

F1202

Fixed Frequency UpConverter








The **F1202** is a fixed frequency, fixed gain, L-Band UpConverter. The **F1202** provides a low-cost solution for systems requiring conversion between $70\text{MHz} \pm 20\text{MHz}$ (or $140\text{MHz} \pm 40\text{MHz}$) and L-Band. 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 F1202 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.



F1202 – Typical Specification

IF Input

Frequency	70 ±18MHz (Option 1a; 140 ±36MHz)
Connection	50Ω, BNC (f) (Option 3a; 75Ω)

L-Band Output

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

Transfer Characteristics

Conversion gain	0dB
1 dB GCP	0dBm
Gain flatness	±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	50Ω, BNC
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	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)
--------	--------------------------------

Options

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

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

