F1200

Fixed Frequency Combined Up and Down Converter Unit

The **F1200** is a fixed frequency, fixed gain, combined L-Band Up and Downconverter. The **F1200** provides a low-cost solution for systems requiring conversion between 70MHz ±20MHz (or 140MHz ± 40MHz) 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 F1200 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 **RCU102** & **RCU202** 1+1 & 2+1 redundancy switch units.
- 10MHz external reference option fitted as standard with automatic internal reference back-up.
- Customising available.

F1200 – Typical Specification

Up Converter

IF Input

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

L-Band Output

Frequency	1200 ±18MHz fixed (Option 1a; ±36MHz)
	Note; for other frequencies please contact the factory.
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

Down Converter

L-Band Input

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

IF Output

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

Transfer Characteristics

Conversion gain	Zero
1 dB GPC	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

General

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^{0}C

Mechanical

Width	19”, standard rack mount
Height	1U (1.75”)
Depth	400mm (15.7”), plus connectors
Construction	Aluminium chassis
Weight	Approx. 4.5kgs (10lbs)

Environmental

Operating temp	-10^{0}C to +50^{0}C
EMC	EN55022 part B & EN50082-1
Safety	EN60950

Power supply

Voltage	90-264VAC
Frequency	47-63Hz
Power	100 Watts max.

Control System

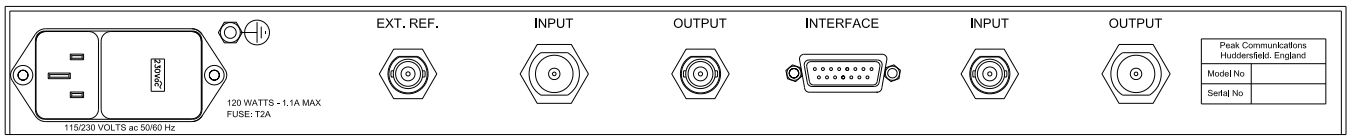
Alarms	Summary failure relay (form C)

Options

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



PEAK COMMUNICATIONS

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