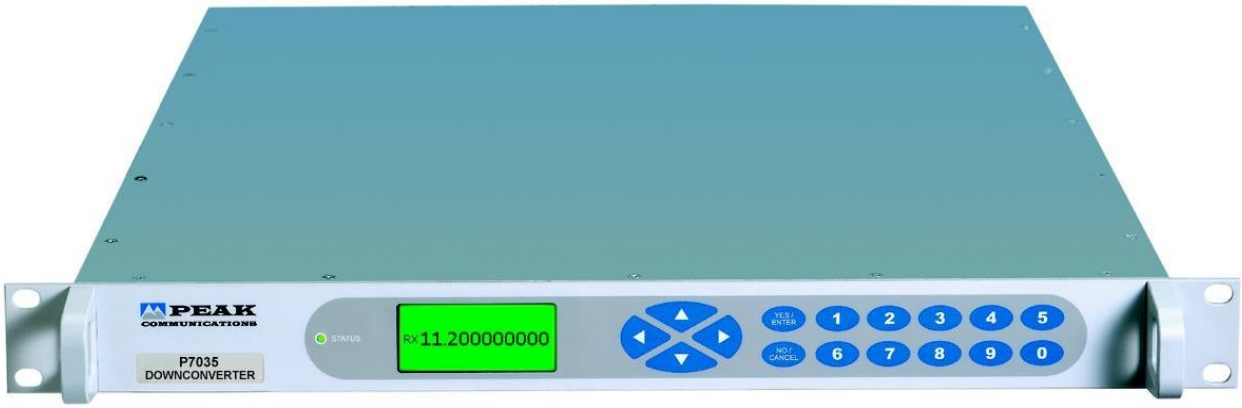
P7035 Series

Fully Synthesised, Ku-Band to IF, Down Converters



High Grade Down Converter Products;

P7035A	10.95 – 12.75GHz (in 2 bands, 10.95-11.70, 11.70-12.25 & 12.25-12.75GHz)
P7035B	10.70 – 12.75GHz (in 2 bands, 10.70-11.45, 11.45-12.25 & 12.25-12.75GHz)

For other non-standard frequency requirements please contact the factory.

The **P7035 series** are next generation fully synthesised Ku-Band down converters which provide low-cost solutions for systems requiring an IF interface at 70 ±18MHz or 140 ±36MHz. The unit incorporates an L-Band interface as standard allowing mixed 70/ 140MHz & L-Band infrastructure to be accommodated, whilst future-proofing for L-Band infrastructure upgrades.

For redundancy the **P7035 series** utilise a simple CANBUS® interface and have an integral redundancy controller for 1+1 & 2+1 operation (for use with external **R1000H**, **R2000H** switch units), for N+1 system a separate stand-alone control and switch unit is provided (**RCU1000 series**).

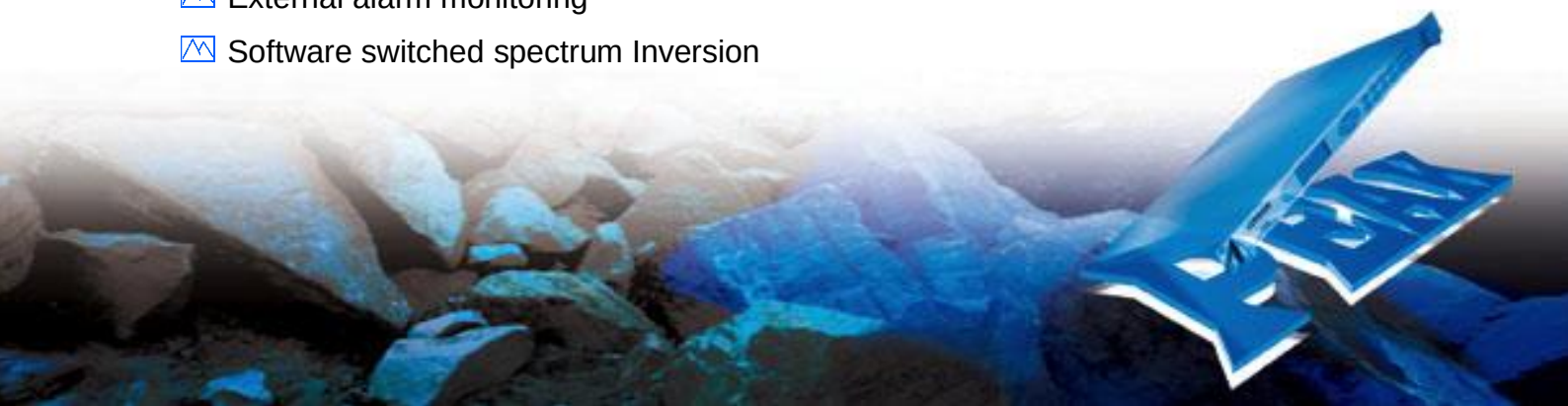
Note; separate stand-alone control and switching units can also be provided for 1+1 & 2+1 systems, please consult the factory.

