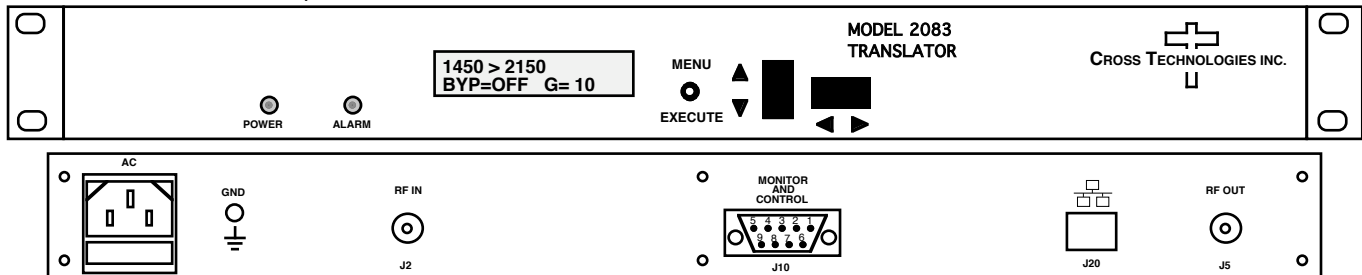


DATA SHEET

Rev. A 3/10/10

Series 2083-1622 L-Band Channel Translator

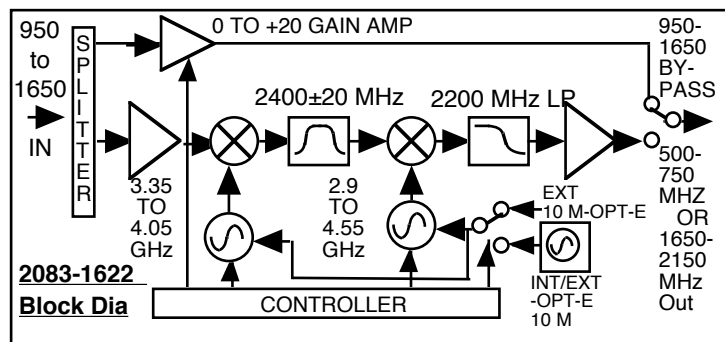
2083-1622 L-Band Channel Translator. - The 2083-1622 L-Band Channel Translator converts a 40 MHz channel in the 950-1650 MHz band to a 40 MHz channel in the 500-750 MHz or 1650-2150 MHz bands or switches (user selectable) the 950-1650 input band to the output with no spectrum inversion, low group delay and flat frequency response. The 950-1650 MHz input is mixed with synthesized local oscillator (LO) signals, first to 2400 MHz center frequency (± 20 MHz) and finally to the 500-750 MHz or 1650-2150 MHz bands. A splitter on the input and a SPDT switch at the output allows switching the 950-1650 input to the output at a 0 to +20 Gain identical to where the translated channel gain is set at this time. Frequency translation or by-pass, and gain (0 to +20 dB, selectable in 1 dB steps) are selectable via either the multi-function push button switches or Remote M&C (RS232 or, optional, Ethernet). Settings appear on the LCD display. Front panel LEDs light when DC power is applied (green) or a PLL alarm occurs (red). Connectors are BNC female for RF input and output. The 2083-1622 Translator is housed in an 1 3/4" X 19" X 16" deep rack mount chassis.



2083-1622 L-Band Channel Translator Front and Rear Panels - shown with Ethernet Option

EQUIPMENT SPECIFICATIONS*

| | |
|-------------------------------|---------------------------------------|
| Input Characteristics | |
| Input Impedance/RL | 75 Ω /12 dB |
| Frequency, | 950-1650 MHz |
| Input Level | -30 to -50 dBm |
| Input 1 dB compression | -20 dBm |
| Output Characteristics | |
| Impedance/RL | 75 Ω /12 dB |
| Output Level, Range | -20 to -40 dBm |
| Output 1 dB compression | -10 dBm |
| Frequency | a 40 MHz band |
| | in the 500-750 or 1650-2150 MHz bands |
| | OR |
| | Input by-pass |



| | |
|--------------------------------|--|
| Channel Characteristics | |
| Gain | 0 to +20 \pm 1.5 dB, selectable in 1 dB steps |
| Frequency Response | \pm 1.5 dB, 500 MHz bandwidth; \pm 1.0 dB, 40 MHz Band; <25 dBC, at \pm 53 MHz |
| Spurious Response | <-40 dBC in band; <-40 dBC of the 950-1650 input band to the output |
| Group Delay, max | 0.02 ns/MHz ² , parabolic, 0.04ns/MHz, linear, 1 ns ripple any 40 MHz BW |
| Frequency Sense | Non-inverting |

| | |
|------------------------------------|---|
| Synthesizer Characteristics | |
| Frequency Accuracy | \pm 1 ppm max over temp (\pm 0.01 ppm is option-H) |
| Frequency Step | 1 MHz (125 kHz is option-X) |
| Reference | 10 MHz Internal (external/internal is option-E) |

| Phase Noise @ F (Hz) > | 100 | 1K | 10K | 100K | 1M |
|------------------------|-----|----|-----|------|-----|
| dBC/Hz | 65 | 70 | 80 | 95 | 110 |

Available Options

- E - External 10 MHz ref
- H - High Stability (\pm 0.01ppm) internal ref
- Q - RS485 Remote Interface
- X - 125 kHz frequency step
- W8 - Ethernet Interface
- W18 - Ethernet Interface w/SNMP
- R - Redundant Power Supplies

| | |
|-----------------------------|---|
| Controls, Indicators | |
| Frequency Translation | pushbutton switches; setting on LCD display; Band or by-pass |
| Gain Selection | pushbutton switches; setting on LCD display; Set to 0 to +20 dB |
| DC Power; PLL Alarm | Green LED; Red LED |

| | |
|-------------------------|--|
| Other | |
| Connectors, RF In & Out | BNC, female, 75 ohm |
| Connector, Alarm | DB9 - NO or NC contact closure on Alarm |
| Size | 19 inch standard chassis 1.75" high X 16.0" deep |
| Power | 90 - 260 VAC, 47 - 63 Hz, 30 watts max. |

Connector Options/Impedance

- D - 50 Ω BNC (RF), 50 Ω BNC (IF)
- F- 75 Ω F-type (RF), 75 Ω F-type (IF)

*+10 to +40 degrees C; Specifications subject to change without notice

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