

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 70MHz $\pm$ 20MHz (or 140MHz $\pm$ 40MHz). 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.



ESATCOM INC.

3628 Francis Lewis Blvd.

Flushing, NY 11358

www.esatcom.com

Tel: 718.799.0084

Email: sales@esatcom.com