The 3116-22-23# Two Channel Downconverter converts 2300 ± 100 MHz to 1400 ± 100 MHz (inverted) with a 3.70 GHz (common) local oscillator. The gain is +35 dB maximum and is adjustable in 0.5 ± 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 BNC female for the RF In and RF Out and external reference input and reference output. In AUTO, the 10 MHz reference stays in external if the external level is +3 dBm, ±3 dB. It is powered by a 100-240 ± 10% VAC power supply, and is in a 1 3/4" X 14” rack mount chassis.

**EQUIPMENT SPECIFICATIONS (Each Channel)**

**Input Characteristics (RF)**
- Impedance/Return Loss: 50Ω/14 dB
- Frequency: 2300 ± 100 MHz
- Noise Figure, Max.: 15 dB max gain
- Input Level range: -55 to -35 dBm
- Input 1 dB compression: -25 dBm

**Output Characteristics**
- Impedance/Return Loss: 50Ω /14 dB
- Frequency: 1400 ± 100 MHz
- Output Level Range: -20 to 0 dBm
- Output 1 dB compression: +10 dBm

**Channel Characteristics**
- Gain, max @Fc: +35 dB ±2 dB
- Gain, adjustment: 30 dB in 0.5 ± 0.5 dB Steps
- Image Rejection: > 60 dB, min
- Spurious, In Band: >50 dBc, >55 dBc typ., 0 dBm out: (1400 ± 100 MHz Out)
- Spurious, Out of Band: <50 dBm (0.5-1.29 and 1.51-2.0 GHz Out)

**Channel-Channel Isol.**
- >50 dBC, >55 dB typ., Gain = +35 dB
- Intermodulation: <55 dBc for two carriers at 4 MHz spacing, each at -10 dBm out
- Frequency Response: ±1.5 dB, 1400 ± 100 MHz out; ±0.5 dB, 40 MHz BW;
- Frequency Sense: Inverting

**LO Characteristics**
- LO Frequency: 3.70 GHz (Common LO to both channels)
- Frequency Accuracy: ±0.01 ppm max over temp internal reference; ext. ref. input
- 10 MHz In/Out Level: 3 dBm, ± 3 dB

**Phase Noise @ Freq**
- 100 Hz: -70 dBc/Hz
- 1 kHz: -80 dBc/Hz
- 10 kHz: -85 dBc/Hz
- 100 kHz: -100 dBc/Hz
- 1 MHz: -120 dBc/Hz

**Controls, Indicators**
- Gain; Ext Ref Selection: Direct readout LCD; pushbutton switches or remote
- Pwr; Alarm; Rem: Green LED; Red LED; Yellow LED
- Remote: RS232C/RS485/422, 9600 baud (Ethernet Optional)

**Other**
- RF In, RF Out Connector BNC (female), 50Ω (other options available)
- 10 MHz Connectors: BNC (female), 75Ω, works with 50 or 75 ohms
- Alarm Connector: DB9 - NO or NC contact closure on Alarm
- Size: 19 inch standard chassis 1.7” high X 17.0” deep
- Power: 100 - 240 ±10% VAC, 47 - 63 Hz, 25 watts max.

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