**3116-T31-148 Multi-Band, Block Translator**

The 3116-T31-148 Translator converts one of three input RF bands to one of three output RF bands in three different translations. **Dual Conversion frequency translation is used for all inputs to minimize spurious.** Front panel LEDs provide indication of DC Power, and PLL Alarm. The RF to RF gain is +20 dB, maximum. Connectors are SMA female for the RF out, RF in and RF in Monitor and BNC female for the external reference input and reference output. In **AUTO**, the 10 MHz reference stays in external if the external level is in the **+2 to +8 dBm range.** Gain, band select, LO frequency, and internal 10 MHz frequency are controlled by the Ethernet M&C or via the Monitor/Control connector. The 3116-T31-148 is powered by a 100-240 ±10% VAC power supply; and housed in a 1.75” X 19 “ X 17” rack mount chassis.

### Equipment Specifications

**Input Characteristics**
- Impedance/Return Loss: 50Ω/12 dB
- Frequency (GHz): SEE BAND CHART
- Noise Figure, Max.: 20 dB at max gain
- Input Level range: -30 to -10 dBm

**Output Characteristics**
- Impedance/Return Loss: 50Ω/10 dB
- Frequency (GHz): SEE BAND CHART
- Output Level Range: -60 to 0 dBm
- Output 1 dB compression: +10 dBm @ Max. Gain

**Channel Characteristics**
- Gain, maximum: +20 ±3 dB
- Gain Range; Steps: +20 to +40 dB; 1±1 dB
- In to Out Isolation, Min.: >45dB, -60 typ.
- Spurious, In-band, @In-Level: <40 dBc @ 10dBm in, 0 dBm out
- Spurious, out of band Fc±2GHz: <50 dBc @ -10dBm In, 0 out
- Interm. 2 tone, -5dBm ea out: <45 dBc, @ Max. Gain
- Freq. Response, band: ±2 dB
- Freq. Response, 40MHz: ± 0.5 dB
- Frequency Sense: Non-inverting
- RF Monitor: +10 ± 2 dB above input level

**LO Characteristics**
- LO Frequency: Band specific, fixed frequency
- Frequency Accuracy: ± 0.01 ppm max over temp internal reference; ext. ref. input

**10 MHz In/Out Level**
- Band Specific, fixed frequency

**Controls, Indicators**
- Gain, Band, 10M Freq.: Gain, band select, and internal 10 MHz frequency via Ethernet M&C or Monitor/Control connector.
- PLL Alarm: Red LED, External contact closure
- Power: Green LED
- Remote: Ethernet and RS232C, 9600 baud (RS485 Optional)

**Other**
- RF In, Out, Mon. Conn.: SMA (female), 50Q
- 10 MHz connectors: BNC (female), 75 ohms; Works with 50Ω
- Monitor/Control Connector: Ethernet, RJ45, Female; RS232C, DB9, Female
- Size: 19 inch, 1RU standard chassis 1.75” high X 17.0” deep
- Power: 100-240 ±10% VAC, 47-63 Hz, 30 watts max

**Specifications subject to change without notice**

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