



Data Sheet

DNG7500
Digital Noise
Generator



Count on the noise leader

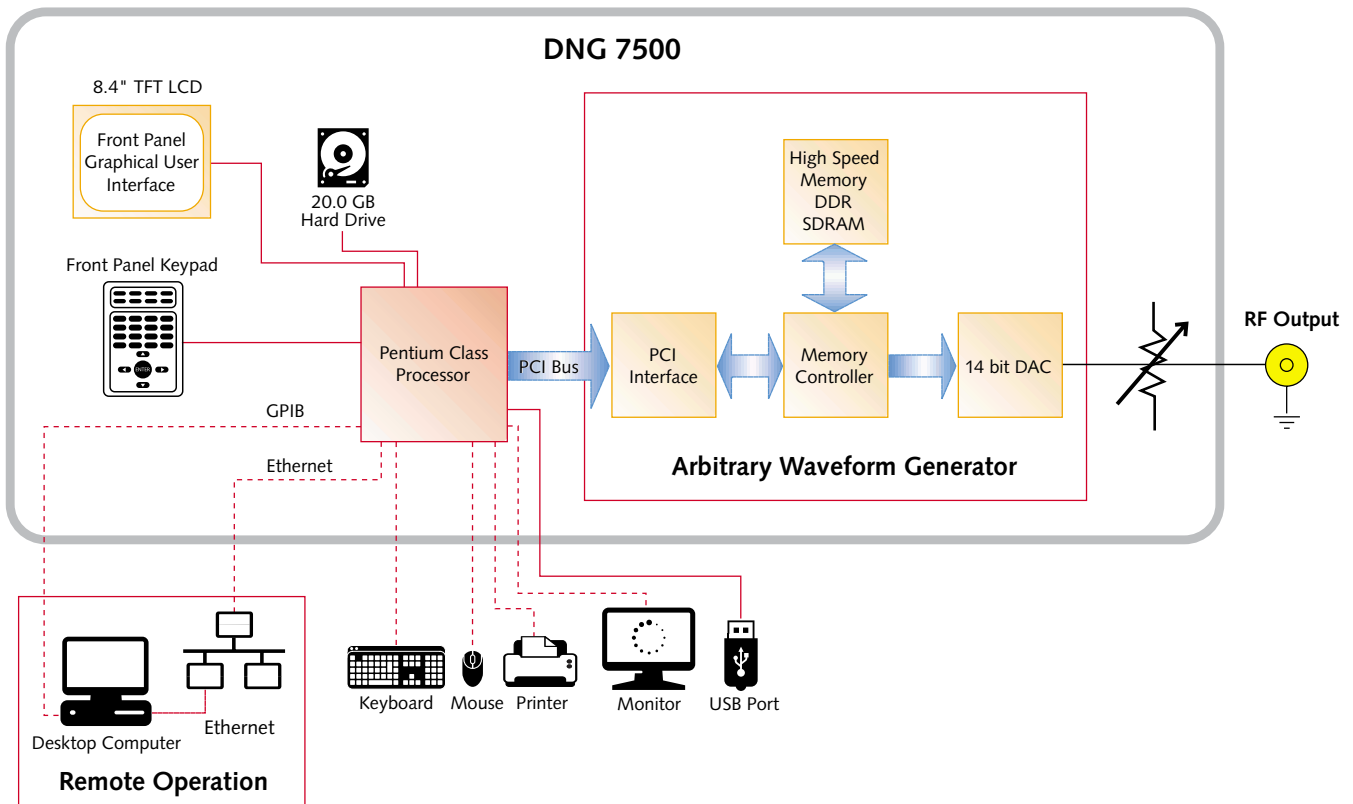
DNG 7500 Digital Noise Generator

The Noisecom 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 Graphical User Interface (GUI). 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.



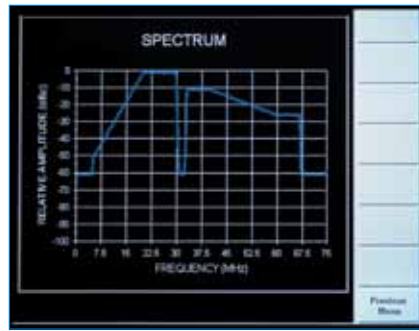
CW signals are generated with user programmable amplitude and frequency. Optionally, other types of signals can be included or loaded by the user via Ethernet. At the heart of the DNG7500 is a state-of-the-art 14-bit, 150 M-Sample/s Arbitrary Waveform Generator (AWG) with 64 M-Bytes of memory. This allows the most accurate signal and noise simulation to date.



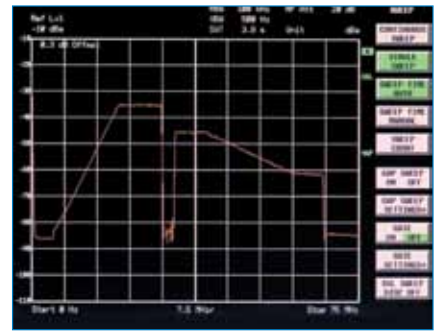
DNG7500 Functional Block Diagram



Waveform edit screen



Predicted Spectral Plot

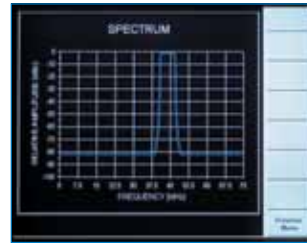


Actual waveform displayed on spectrum analyzer

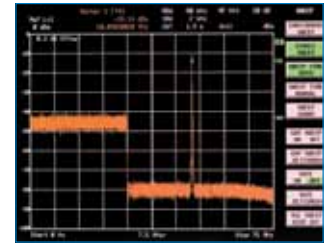
Features

- Graphical User Interface which can plot predicted spectrum
- 8.4" Color VGA Display
- Keypad-Full Local Control
- Waveform building from front panel
- Keyboard interface
- Generate and save waveforms with Programmable CW and Noise Parameters.
- View noise and CW spectrum plot on display
- Variable output attenuator
- Rack mountable chassis
- External triggering
- MatLab file download compatible

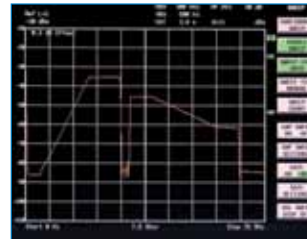
Applications



Custom pseudo noise generation with precise bandwidth.

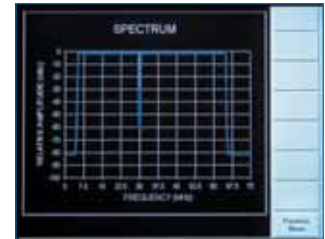


Satellite Communications
Noise and interference



CATV

- Test this equipment against every possible noise & interference
- Upstream Interference. Cable Modem Termination (CMTS) System, Noise and interference testing
- Return Path monitoring systems testing - Creates interfering spectrums including shaped noise, ingress, signals & bursts
- Loading signals for Optical Transmit Lasers
- A/D Converter Characterization



Noise Power Ratio Testing

Programmable noise bandwidth, notch bandwidth & frequency. Custom frequency conversion & automated NPR measurement systems available.

Specifications

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 XP |
| Interfaces | Ethernet 10/100baseT, Video, Keyboard, mouse, GPIB |
| Remote | Ethernet or GPIB |

Options

- Dopt02 Custom Frequency Converters.
- Dopt03 Rack Mount Kit.
- DoptBNG Burst Noise Function.
- Dopt17 Removable Hard Drive plus one additional HD with system **STRONGLY SUGGESTED FOR SECURE ENVIRONMENTS.**