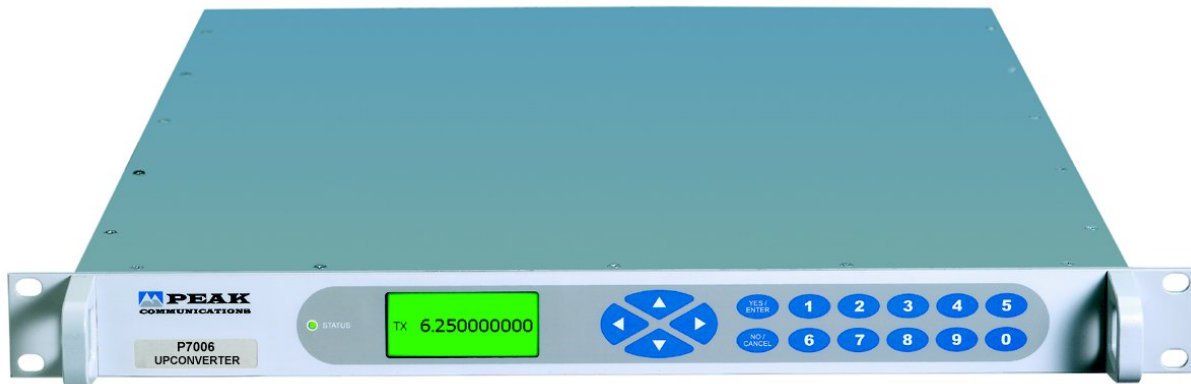


## P7600 Series

### Fully Synthesised IF to Multi-Band UpConverters



**P7613** IF 70MHz (or 140MHz) to Dual-Band, Extended C and wide Ku-Band.








The **P7600 series** are next generation fully synthesised multi-Band UpConverters which provide low-cost solutions for systems requiring an IF interface at 70MHz  $\pm$ 18MHz or 140MHz  $\pm$ 36MHz. The units incorporate a graphics display module, membrane keyboard and feature a clear and intuitive control and configuration menu fully utilising the unique graphics display.

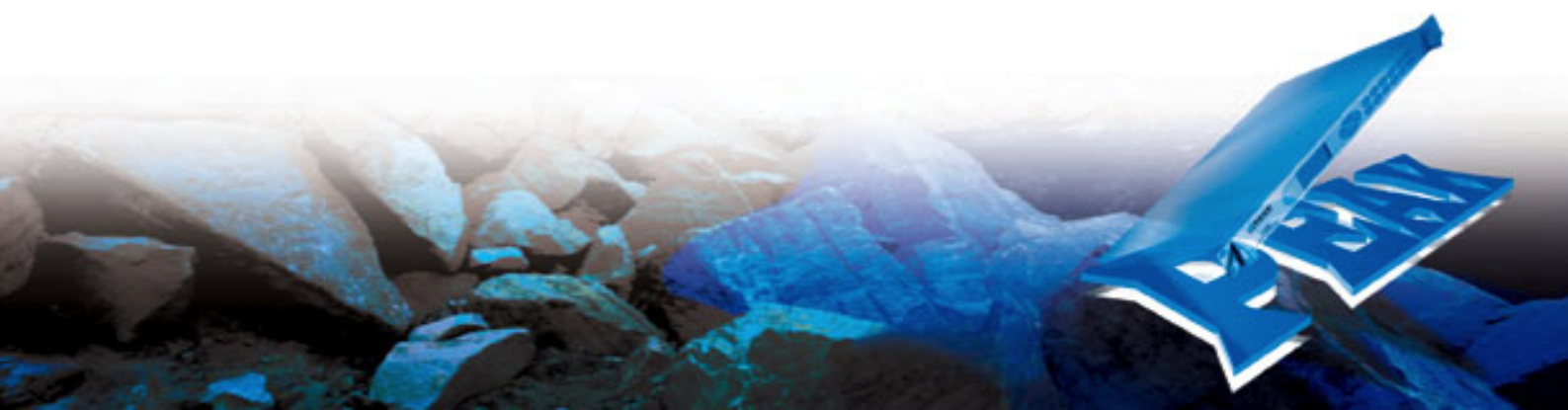
These Multi-range converters are offered with internal range switching and a single input and output connection. Range selection is performed via the front panel user interface or via remote control.

