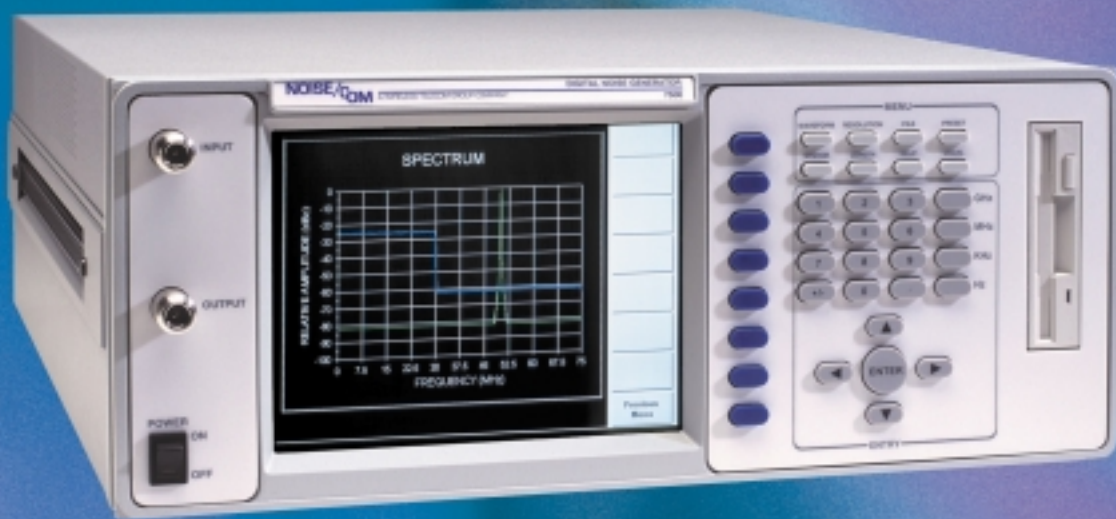
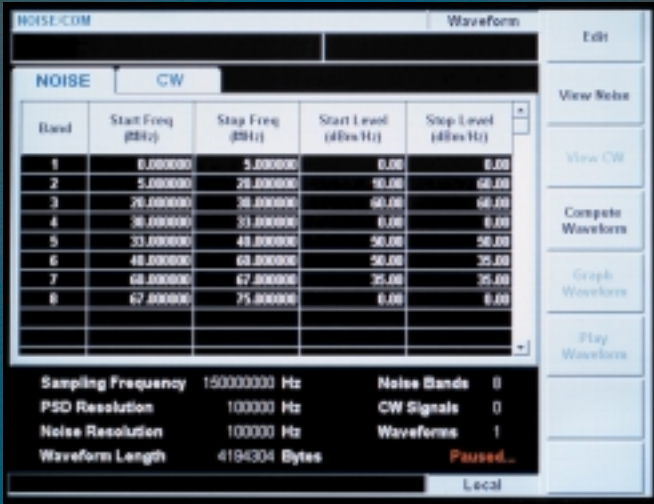


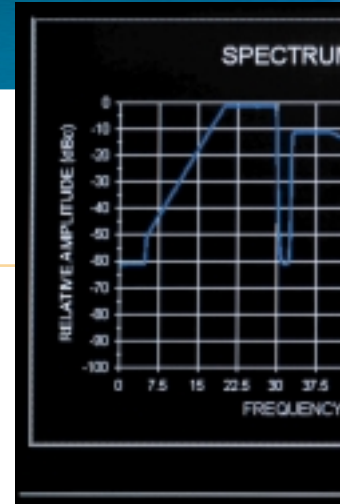
Generate Real World Broadband Noise  
and Interfering Signals with



# Noise Com's DNG7500 Digital Noise Generator



Waveform edit screen



Predicted

## Description

The Noise Com DNG7500, generates programmable, user specified, pseudo-noise and CW signal spectrums for RF, Microwave, and Fiber Optic equipment testing. It can provide a 70 MHz RF spectrum output including noise and CW waveforms to precisely emulate real-world noise and interference conditions. Noise and Signal parameters can be entered via keypad and a 8.4 inch color GUI-Graphical User Interface. It can also generate signals from data files supplied by the user and downloaded via an optional Ethernet remote interface. The unit comes standard with a GPIB, IEEE-488, remote interface.

