

F1201R

Fixed Frequency, Remote Mounted, L-band to IF DownConverter








The **F1201R** is a remote mounted version of the popular Peak F1201 fixed frequency, fixed gain L-Band DownConverter which provides a low-cost solution for systems requiring conversion between L-Band and $70\text{MHz} \pm 20\text{MHz}$ (or $140\text{MHz} \pm 40\text{MHz}$). The unit is popular for interfacing L-Band modems with 70/140MHz transceivers or 70/140MHz modems to L-band transceivers.

The unit has a highly stable internal reference source and will automatically detect and lock to an external 10MHz signal, when applied.

The standard F1201R L-band frequency is fixed at 1200MHz, for different frequencies please contact the factory.

Peak Features

-  Compliant with IESS306 and IESS309 requirements
-  Used for 8PSK and 16QAM modulations in excess of 50Mbits/sec
-  Available in 1+1 and 2+1 redundancy configurations
-  10MHz external reference option fitted as standard with automatic internal reference back-up.
-  Compact, rugged, weatherproof design



F1201R – Typical Specification

L-Band Input

Frequency	1200 ±18MHz fixed
Option 1a;	±36MHz
<i>Note; for other frequencies please contact the factory.</i>	
Connection	50Ω, N-Type (f)

IF Output

Frequency	70 ±18MHz
Option 1b;	140 ±36MHz
Connection	50Ω, N-Type (f)
Option 3b;	75Ω, TNC (f)

Transfer Characteristics

Conversion gain	0dB
1dB GPC	+10dBm
Gain flatness	±0.5dB across 36MHz

RF Performance

Phase noise	-80dBc/Hz at 100Hz -90dBc/Hz at 1kHz -100dBc/Hz at 10kHz -110dBc/Hz at 100kHz -125dBc/Hz at 1MHz
Spurious	<-80dBm (in band, non-carrier related) <-80dBc (in band, carrier related)
Group delay	Linear 0.025nS Ripple 1nS p-p Parabolic 0.015nS/MHz ²

External Reference Input (with automatic detection)

Frequency	10MHz
Connector	50Ω, TNC (f)
Level	0dBm ±3dB

Internal Back-up Reference Stability

Allan deviation	<5 x 10 ⁻¹² over 1s
Ageing	<3 x 10 ⁻¹⁰ per day, <3 x 10 ⁻⁸ per year
Temp stability	<2 x 10 ⁻⁹ over -10 to 50°C

Mechanical

Width	123mm (4.85")
Height	172mm (6.8"), plus connections & mounting flanges
Depth	60mm (2.36")
Construction	Die cast Aluminium, IP66 rated
Weight	1.5kgs (9lbs) approx

Environmental

Operating temp	-10°C to +50°C (less solar gain) Option 12; -40°C to +50°C (less solar gain), with extended warm-up for cold start operation and higher current
Humidity	0-100% condensing
EMC	EN55022 part B & EN50082-1
Safety	EN60950

Power supply

Voltage	16.5 to 36VDC
Power	10 Watts max.
Connection	5-pin circular weatherproof (mating part supplied)

Control System

Alarms	Summary failure relay (form C) for Local oscillator, PSU & external reference alarms Option 5; Removal of 'ext ref lock' alarm
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Note; external reference 'lock' alarm is included in the summary alarm as standard, this can be removed if an external reference is not being provided

Options

- 1b) 140MHz IF output
- 3b) 75Ω, TNC (f) IF output
- 5) Removal of ext. ref. 'lock' alarm from summary alarm
- 12) Low temperature operation to -40°C

Notes; other 'F1200 series' options do not apply to these products. The addition of Options can modify the typical specification, for details please consult the factory.