For redundancy the **P7600 series** use a simple CANBUS<sup>®</sup> interface and have an integral redundancy controller for 1+1 & 2+1 operation (for use with external **T1000H**, **T2000H** 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 100Mbps/sec
-  Auxiliary L-Band Input
-  Integral 1+1 & 2+1 CANBUS<sup>®</sup> redundancy control & N+1 switch systems available
-  Gain/Temperature compensated
-  Software trimming of internal 10MHz reference
-  External alarm monitoring



# P7600 series – Typical Specification

## IF Input

Frequency	70 ±18MHz (option 1a; 140 ±36MHz)
Connection	50Ω, BNC (option 3a; 75Ω)
VSWR	Better than 1.3:1

## Output

Frequency	Extended C-band 5.85-6.65GHz & wide Ku-Band 13.75-14.5GHz.
<b>P7613</b>	
Connection	50Ω, N-type
VSWR	Better than 1.3:1

## Transfer Characteristics

Conversion Gain	+30dB
Attenuation	0 to 30dB, stepped 0.1dB
1 dB comp. point	Input 0dBm, Output +8dBm
Gain stability	±0.5dB from 0 to 40°C ±0.1dB per week (constant temp.)
Gain flatness	±1.5dB across full sub-bands ±0.5dB across any 36MHz in band
Synth. Resolution	1Hz

## RF Performance

Phase noise	-71dBc/Hz at 100Hz -76dBc/Hz at 1KHz -82dBc/Hz at 10KHz -90dBc/Hz at 100KHz -110dBc/Hz at 1MHz
Harmonics	Better than -50dBc
Spurious	<-55dBm (in band, non-carrier related) <-55dBc (in band, carrier related)
Group delay	Linear 0.025ns/MHz Ripple 1ns p-p Parabolic 0.015ns/MHz <sup>2</sup>

## Auxiliary L-band Input (Option 13; L-Band Output)

Frequency	950-1750MHz
Connector	50Ω, BNC

## External Reference Input

Frequency	Factory selectable 5 or 10MHz
Connector	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 <sup>-10</sup> over 1s, <5 x 10 <sup>-9</sup> per 12 hrs
Ageing	<5 x 10 <sup>-7</sup> per year
Temp. stability	<5 x 10 <sup>-8</sup> over 0 to 40°C

## High stability (Option 8)

Stability	<2 x 10 <sup>-12</sup> over 1s, <2 x 10 <sup>-10</sup> per day
Ageing	<2 x 10 <sup>-8</sup> per year
Temp. stability	<2 x 10 <sup>-9</sup> 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. 10.5kgs (23lbs)

## Environmental

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

## Power supply

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

## Control System

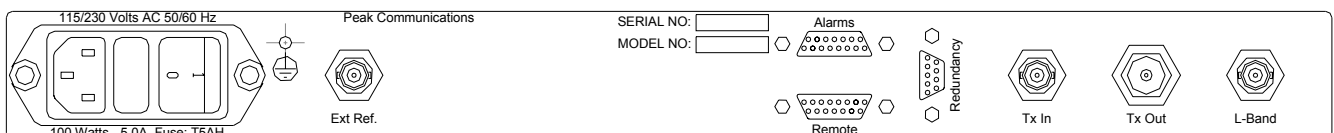
Remote Control	RS232/ 485 port Ethernet option; Embedded web server & SNMP network management support (option 9).
Redundancy	CANBUS <sup>®</sup> interface for N+1 systems In-built 1+1 & 2+1 controller
Alarms	1 <sup>st</sup> & 2 <sup>nd</sup> LO lock fail PSU fail External alarm inputs Summary failure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

## Options

- 1a) 140MHz IF input
- 2) Front panel with custom logo and colours
- 3a) 75Ω IF input
- 4) Lightweight Aluminium chassis
- 8) High stability internal reference option
- 9) Ethernet interface with embedded web server & SNMP
- 13) L-Band Auxiliary output instead of standard L-Band Input

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. P7600series-210211.

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