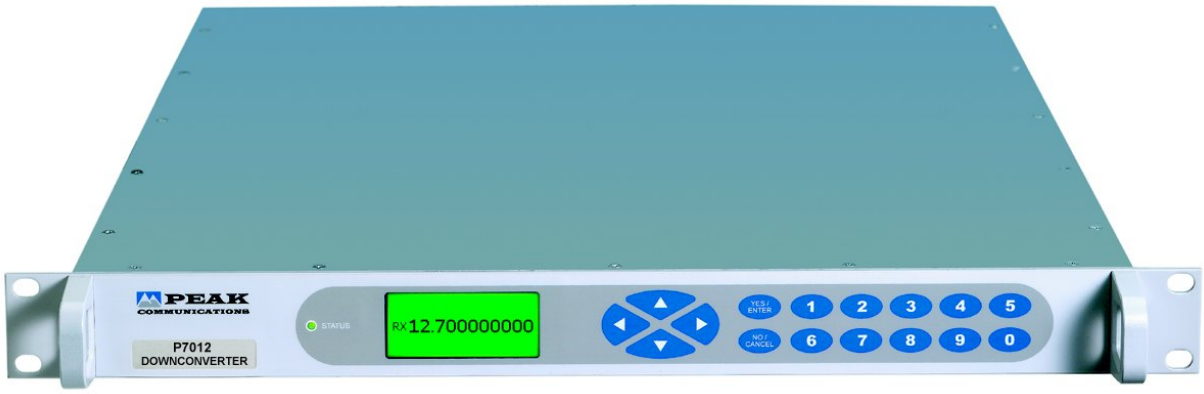
P7010/11/12

Fully Synthesised Ku-Band to IF DownConverters



The **P7010, P7011 & P7012** are next generation fully synthesised Ku-Band DownConverters which provide a low-cost solution for systems requiring an IF interface at 70 MHz ± 18 MHz or 140MHz ± 36 MHz. 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. The **P7010, P7011 & P7012** have 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.

Peak Features

- Compliant with IESS 308 / IESS 309 requirements
- Used for 8PSK and 16QAM modulations in excess of 50Mbits/sec
- Auxiliary L-Band Output
- 1:1 & 1:2 inbuilt redundancy control (see R1000 and R2000 series data sheets)
- CANBUS® for 1:N systems (see RCU1000 series data)
- Gain/Temperature compensated
- Software trimming of internal 10MHz reference
- External alarm monitoring
- Software switched spectrum Inversion

P7010/11/12 Specification

Input

Frequency	
P7010	10.95-11.70GHz
P7011	11.70-12.25GHz
P7012	12.25-12.75GHz
Connection	50Ω N-type
VSWR	Better than 1.5:1
GCP	-40dBm

IF Output

Frequency	70 ± 18 MHz (option 1b; 140 ± 36MHz)
Connection	50Ω BNC (option 3b; 75Ω)
VSWR	Better than 1.3:1
Level	+10dBm max.

Transfer Characteristics

Conversion Gain	+60dB ±1dB
Attenuation	0 to 30dB, stepped 0.1dB
Gain stability	± 1 dB from 0 to 50^{0}C ± 0.1 dB per week (constant temp.)
Gain flatness	± 0.5 dB across any 36MHz band
Synth. Resolution	1 Hz

RF Performance

Phase noise	-73dBc/Hz at 100 Hz -76dBc/Hz at 1 kHz -85dBc/Hz at 10 kHz -93dBc/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/MHz^2

Auxiliary L-band Output

Frequency	
P7010	950-1700MHz
P7011	950-1500MHz
P7012	950-1450MHz
Connector	50Ω BNC
Output power	+10dBc (full band)

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	10 MHz
Adjustment	±1.0ppm, software 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^{0}C
High stability option 8	
Stability	<5 x 10^{-11} over 1s, <5 x 10^{-10} per 12 hrs
Ageing	<1 x 10^{-7} per year
Temp. stability	<5 x 10^{-9} over 0 to 40^{0}C

Mechanical

Width	19”, standard rack mount
Height	1U (1.75”)
Depth	534mm (21”), plus connectors
Construction	Stainless Steel chassis
Weight	Approx. 9.5kgs (21lbs)

Environmental

Operating temp.	-10^{0}C to +50^{0}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

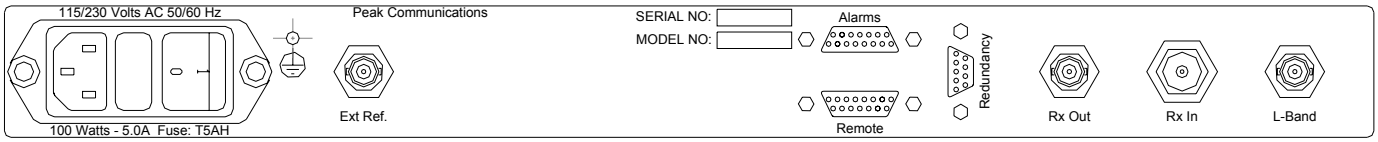
Remote Control	RS 232/ RS 485 port Ethernet (option 9, replaces RS232/485 port)
Redundancy	In-built 1:1 & 1:2 controller CANBUS® interface for 1:N systems
Alarms	1st & 2nd LO lock fail PSU fail External alarm inputs Summary failure relay (form C)
Output mute	TTL input, active low

Options

1b)	140MHz IF output
2)	Front panel with custom logo and colours
3b)	75Ω IF output
4)	Lightweight Aluminium chassis
8)	High stability internal reference option
9)	Ethernet interface, replaces RS232/485 port

Other P7000 series options do not apply to these products

Rear Panel View



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