The DNG7500 can provide digitally simulated Additive White Gaussian Noise-AWGN with the following user settable parameters: precise start and stop frequencies

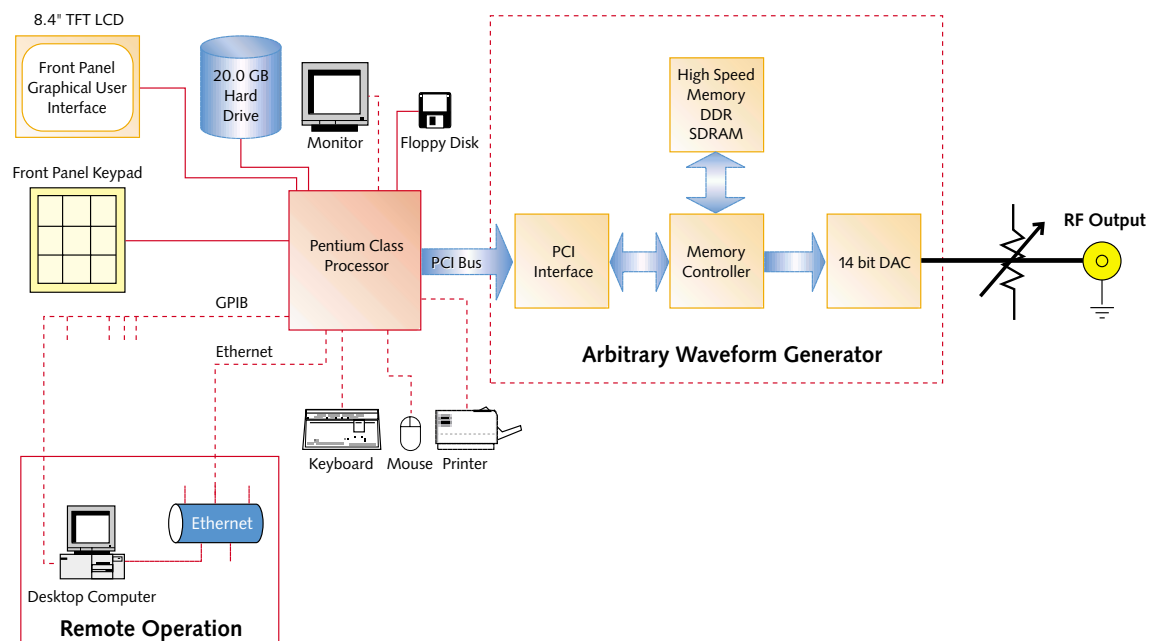
with brick wall filters; tilt; notch (stop-band) filters with programmable frequency, bandwidth, and depth. The DNG7500 can generate any combination of noise and signals adjacent or occupying overlapping frequency positions with precise relative amplitudes.

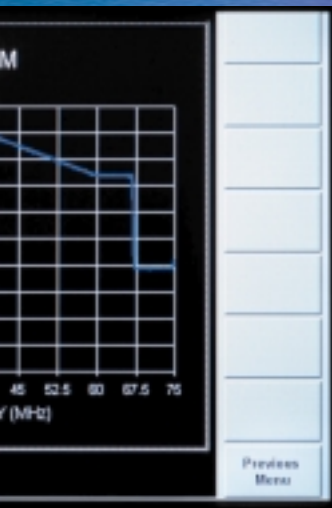
CW signals are generated with user programmable amplitude and frequency.

Optionally, other types of signals can be included or loaded by the user via Ethernet.

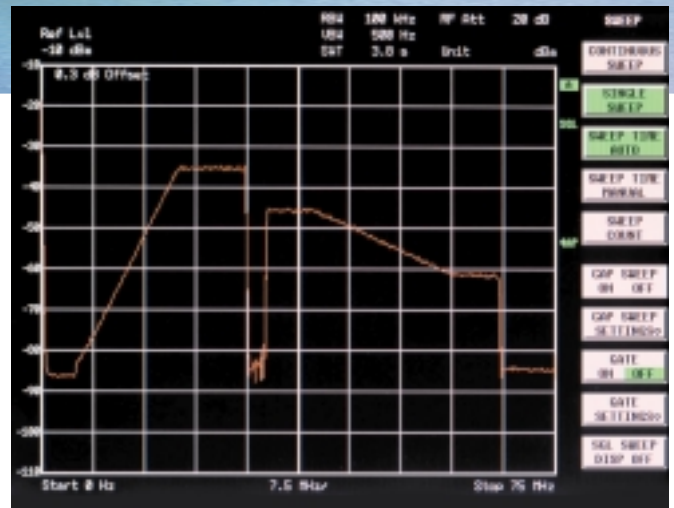
At the heart of the DNG7500 is a state-of-the-art 14-bit, 150 M-Sample/s AWG-Arbitrary Waveform Generator with up to 64 M-Bytes of memory. This allows the most accurate signal and noise simulation to date.

