### 3116-72 Block Downconverter, 7.25 - 7.75 GHz to 0.95 - 1.45 GHz

The 3116-72 Downconverter converts 7.25 - 7.75 GHz to 0.95 - 1.45 GHz (non-inverted) with a 6.3 GHz local oscillator. The gain is +35 dB maximum and is adjustable in \(0.5 \pm 0.5\) dB steps. Front panel LEDs provide indication of Remote operation, PLL Alarm and DC Power. Gain and internal/external/Auto reference frequency selection are controlled by front panel switches or remote selection (via RS-232C/485, standard; Ethernet Optional) and are viewable on the LCD Display. Connectors are Type N female for the RF and BNC female for the L-Band and external reference input and reference output. In AUTO, the 10 MHz reference stays in external if the external level is \(+3\) dBm, \(\pm 3\) dB. The 3116 is powered by a 100-240 \(\pm 10\%\) VAC power supply, and housed in a 1 3/4" X 19" X 14" rack mount chassis.

### Front and Rear Panel

![Diagram of Front and Rear Panel](image)

### EQUIPMENT SPECIFICATIONS*

#### Input Characteristics (RF)
- **Impedance/Return Loss**: 50Ω/14 dB
- **Frequency**: 7.25 to 7.75 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 at max. gain

#### Channel Characteristics
- **Gain, max; adjustment**: +35 dB \(\pm 2\) dB, max; gain; 30 dB adjustment in \(1\pm 1\) dB Steps
- **Image Rejection**: > 60 dB, min
- **Spurious, In Band**: -55 dBc in band, 0 dBm out; (0.95-1.45 GHz Out)
- **Spurious, Out of Band**: < -50 dBm (0.5-0.95 GHz and 1.45-2.5 GHz Out)
- **Intermodulation**: < -55 dBc for two carriers each at -10 dBm out
- **Frequency Response**: \(+1.0\) dB, 0.95 - 1.45 GHz Out; \(+0.5\) dB, 40 MHz BW
- **Frequency Sense**: Non-inverting

#### LO Characteristics
- **LO Frequency**: 6.3 GHz
- **Frequency Accuracy**: \(\pm 0.01\) ppm max over temp internal reference; ext. ref. input
- **10 MHz In/Out Level**: 3 dBm, \(\pm 3\) dB, w/ Auto-detect

### Controls, Indicators

- **Gain, Ext Ref Selection**
  - Direct readout LCD: pushbutton switches or remote
  - Green LED: Red LED; Yellow LED: Yellow LED

- **Remote**
  - RS232C/RS485/422, 9600 baud (Ethernet Optional)

- **RF Connector**
  - Type N (female), 50Ω

- **L-Band Connector**
  - BNC (female), 50Ω

- **10 MHz Connectors**
  - BNC (female), 50Ω, works with 50 or 75 ohms

- **Alarm/Remote Conn.**
  - DB9 - NO or NC contact closure on Alarm

- **Size**
  - 19 inch standard chassis 1.75" high X 14.0" deep

- **Power**
  - 100-240 \(\pm 10\%) VAC, 47 - 63 Hz, 30 watts max.

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