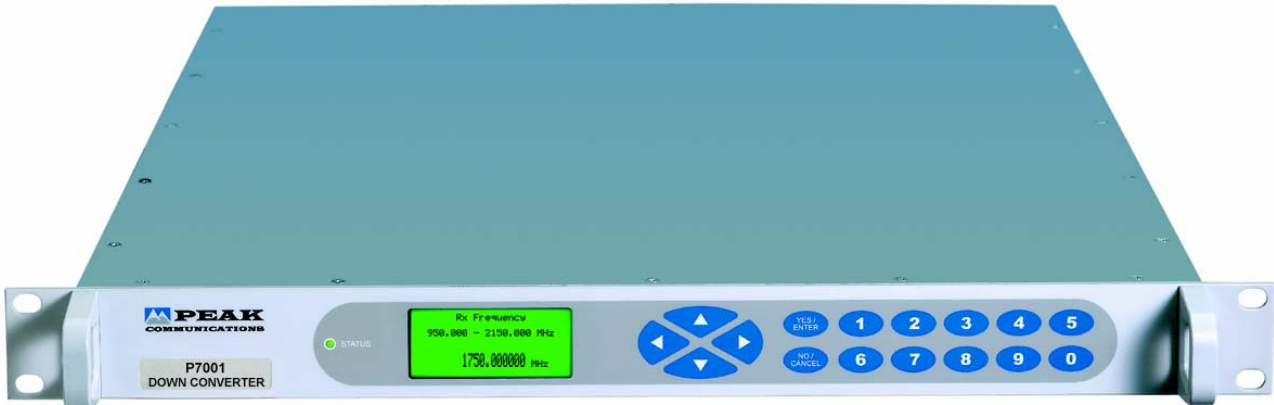


P7001Q

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 $70\text{MHz} \pm 18\text{MHz}$ 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. The **P7001Q** has an integral redundancy controller for 1:1 & 1:2 operation, and a CANBUS® interface for 1:N systems.

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 IESS 308 / 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 / IESS 309 requirements
-  Used for 8PSK and 16QAM modulations in excess of 50Mbits/sec
-  CANBUS® for 1:N systems (see RCU1000 series data sheet)
-  Aux DC and 10MHz reference outputs for Block Converters
-  Software selectable spectrum inversion
-  Software trimming of internal 10MHz reference



P7001Q 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)
 1 dB GCP Input -10dBm, Output +15dBm
 Gain stability ± 0.5 dB from 0 to 40°C,
 ± 0.1 dB 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 1 Hz

RF Performance

Phase noise -65dBc/Hz at 10Hz
 -75dBc/Hz at 100 Hz
 -80dBc/Hz at 1 kHz
 -85dBc/Hz at 10 kHz
 -96dBc/Hz at 100 kHz
 -110dBc/Hz at 1 MHz
 Harmonics Better than -50dBc
 Spurious <-60 dBm (in band, non-carrier related)
 <-60 dBc (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 10 MHz
 Adjustment ±1.0ppm, software stepped 0.02ppm

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
 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

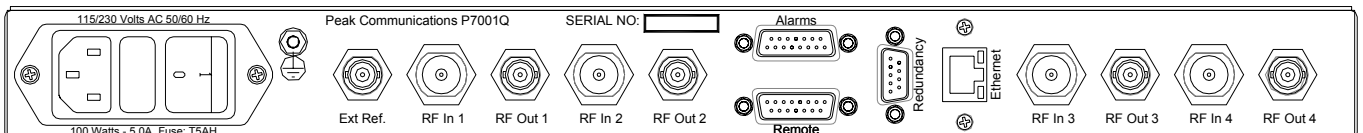
Remote Control RS232/ RS485 port
 Ethernet (option 9, replaces RS232/ 485 port)
 Redundancy In-built 1:1 & 1:2 controller
 CANBUS® interface for 1:n systems
 Alarms LO lock fail
 PSU fail
 External alarm inputs
 Summary failure relay (form C)
 Output mute TTL input, active low

Options

- 1b) 140MHz IF Outputs
- 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, replaces RS232/485 port

Other P7000 series options do not apply to this product

Rear Panel View



Peak Communications reserves the right to alter the specifications of this equipment without prior notice. P7001Q-110707.

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