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 suitable for high order modulation schemes and both very high & low data rates associated with digital TV signals. 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 unit has a highly stable internal reference source and will automatically detect and lock to an external 10MHz signal, when applied.

Peak Features

- Compliant with IESS308/ 309 requirements
- Suitable for use with latest high order modulation schemes in excess of 100Mbits/sec
- L-Band interface
- Integral 1+1 & 2+1 CANBUS® redundancy control & N+1 switch system available
- Gain/ temperature compensated
- Software trimming of internal 10MHz reference
- External alarm monitoring
- Software switched spectrum Inversion



P7035 series – Typical Specification

Input

Frequency	
P7035A	10.95-12.75GHz (3 bands) 10.95-11.70, 11.70-12.25, 12.25-12.75GHz switched.
P7035B	10.70-12.75GHz (3 bands) 10.70-11.45, 11.45-12.25, 12.25-12.75GHz switched.
Connection	N-type (f), 50Ω
VSWR	Better than 1.5:1
Level range	-20dBm absolute max -30dBm 1dB GCP

IF Output

Frequency	70 ±18MHz
Option 1b;	140 ±36MHz
Option 1d;	Switchable 70 ±18MHz & 140MHz ±36MHz
Connection	BNC (f), 50Ω
Option 3b;	BNC (f), 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	±1dB from 0 to 50^{0}C ±0.1dB per week (constant temp)
Gain flatness	±1dB across sub-bands (±1.5dB for sub-band bandwidths >575MHz) ±0.5dB across any 36MHz band
Synth resolution	1Hz

RF Performance

Phase noise	-75dBc/Hz at 100Hz -80dBc/Hz at 1kHz -85dBc/Hz at 10kHz -100dBc/Hz at 100kHz -115dBc/Hz at 1MHz
Harmonics	Better than -50dBc (at input -50dBm, gain 30dB)
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	Up to 950-1750MHz (in 3 ranges)
Connector	BNC (f), 50Ω
Output power	+10dBc (full band)

Monitor Ports (Option 11)

This option replaces the standard auxiliary L-Band output facility.

Note; for additional monitor ports or for front panel mounting, please consult the factory

Option 11c;	IF monitor
Option 11d;	L-Band monitor
Option 11e;	SHF monitor
Connection	50Ω, BNC (f), rear panel (option 11e; N-Type)
Level	-20dBc ±3dB

External Reference Input (with automatic detection & locking)

Frequency	Factory selectable 5 or 10MHz
Connector	BNC (f), 50Ω
Level	0dBm ±5dB
Phase noise	to be better than 50dBc/Hz of output phase noise

Internal Back-up Reference

Frequency	10MHz
Adjustment	±0.45ppm, software stepped 0.01ppm

Standard Stability

Allan deviation	<5 x 10^{-12} over 1s
Ageing	<±3 x 10^{-10}/day, <±3 x 10^{-9}/month, <±3 x 10^{-8}/year
Temp stability	<±2 x 10^{-9} over operating range

High stability (Option 8)

Allan deviation	<2 x 10^{-12} over 1s
Ageing	<±2 x 10^{-10}/day, <±2 x 10^{-9}/month, <±2 x 10^{-8}/year
Temp stability	<±1.5 x 10^{-9} over operating range

Mechanical

Width	19”, standard rack mountable
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	ETSI EN 301 489-1: V2.2.1 & ETSI EN 300 673: V1.2.1
Safety	IEC/EN 62368-1:2014 (second edition)

Power supply

Voltage	90-264VAC
Frequency	47-63Hz
Power	60 Watts
Option 17;	Redundant PSU; provides a 1+1 redundant PSU configuration with separate prime power inputs

Control System

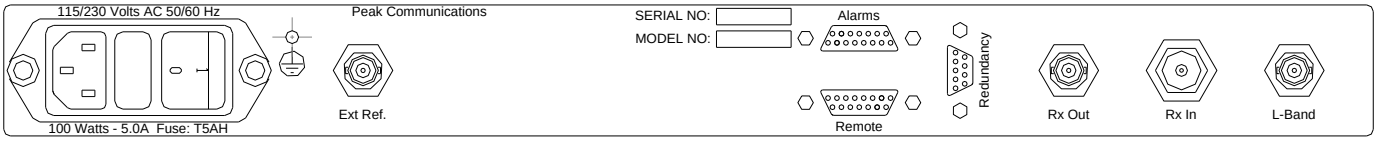
Remote control	RS232/ 485 port
Option 9;	Ethernet; embedded web server & SNMP network management support
Redundancy	CANBUS® interface for N+1 system In-built 1+1 & 2+1 controller
Alarms	1st & 2nd LO lock failure PSU failure External alarm inputs Summary failure relay (form C)

Options

1b)	140MHz IF output
1d)	IF switchable between 70MHz and 140MHz 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
11c)	IF monitor instead of standard L-Band auxiliary output
11d)	L-Band monitor instead of standard L-Band auxiliary output
11e)	SHF monitor instead of standard L-Band auxiliary output
17)	Redundant power supplies

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 *(sample)*



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