

F1201

Fixed Frequency Down Converter



The **F1201** is a fixed frequency, fixed gain, L-Band to IF down converter. The **F1201** provides a low-cost solution for systems requiring conversion between L-Band and 70MHz $\pm$ 20MHz (or 140MHz $\pm$ 40MHz). The unit can be used to interface 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 F1201 L-band frequency is fixed at 1200MHz, for different frequencies please contact the factory.

Peak Features



Compliant with IESS 306 and IESS 309 requirements.



Used for 8PSK and 16QAM modulations in excess of 50Mbits/sec.



Fully compatible with **RCU101** & **RCU201** 1+1 & 2+1 redundancy switch units.



10MHz external reference option fitted as standard with automatic internal reference back-up.



Customising available.



F1201 – Typical Specification

L-Band Input

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

IF Output

Frequency	70 $\pm$ 18MHz (Option 1b; 140 $\pm$ 36MHz)
Connection	50 Ω , BNC (f) (Option 3b; 75 Ω)

Transfer Characteristics

Conversion gain	0dB
1 dB GPC	0dBm
Gain flatness	$\pm$ 0.5dB across 40MHz

RF Performance

Phase noise	-80dBc/Hz at 100Hz -90dBc/Hz at 1kHz -95dBc/Hz at 10kHz -100dBc/Hz at 100kHz -120dBc/Hz at 1MHz
Spurious	<-60dBm (in band, non-carrier related) <-60dBc (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	Factory selectable 5 or 10MHz
Connector	50 Ω , BNC
Level	0dBm $\pm$ 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	19", standard rack mount
Height	1U (1.75")
Depth	400mm (15.7"), plus connectors
Construction	Aluminium chassis
Weight	Approx. 4kgs (9lbs)

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 max.

Control System

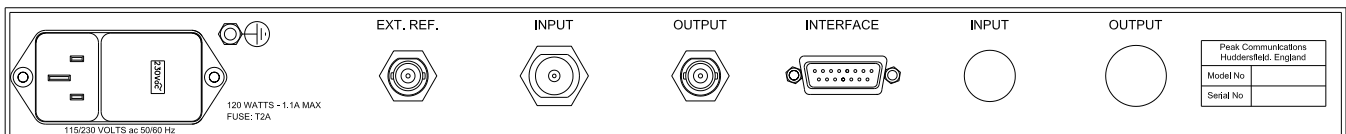
Alarms	Summary failure relay (form C)
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Options

- 1b) 140MHz IF Output.
- 2) Front panel with custom logo and colours
- 3b) 75 Ω IF Output.

Note; some of the above options have an impact on the general performance specification, factory guidance should be sought if this is thought to be critical

Rear Panel View



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