

## F1200i

**Combined Fixed Frequency Up and Down Converter, for interfacing L-Band Modems & iDirect Evolution Routers with legacy 70/ 140MHz based infrastructure**








The **F1200i** is a fixed frequency, fixed gain, combined L-Band Up and Downconverter.

The **F1200i** provides a low-cost solution for interfacing L-Band Modems and iDirect Evolution Routers to existing IF (70MHz/ 140MHz) based infrastructure. The unit can be used to interface L-Band modems with 70/ 140MHz transceivers or 70/ 140MHz modems to L-band transceivers.

The standard F1200i 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
-  Easy & cost effective interfacing of iDirect systems to existing 70/140MHz based infrastructure.
-  Fully compatible with **RCU102** & **RCU202** 1+1 & 2+1 redundancy switch units
-  Customising available



## F1200i – Typical Specification

### UpConverter (RX path)

#### IF Input (from existing RX infrastructure)

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

#### L-Band Output (to L-Band Modem/ iDirect RX input)

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

#### Transfer Characteristics

Conversion gain	Zero
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 <sup>2</sup>

### DownConverter (TX path)

#### L-Band Input (from L-Band Modem/ iDirect TX output)

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

#### IF Output (to existing TX infrastructure)

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

#### 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 <sup>2</sup>

## General

### External Reference Input

Frequency	Factory selectable 5 or 10MHz
Connector	50Ω, BNC (f)
Level	0dBm ±3dB

### Internal Reference

Frequency	10MHz
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### Stability

Stability	<5 x 10 <sup>-10</sup> over 1s, <5 x 10 <sup>-9</sup> per day
Ageing	<5 x 10 <sup>-7</sup> per year
Temp. stability	<5 x 10 <sup>-8</sup> over 0 to 50°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°C to +50°C
EMC	EN55022 part B & EN50082-1
Safety	EN60950

### Power supply

Voltage	100-120/200-240VAC, auto-switching
Frequency	50/60Hz
Power	100 Watts max.

### Control System

Alarms	Summary failure relay (form C)
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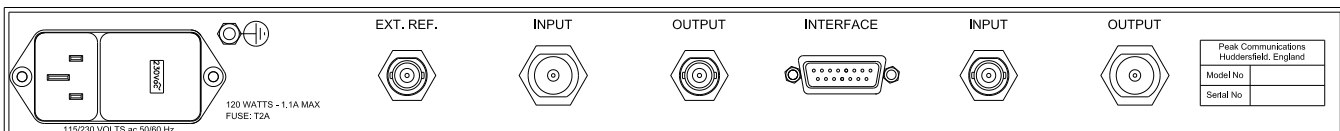
### Options

- 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 reserves the right to alter the specifications of this equipment without prior notice. F1200i-190711.

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