

2116-37 Block Downconverter, 3.7 - 4.2 GHz

The **2116-37** Downconverter converts **3.7 - 4.2 GHz** to **0.95 - 1.45 GHz** with low phase noise and flat frequency response. Frequency translation is via a **5.15 GHz** local oscillator. Front panel LEDs provide indication of DC Power, External 10 MHz, and PLL Alarm. The gain is **+35 dB**. Connectors are Type N female for the RF and BNC female for the L-Band and external reference input and reference output. A three-way switch controls which 10 MHz reference is being used. In the INT position, the internal reference is used, in the EXT position, the external reference is used, and in the AUTO position, the internal reference is used unless a **3 dBm ± 3 dB, 10 MHz** reference signal is connected to the external reference input. The 2116 is powered by a **100-240 ± 10% VAC** power supply, and mounted in a **1 3/4" X 19" X 14"** rack mount chassis.



Front Panel

EQUIPMENT SPECIFICATIONS*

Input Characteristics (RF)

Impedance/Return Loss **50Ω/18 dB**
 Frequency **3.7 to 4.2 GHz**
 Noise Figure, Max. **12 dB max gain**
 Input Level range **-55 to -35 dBm**
 Input 1 dB compression **-25 dBm**

Output Characteristics (L-Band)

Impedance/Return Loss **50Ω /14 dB**
 Frequency **0.95 to 1.45 GHz**
 Output Level Range **-20 to 0 dBm**
 Output 1 dB compression **+10 dBm**

Channel Characteristics

Gain **+35 dB ±2 dB**
 Image Rejection **> 60 dB, min**
 Spurious, In Band **SIGNAL RELATED<-60 dBC in band, 0 dBm out; SIGNAL INDEPENDENT,<-60 dBm**
 Spurious, Out of Band **<-50 dBm**
 Intermodulation **<-55 dBC for two carriers each at -10 dBm out**
 Frequency Response **±1.5 dB, 950 -1750 MHz out; ± 0.5 dB, 40 MHz BW**
 Frequency Sense **Inverting**

LO Characteristics

LO Frequency **5.15 GHz**
 Frequency Accuracy **± 0.01 ppm max over temp internal reference; ext. ref. input**
 10 MHz In/Out Level **3 dBm, ± 3 dB**

Phase Noise @ F (Hz) >	100	1K	10K	100K	1M
dBC/Hz	-70	-80	-85	-100	-110

Controls, Indicators

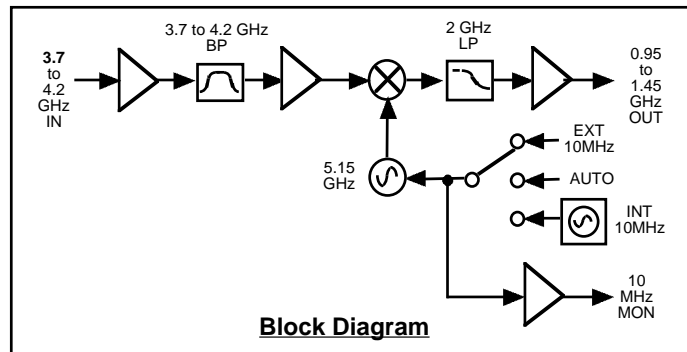
Ext 10 MHz **Yellow LED, indicates external 10 MHz reference selected (rear panel DPDT switch)**
 Power **Green LED**
 PLL Alarm **Red LED, External contact closure**

Other

RF Connector **N-type (female), 50Ω**
 L-Band Connector **BNC (female), 50Ω**
 10 MHz Connectors **BNC (female), 50Ω/75Ω**
 Alarm Connector **DB9 - NO or NC contact closure on Alarm**
 Size **19 inch standard chassis 1.45" high X 14.0" deep**
 Power **100-240 ± 10% VAC, 47 - 63 Hz, 45 watts max.**

Available Options

Connectors/Impedance
 FN - 50Ω N-type (RF), 75Ω F-type (L-Band)
 M - 50Ω N-type (RF), 50Ω BNC (L-Band)
 N - 50Ω N-type (RF), 75Ω BNC (L-Band)
 NN - 50Ω N-type (RF), 50Ω N-type (L-Band)
 NS - 50Ω SMA (RF), 50Ω N-type (L-Band)
 S7 - 50Ω SMA (RF), 75Ω BNC (L-Band)



Block Diagram

*10°C to 40°C; Specifications subject to change without notice