



“Results You Can Count On”

**Model VxT-N48
48-Channel AWGN Generator/Injector**



Industry's first noise solution for testing VDSL2 Vectoring

- **Three Modes**
 - **Generates/injects independent AWGN on any/all VxT-48 lines**
 - **Distributes two combined noise sources (from Model 4901) across all enabled VxT-48 lines**
 - **Injects multiple, independent noise sources (from Model 4901) onto any/all VxT-48 lines**
- **Use with Telebyte's VxT-48 xTalk Emulator**
- **Compatible with Telebyte's local loop simulators**
- **Fine, 1dBm increments**
- **Wide bandwidth (20 kHz to 30 MHz)**
- **Noise Floor below -143 dBm/Hz**

The Model VxT-N48 48-Channel AWGN Generator/Injector is designed to interface between CO or CPE equipment and the Telebyte VxT-48 xTalk Emulator for VDSL2 Vectoring Testing. Operating in three modes, it will generate 48 channels of built-in, uncorrelated AWGN as well as inject up to 48 correlated or uncorrelated complex noises received from the Model 4901 Multi-Output Noise Simulator. The VxT-N48 accepts two SMB inputs per channel from the Model 4901 for easy combining of RFI, alien crosstalk, impulse and other noises for complex test scenarios on each channel. Two additional SMB's are provided for combining two 4901 outputs and then distributing them noise across all enabled channels.

The front of the unit has two rows of twelve TERA connectors. Each of these connectors can connect to four line-pairs via a Category-7 cable. One row connects to the VxT-48 via short jumpers, while the other connects to the CO or CPE equipment. If the user wishes to add noise to both the CO and CPE sides of the test set up, two units should be purchased.

- Please note the VxT-N48 is compatible with Telebyte brand products only



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Shown above is a rear view of the VxT-N48 revealing 98 SMB connectors (96 for independent noise, 2 for distributed noise). Also shown are the RS-232, Ethernet and IEEE-488 connectors. Control is available through the front panel, remote commands or the VxT-48 Control Center software.



The VxT-N48 (top unit) is shown connected via 12 short Category-7 jumper cables to the VxT-48 xTalk Emulator for VDSL2 Vectoring Testing (bottom unit). Another VxT-N48 may be placed below the Emulator (in a rack) for injection on the other side of the loop. This product may also be used with Telebyte’s local loop simulators.



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Built-In AWGN Generator Specifications:

Simulation	Additive White Gaussian Noise (AWGN)
Bandwidth	Flat Power Spectral Density (PSD) over bandwidths from 20 kHz to 30 MHz
AWGN Crest Factor	≥ 5
Output Impedance	4k Ω Minimum (20 kHz to 30 MHz)
White Noise (AWGN) Generator	-90 dBm/Hz to -143 dBm/Hz in 1 dBm increments
Maximum Voltage Tip-Ring	200 V
Output Mode	<ul style="list-style-type: none">Differential, balanced48 individually controllable, uncorrelated outputs

Differential Mode Noise Injection Specifications:

Bandwidth	20 kHz to 30 MHz
Output Impedance	4k Ω Minimum at point of injection (20 kHz to 30 MHz)
Input Impedance	50 Ω unbalanced
Output Mode	Differential, balanced
Noise Floor	Below -143 dBm/Hz as measured at the output of the noise injector
Insertion Loss	13.0 dB

System Specifications:

Remote Control	Ethernet, RS-232 and GPIB
Front Panel Control	LCD Display and keypad for setting AWGN levels and the IEEE-488 address, RS-232 or Ethernet communication parameters
Size	[2U] 19 in W x 22 in D x 3.47 in H (482.6 mm W x 558.8 mm D x 88.1 mm H)
Connectors	<ul style="list-style-type: none">Uncorrelated Noise: 96 SMBs (2 per channel)Correlated Noise: 2 SMBs for all channelsModem/Crosstalk Emulator: 24 quad-channel high-speed CAT7 TERA connectors
Power Supply	AC 90 V to 264 V, 47 to 63 Hz, 100 W
Environmental	Operating: +32 F to +122 F (0 to +50 degrees C) Storage: 0 to 95% relative humidity (non-condensing)

Specifications are subject to change without notice. Made in USA.