## DNG7500 Functional Block Diagram





spectral plot



Actual waveform displayed on spectrum analyzer

## Features

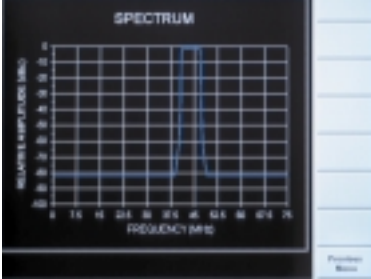
- 70 MHz RF output bandwidth
- Generates noise and interfering signals for all types of communications applications
- GUI-Graphical User Interface which can plot predicted spectrum
- 8.4" Color VGA Display
- Keypad-Full Local Control
- Waveform building from front panel
- Keyboard interface
- Rugged N-type Connectors
- GPIB IEEE-488 remote interface
- Generate and save waveforms with Programmable CW and Noise Parameters in Windows 98.
- Deep memory, 32 M-Byte standard, Up to 64 M-Byte memory
- View noise and CW spectrum plot on Display.
- Variable output attenuator
- Rack mountable chassis
- The DNG includes interfaces for video display, keyboard, mouse and GPIB-equipped devices.
- Remote operation and data access is available through integral GPIB and Ethernet ports.
- Output signals are available at a type N connector with maximum VSWR of 1.50:1.
- Rack mountable

## Options

- External triggering.
- Custom frequency converters available up to 40 GHz.
- MatLab file download compatible.
- Internal Analog noise (true AWGN) generation.
- Burst generator. Internally time gated noise and interference.

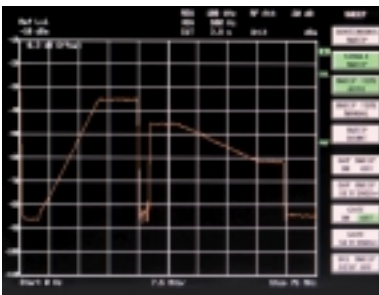
# Applications

Custom pseudo noise generation with precise Band Width.



## CATV

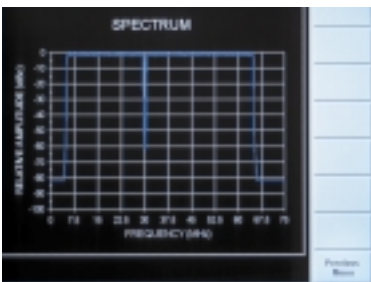
- Test this equipment against every possible noise and interference
- Upstream Interference. CMTS-Cable Modem Termination System-Noise and interference testing
- Return Path monitoring systems testing-Creates interfering spectrums including shaped noise, ingress, signals, and bursts.



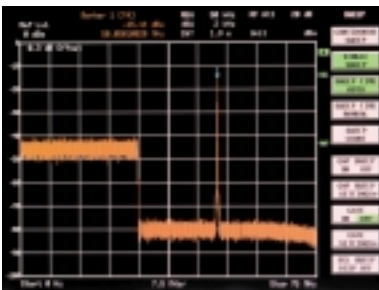
Loading signals for Optical Transmit Lasers.

## A/D Converter Characterization

Noise Power Ratio Testing – Programmable noise band width, notch band-width and frequency. Custom frequency conversion and automated NPR measurement systems available.



Satellite Communications - Noise and interference.



# DNG7500

## Specifications Summary

### RF Output:

Frequency Range:	500 kHz to 70 MHz
Frequency Resolution:	
Noise:	1 Hz
CW:	1 KHz
Output Bandwidth:	70 MHz
Output Power:	0 dBm
Output Attenuator:	63.9 dB in 0.1 dB steps
Impedance:	50 Ohms
VSWR:	1.5:1
Output Connector:	Type N
Harmonically Related Spurs:	-60 dBc typical
Non-harmonic Spurs:	-60 dBc typical <50MHz -55 dBc typical <60MHz -50 dBc typical >60MHz

### Generator AWG:

Memory:	32 MB standard, optionally up to 64 MB
DAC Resolution:	14 bits
DAC Output Rate:	150 MSPS

### General:

Controller/Processor:	Pentium Class 500 MHz
Memory:	256 MB
Hard Drive:	20.5 GB
Display:	8.4" TFT-LCD 640x480 resolution
Operating System:	Windows 98 SE
Interfaces:	Ethernet 10/100baseT, Video, Keyboard, mouse, GPIB.
Remote:	Ethernet or GPIB

## About Noise Com

Established in 1985, Noise Com is a global provider of innovative RF and Microwave based test equipment for the telecommunications and Cable TV industries. Our test instruments bring the power of Noise Power Ratio, Noise Figure Measurement and other unique test capabilities for today's most challenging Cable TV and wireless communication test needs. For more information about Noise Com visit us on the web at

[www.noisecom.com](http://www.noisecom.com).

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