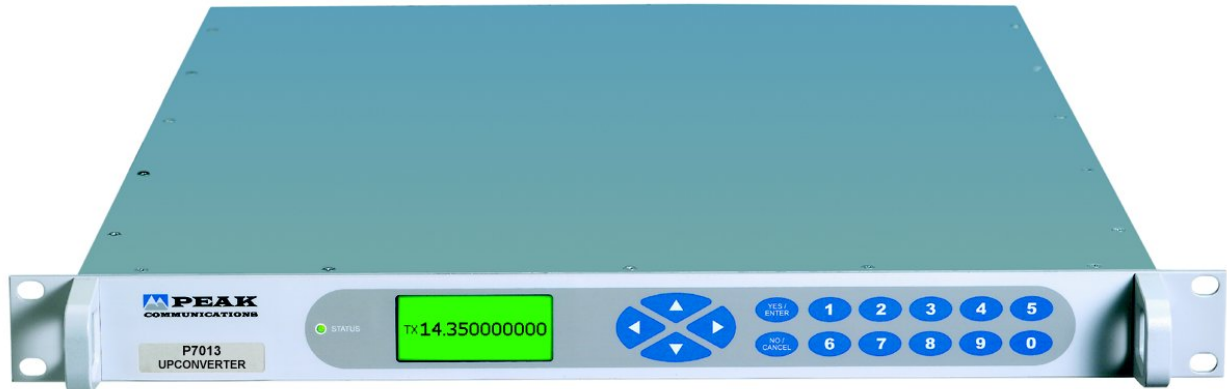


P7013 Series

Fully Synthesised IF to Ku-Band UpConverter










The **P7013 series** are next generation fully synthesised Ku-Band UpConverters which provide 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 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 **P7013 series** use a simple CANBUS® 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 100Mbits/sec
-  Auxiliary L-Band Input
-  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



P7013 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	
P7127A	12.75-13.5GHz
P7127B	12.75-13.5GHz & 13.75-14.5GHz
P7130A	13.0-13.75GHz
P7130B	13.0-14.5GHz (2 bands), 13.0-13.75, 13.75-14.5GHz
P7013	13.75-14.5GHz
P7014	14.0-14.5GHz
Connection	50Ω, N-type
VSWR	Better than 1.3:1

Transfer Characteristics

Conversion Gain	+30dB ±1dB
Attenuation	0 to 30dB, stepped 0.1dB
1 dB comp. point	Input -10dBm, Output +8dBm
Gain stability	±0.5dB from 0 to 40°C
	±0.1dB per week (constant temp.)
Gain flatness	±1dB full band
	±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 ²

Auxiliary L-band Input

Frequency	950-1700MHz
Connector	50Ω, BNC
Max Power Input	-5dBm

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°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. 9.5kgs (21lbs)

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

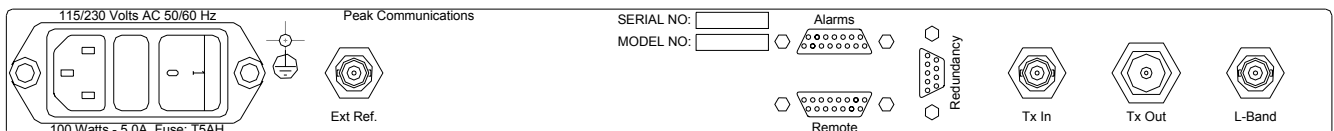
Remote Control	RS232/ 485 port Ethernet option; Embedded web server & SNMP network management support (option 9).
Redundancy	CANBUS [®] interface for N+1 systems In-built 1+1 & 2+1 controller
Alarms	1 st & 2 nd LO lock fail PSU fail External alarm inputs Summary failure relay (form C)
Output mute	TTL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

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. P7013series-310810.
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