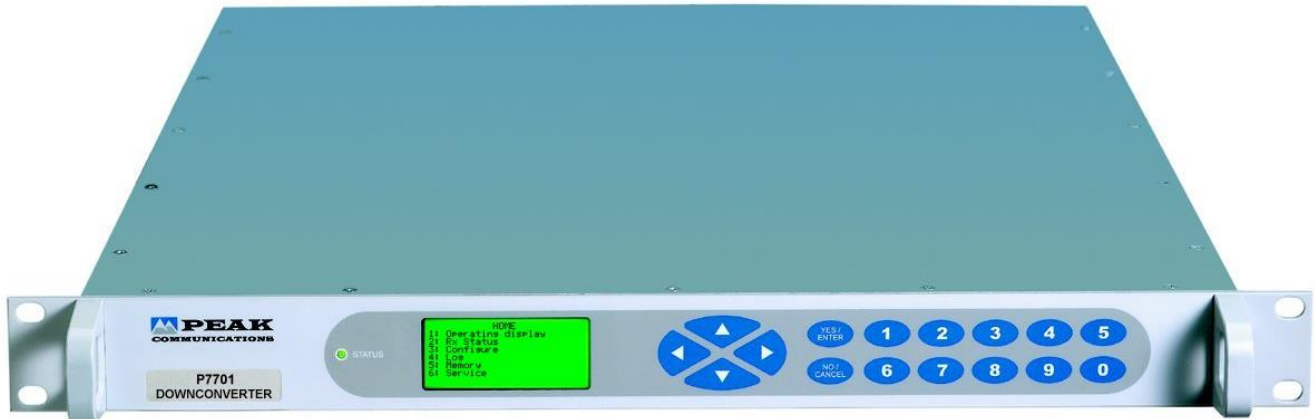


P7701i

L-Band to UHF, Down Converter



The 19-inch 1U rack mounted **P7701i** block down converter unit from Peak Communications is designed to take typically the output of a **P7002** Up Converter or modem at L-band and provide the frequency conversion to UHF in the uplink chain.

The **P7701i** unit is designed to meet the phase noise, spurious level and frequency stability requirements of Intelsat IBS/Eutelsat SMS specifications. The excellent group delay response makes the product suitable for high order modulation schemes and both very high & low data rates associated with digital TV signals. The **P7701i** unit is mains powered and is constructed of high-grade components to give the ultimate in performance. These components include a high-grade crystal oscillator to give the highest performance of stability and phase noise, a well proven externally phase locked DRO, a high-grade waveguide band-pass filter to give minimum insertion loss and flatness across the band, a high-performance low noise amplifier, high grade mixers and isolators between each section to ensure correct matching.

For redundancy the **P7701i** uses a simple CANBUS® interface and has an integral redundancy controller for 1+1 & 2+1 operation (for use with external 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 unit has a highly stable internal reference source and will automatically detect and lock to an external 10MHz signal, when applied.



P7701i – Typical Specification

L-band Input

Frequency	1200 ±250MHz
Connection	N-type (f), 50Ω
Level	-15dBm max
Return loss	>11dB

UHF Output

Frequency	750 ±250MHz
Connection	BNC (f), 50Ω
Level (P1dB GCP)	≥0dBm
Return loss	>11dB

Transfer Characteristics

Conversion gain	+30dB ±1dB
Attenuation	0 to 30dB, stepped 0.1dB
Gain stability	±1dB from -10 to +50°C ±0.1dB per week (constant temp.)
Gain flatness	±1.3dB full band ±0.5dB across any 36MHz in band

RF Performance

Phase noise	-50dBc/Hz at 10Hz -80dBc/Hz at 100Hz -90dBc/Hz at 1kHz -97dBc/Hz at 10kHz -100dBc/Hz at 100kHz -110dBc/Hz at 1MHz
Spurious	<-45dBm (in band non-carrier related) <-65dBc (in band carrier related)
Group delay	Linear 0.025ns/MHz Ripple 1ns p-p Parabolic 0.015ns/MHz ²
Noise figure	<25dB nominal at maximum gain

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, 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. 9kgs (20lbs)

Environmental

Operating temp	-10°C to +50°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	LO lock failure PSU failure Summary failure relay (form C)

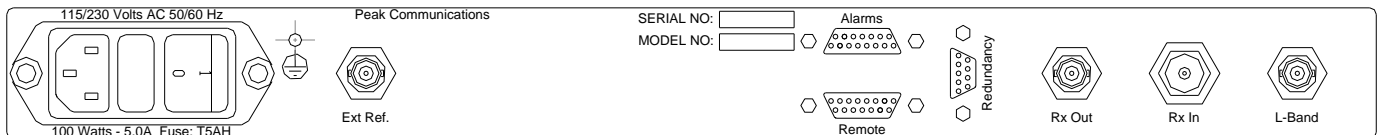
Options

- 2) Custom front panel logo and colour
- 8) High stability internal reference option
- 9) Ethernet interface with embedded web server & SNMP
- 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)



Peak Communications reserves the right to alter the specifications of this equipment without prior notice. P7701i-180821.

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