

## F1200





### Combined Fixed Frequency Up and Down Converter

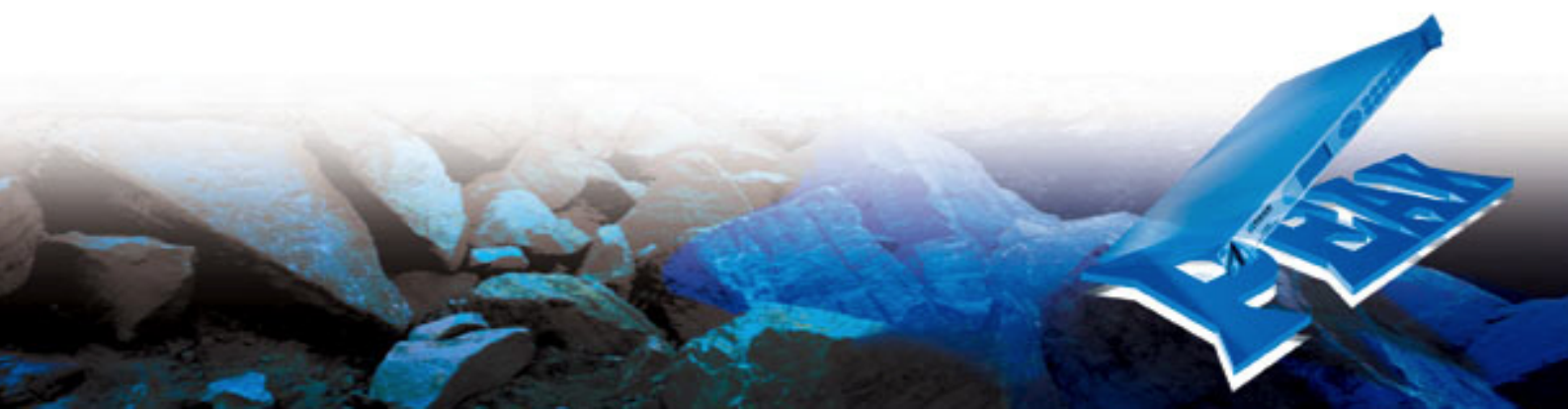


The **F1200** is a fixed frequency, fixed gain, combined L-Band Up and Downconverter. The **F1200** provides a low-cost solution for systems requiring conversion between  $70\text{MHz} \pm 20\text{MHz}$  (or  $140\text{MHz} \pm 40\text{MHz}$ ) and L-Band. The unit can be used to interface L-Band modems with 70/140MHz transceivers or 70/140MHz modems to L-band transceivers.

The 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.
-  Customising available.



## F1200 – Typical Specification

### UpConverter

#### 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).  
 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 -73dBc/Hz at 100Hz  
 -76dBc/Hz at 1kHz  
 -85dBc/Hz at 10kHz  
 -93dBc/Hz at 100kHz  
 -110dBc/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

#### L-Band Input

Frequency 1200 ±18MHz fixed (Option 1a; ±36MHz).  
 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)

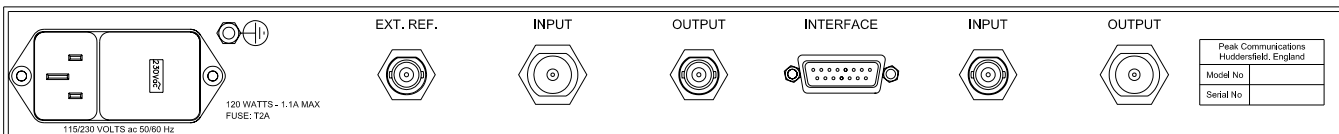
#### Transfer Characteristics

Conversion gain Zero  
 1 dB GPC 0dBm  
 Gain flatness ±0.5dB across 40MHz

#### RF Performance

Phase noise -73dBc/Hz at 100Hz  
 -76dBc/Hz at 1kHz  
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### Rear Panel View



### General

#### External Reference Input

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

#### Internal Reference

Frequency 10MHz

#### 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)

### 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.

