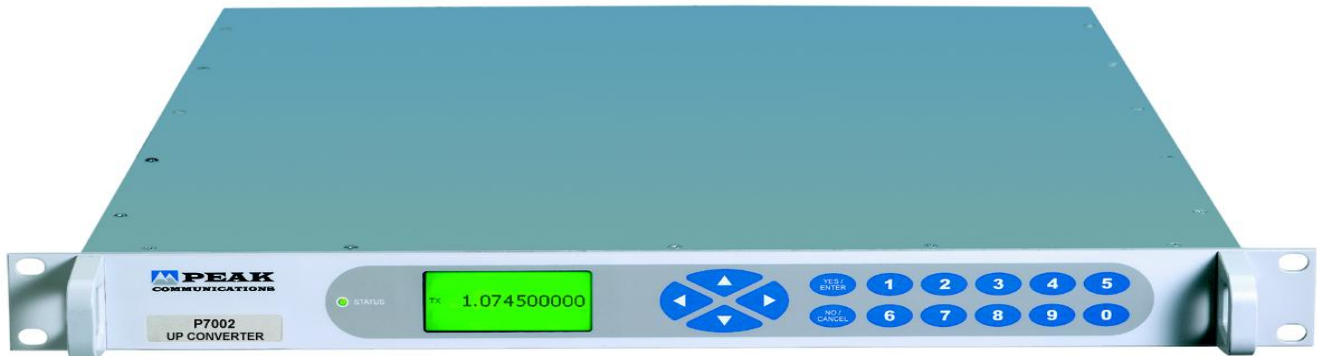


P7022 Series

Fully Synthesised IF to S-Band UpConverters



High Grade UpConverter Products;





P7022A	2025 - 2120MHz
P7022B	2200 - 2400MHz
P7022C	2000 - 2400MHz

The **P7022 series** are next generation fully synthesised S-Band UpConverters which provide a low-cost solution for systems requiring an IF interface at 70 MHz \pm 18MHz or 140MHz \pm 36MHz. The units incorporate a graphics display module, membrane keypad and feature a clear and intuitive control and configuration menu, fully utilising the unique graphics display.

For redundancy the **P7022 series** utilise a simple CANBUS[®] interface and have an integral redundancy controller for 1+1 & 2+1 operation (for use with external **T1000L**, **T2000L** 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 are compliant with IESS308/ 309. The products are 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
-  Integral 1+1 & 2+1 CANBUS[®] redundancy control & N+1 switch systems available
-  Software trimming of internal 10MHz reference



P7022 series – Typical Specification

IF Input

Frequency	70 ±18MHz
Option 1a;	140 ±36MHz
Connection	BNC (f), 50Ω
Option 3a;	BNC (f), 75Ω

S-band Output

Frequency	
P7022A	2025 - 2120MHz
P7022B	2200 - 2400MHz
P7022C	2000 - 2400MHz
Connection	N-type (f), 50Ω

Transfer Characteristics

Conversion gain	+20dB ±1dB
Attenuation	0 to 30dB, stepped 0.1dB
1 dB GCP	Input -10dBm, Output +10dBm
Gain stability	±0.5dB from 0 to 40°C, ±0.1dB per week (constant temp)
Gain flatness	±1.0dB full band ±0.5dB across any 36MHz in band
Synth resolution	1Hz

RF Performance

Phase noise	-60dBc/Hz at 10Hz -70dBc/Hz at 100Hz -75dBc/Hz at 1KHz -80dBc/Hz at 10KHz -90dBc/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
Noise figure	15dB nominal at maximum gain

S-Band Monitor (Option 11b)

Connection	BNC (f), 50Ω
Level	-20dBc ±3dB

External Reference Input

Frequency	Factory selectable 5 or 10MHz
Connection	BNC (f), 50Ω
Level	0dBm ±3dB
Phase Noise	To be better than 50dBc/Hz of output Phase Noise

Internal Reference

Frequency	10MHz
Adjustment	±1.0ppm, 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 mountable
Height	1U (1.75")
Depth	534mm (21"), plus connectors
Construction	Stainless Steel chassis
Weight	Approx. 9kgs (20lbs)

Environmental

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

Power supply

Voltage	90-264VAC
Frequency	47-63Hz
Power	60 Watts

Control System

Remote Control	RS232/ 485 port Option 9; Ethernet; Embedded web server & SNMP network management support
Redundancy	CANBUS® interface for N+1 system In-built 1+1 & 2+1 controller
Alarms	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) Custom front panel logo and colour
- 3a) 75Ω IF input
- 4) Lightweight Aluminium chassis
- 8) High stability internal reference option
- 9) Ethernet interface with embedded web server & SNMP
- 11b) S-Band monitor for UpConverter

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

