

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)
------------	-----------------

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)
------------	-----------------

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

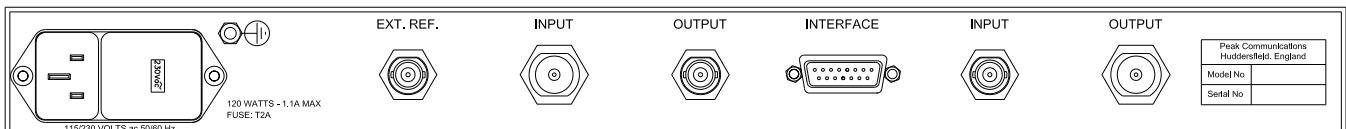
Alarms	Summary failure relay (form C)
--------	--------------------------------

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



ESATCOM INC.

3628 Francis Lewis Blvd.

Flushing, NY 11358

www.esatcom.com

Tel: 718.799.0084

Email: sales@esatcom.com