

F1200i

**Fixed Frequency Combined Up and Down Converter Unit:
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 unit has a highly stable internal reference source and will automatically detect and lock to an external 10MHz signal, when applied.

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 L-Band Modems to existing 70/140MHz based infrastructure.
-  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



F1200i – Typical Specification

Up Converter (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)
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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 (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)
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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 ²

General

External Reference Input (with automatic detection)

Frequency	Factory selectable 5 or 10MHz
Connector	50Ω, BNC (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	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	90-264VAC
Frequency	47-63Hz
Power	100 Watts max.

Control System

Alarms	Summary failure relay (form C)
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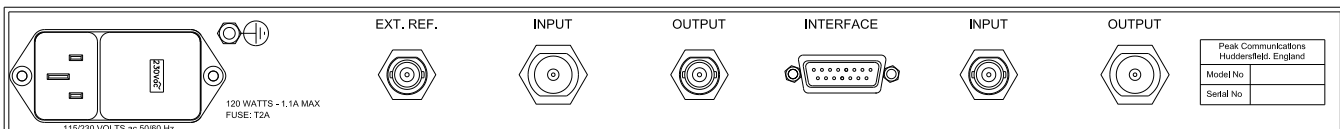
Options

- 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; the addition of options can modify the typical specification, for details please consult the factory



Rear Panel View



Peak Communications reserves the right to alter the specifications of this equipment without prior notice. F1200i-200120.

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