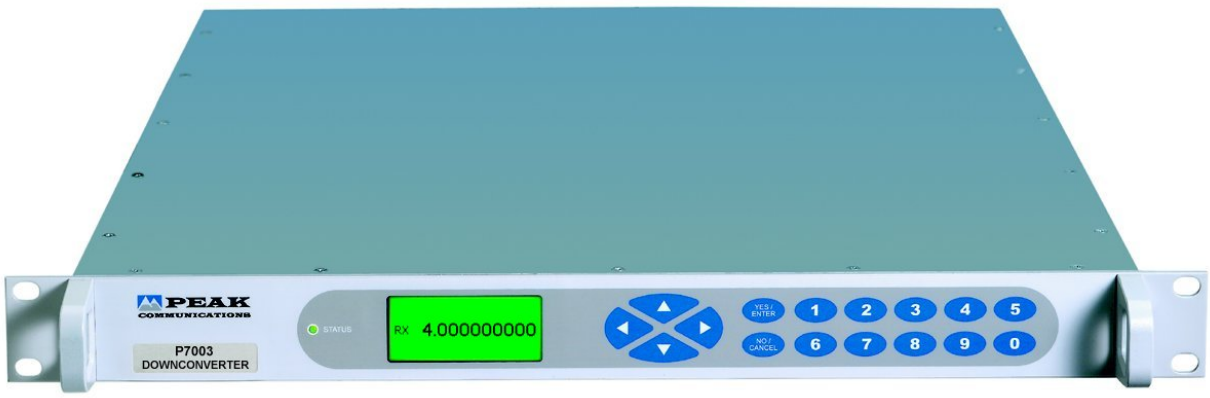
P7003 series

Fully Synthesised C-Band to IF DownConverters



The **P7003 series** are next generation fully synthesised C-Band DownConverters which provides low-cost solutions for systems requiring an IF interface at 70MHz ±18MHz or 140MHz ±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.

For redundancy the **P7003** uses a simple CANBUS® interface and has an integral redundancy controller for 1+1 & 2+1 operation (for use with external **R1000H**, **R2000H** 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 100Mbits/sec
- Auxiliary L-Band Output
- Integral 1+1 & 2+1 CANBUS® redundancy control & N+1 switch systems available
- Gain/Temperature compensated
- Software trimming of internal 10MHz reference
- External alarm monitoring
- Software switched spectrum Inversion

P7003 series – Typical Specification

Input

Frequency	
P7003A	3.40-4.20GHz
P7003B	4.50-4.80GHz
Connection	50Ω, N-type
VSWR	Better than 1.5:1
Level Range	-20dBm absolute max. -25dBm 1dB GCP

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	+50dB ±1.5dB
Attenuation	0 to 30dB, stepped 0.1dB
Gain stability	±1dB from 0 to 40^{0}C ±0.1dB per week (constant temp.)
Gain flatness	±0.5dB across any 36MHz band
Synth. Resolution	1Hz

RF Performance

Phase noise	-73dBc/Hz at 100Hz -76dBc/Hz at 1kHz -85dBc/Hz at 10kHz -93dBc/Hz at 100kHz -110dBc/Hz at 1MHz
Harmonics	Better than -50dBc
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/MHz^2

Auxiliary L-band Output

Frequency	950-1750MHz inverted spectrum
Connector	50Ω, BNC
Output power	0dBc (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	10MHz
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	<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^{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

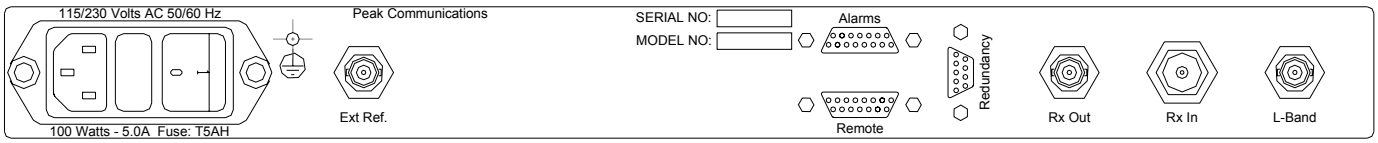
Remote Control	RS232/ 485 port Ethernet option; Embedded web server & SNMP network management support (option 9).
Redundancy	CANBUS® interface for N+1 systems In-built 1+1 & 2+1 controller
Alarms	1st & 2nd LO lock fail PSU fail External alarm inputs Summary failure relay (form C)
Output mute	TTL input, 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 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. P7003-310810.
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