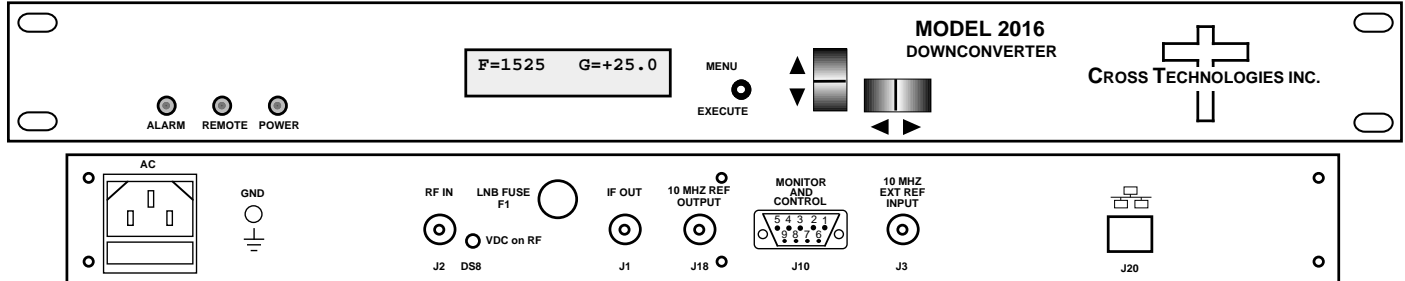


2016-03 Downconverter, 0.95 - 1.525 GHz to 70 MHz

The 2016-03 Downconverter converts 950 to 1525 MHz to 70 ± 18 MHz in 1 MHz steps (**125 kHz to 1 kHz step options available**). Synthesized local oscillators (LO) provide frequency selection. Push button switches select the input frequency, gain, and other parameters. Front panel LEDs provide indication of DC power (green), PLL alarm (red), and Remote operation (yellow). Gain is adjustable manually (MGC) over a 0 to 50 dB range. Remote operation allows selection of frequency and gain. Parameter selection and frequency and gain settings appear on the LCD display. Connectors are BNC female for IF and the optional external reference input and output, and Type F female for the RF input. LNB **+24, +18, or +12 VDC** and 10 MHz reference can be inserted on the RF line as added options. **The external 10 MHz option E** includes a 10 MHz output connector which contains either the internal or external 10 MHz reference signal. A high stability **option H** (±0.01ppm) is also available. The unit is powered by a 100-240 ± 10% VAC power supply, and housed in a 1 3/4" X 19" X 16" rack mount chassis.



EQUIPMENT SPECIFICATIONS*

2016-03 Front and Rear Panels

Input Characteristics (RF)

Impedance/Return Loss 75 Ω /12 dB
 Frequency 950 to 1525 MHz
 Input Level -70 to -20 dBm

Output Characteristics (IF)

Impedance/Return Loss 75 Ω/18 dB
 Frequency 70 ± 18 MHz
 Output level -20 to -10 dBm
 Output 1 dB comp. -5 dBm at maximum gain

Channel Characteristics

Gain range 0.0 to 50.0 dB, **1±1 dB** steps (manually adjustable)
 Image Rejection > 50 dB, min.
 Frequency Response ±1.5 dB, 950 - 1525 MHz; ± 0.5 dB, 36 MHz BW; **±1.0 dB, 40 MHz BW**
 Spurious Response <-50 dBC in band (± 18 MHz), **-20 to -10 dBm out**
 Group Delay, max **0.015 ns/MHz²** parabolic; **0.05 ns/MHz** linear; 1 ns ripple
 Frequency Sense Inverting or Non-inverting, selectable

Synthesizer Characteristics

Frequency Accuracy ± 1.0 ppm max over temp (±0.01 ppm, option H)
 Frequency Step 1.0 MHz (**125 kHz to 1 kHz step options available**)

| Phase Noise @ F (Hz) > | 10 | 100 | 1K | 10K | 100K | 1M |
|------------------------|------------|------------|------------|------------|-------------|-------------|
| dBc/Hz | -55 | -75 | -85 | -90 | -105 | -120 |

10 MHz Level (In or Out) 3 dBm, ± 3 dB, 75 ohms (option E)

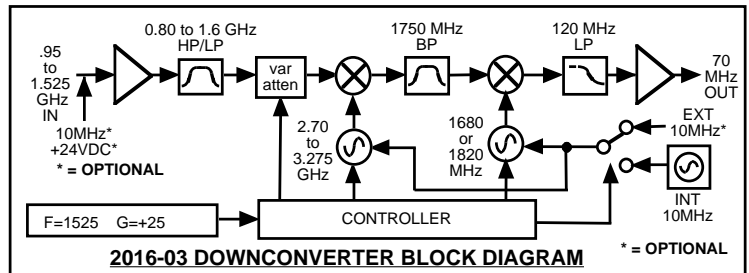
Controls, Indicators

Freq/Gain Selection Direct readout LCD; manual or remote selection
 Power; Alarm; Remote Green LED; Red LED; Yellow LED;
 Remote RS232C, 9600 baud (**RS485, Ethernet Optional**)

Other

RF, IF Connectors Type F (female), BNC (female)
 10 MHz Connectors BNC (female), **75Ω, works with 50 or 75 ohms** (option E)
 Alarm/Remote Connector DB9 (female) - NO or NC contact closure on Alarm
 Size 19 inch, 1RU standard chassis 1.75" H X 16.0" D
 Power 100-240 ±10% VAC, 47-63 Hz, **25 W max.; 24 , 48 VDC Opt.**

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



Available Options

- E - External 10 MHz ref in & out; RF Ins.
- H - High Stability (±0.01ppm) Internal Ref
- L - LNB Voltage, +24 VDC, 0.4 amps
- L18 - LNB Voltage, +18 VDC, 0.4 A**
- L12 - LNB Voltage, +12 VDC, 0.5 A**
- X or X1- 125 kHz or 100 kHz step size
- X1003 - 1 kHz step, includes option H**
- Z5 - Attenuator 0.5 ±0.5 dB steps**
- Comm. Interface/Standard RS232**
- Q - RS485 Remote Interface
- W8 - Ethernet; w/Web Browser (WB)
- W18 - Ethernet; w/WB & SNMP
- W28 - Ethernet; w/TCP/IP, Telnet
- Connectors/Impedance**
- B - 75Ω BNC (RF), 75Ω BNC (IF)
- C - 50Ω BNC (RF), 75Ω BNC (IF)
- D - 50Ω BNC (RF), 50Ω BNC (IF)
- N - 50Ω N-type (RF), 75Ω BNC (IF)
- M - 50Ω N-type (RF), 50Ω BNC (IF)
- Contact Cross for other options**