INSTRUMENTS

UFX7000B Programmable Noise Generator

The UFX7000B broadband AWGN noise generator has a powerful single board computer with flexible architecture used to create complex custom noise signals for advanced test systems. This versatile platform allows the user to meet their most challenging design requirements. Precision components provide high output power with superior flatness, and the flexible computer architecture allows control of multiple attenuators, switches, and filter banks.

Features

- Output White Gaussian noise
- Output power up to +30 dBm
- 127 dB of attenuation; 0.1 dB step size
- Units > 2 GHz have total attenuation of 79.9 dB
- Low distortion signal path
- Standard connectors SMA female

- Noise attenuator accuracy: ±0.2 dB or 0.5% at 1 − 500 MHz ±0.2 dB or 1% at 0.5 − 1.0 GHz ±0.3 dB or 2% at 1 − 2 GHz
- 7" touch screen display
- Dimensions: 17.25 in. wide x 6.50 in. including feet, high x 19.50 in. deep
- Removable hard drive for added security

RFX7000B Programmable Noise Generator

The RFX7000B broadband AWGN noise generator has a powerful single board computer with flexible architecture used to create complex custom noise signals for advanced test systems. This versatile platform allows the user to meet their most challenging test requirements. Precision components provide high output power with superior flatness, and the flexible computer architecture allows control of multiple attenuators and switches. The 1U enclosure makes this ideal for integrated rack applications.

Features

- Output White Gaussian noise
- 127 dB of attenuation; 0.1 dB step size
- Units > 2 GHz have total attenuation of 79.9 dB
- Low distortion signal path
- Standard connectors SMA female

- Noise attenuator accuracy:
  - ±0.2 dB or 0.5% at 1 − 500 MHz
  - ±0.2 dB or 1% at 0.5 − 1.0 GHz
  - ±0.3 dB or 2% at 1 − 2 GHz
- Operating Temperature: -10° to +65°C

J7000B Jitter Noise Generator

The J7000B jitter noise generator generates additive white Gaussian noise (AWGN) with a large crest factor to model "real world" random jitter. This random jitter is commonly referred to as Rj in the industry accepted jitter hierarchy model and managing Rj is critical to the performance and capability of high-speed communication busses and devices. Today's high-speed digital circuit designers are challenged with narrow jitter tolerances to deliver high data rates with low bit error rate (BER).

Features

- Output White Gaussian noise
- Typical 18 dB Crest factor
- Output noise power -3 dBm (+/- 0.5 dBm)
- Noise attenuation 0 to 63 dB in 0.1 dB steps up to 2 GHz
- Noise attenuator ±0.2 dB or 0.5%

- Signal path gain 0 ±1 dB
- Ultra-low distortion signal path
- Standard connectors SMA female
- 7" touch screen display
- Dimensions: 17.22 in. wide x 6.30 in. including feet, high x 19.5 in. deep
- Differential inputs and outputs

Noisecom

INSTRUMENTS

CNG-EbNo SNR Noise Generator

The CNG-EbNo is a fully automated instrument that sets and maintains a highly accurate ratio between a user-supplied carrier and internally generated AWGN noise, over a wide range of signal power levels and frequencies.

Features

- C/N carrier to noise ratio
- C/I carrier to interferer ration
- C/No carrier to noise density ratio
- Eb/No bit energy to noise density ratio
- Custom configurations

- 6.25" color TFT touch screen
- Accuracy of 0.2 dB RSS
- Bit Rates from 1 bps to 1 Gbs
- Variable Output Power from -55 dBm to +5 dBm

NC6000A/8000A Series AWGN Noise Generator

The NC6000A and NC8000A Series instruments are designed for general-purpose noise applications on the bench, or in a rack test station. The manual controls make it simple to operate and reduce test set up time. Standard units can be modified for specific customer requirements. Please consult the factory for pricing and availability of these requests.

Features

- Additive white Gaussian noise
- Integrated amplifier
- Manual attenuator
- NC6000A -BER testing, and SNR applications

- NC8000A - Secure signal jamming
- Military Applications
- Custom configurations available (consult factory)

COMPONENTS
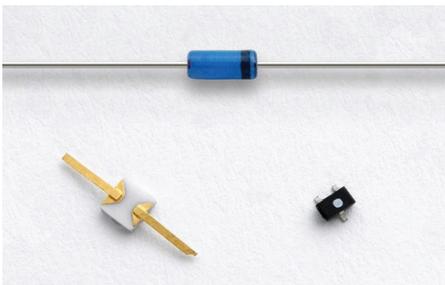
NC100/200/300/400 Series Chips and Diodes

Noise diodes are the fundamental building blocks for analog noise systems. They are categorized for performance characteristics that enhance their broadband noise output and flat spectral response. All Noisecom noise diodes can deliver symmetrical white Gaussian noise and flat output power versus frequency.

Features

- Custom electrical testing available upon request
- Wide package variety with custom configurations
- NC100 & 200 series for audio and RF applications
- NC300 & 400 series for microwave applications

COMPONENTS

NC500/500SM Series BITE Modules

The NC500 (through-hole) and NC 500SM (surface mount) Series noise modules are an economical solution for built-in test requirements. They contain complete bias circuits and require no external components. Some models contain additional gain stages for high power ENR output (51 dB). The surface mount package is suitable for mounting on micro strip. The modules have extremely flat output power versus frequency characteristic's that are insensitive to temperature and voltage variations.

Applications

- Built-in test equipment (BITE)
- Signal strength meters for cellular, PCS and CATV
- Calibrators

- Spectrum analyzers
- Radar warning receivers (RWR)
- Dither A/D quantization error
- Gain-bandwidth product testing

NC520 Low Voltage Surface Mount Noise Source

The NC520 low voltage (surface mount) noise module is an economic solution for built-in test requirements. It contains complete bias circuits and require no external components.

Applications

- Built-in test equipment (BITE)
- Signal strength meters for cellular, PCS and CATV
- Calibrators

- Spectrum analyzers
- Radar warning receivers (RWR)
- Dither A/D quantization error
- Gain-bandwidth product testing

NC2000/4000 Series Broadband Amplified Noise Modules

The NC2000 Series amplified noise modules are an excellent choice for high-level noise modules mounted on a circuit board. The NC2000 Series modules are housed in 24, or14-pin dual-inline packages. The NC4000 series modules are housed in a 40-pin module that cover similar noise bands to the NC2000, but have higher crest factor, and 60 dB of TTL controlled attenuation. Modified BW, output power, and flatness specifications are available for these modules. Please consult Noisecom for availability, and appropriate package style.

Features

- Dither circuitry for A/D converters
- Communications jamming

- PCI Express® jitter applications
- Built-in test equipment (BITE)

Noisecom

Products

COMPONENTS

NC1000 Series Amplified AWGN Noise Modules 10 Hz to 18 GHz

The NC1000 Series amplified noise modules produce AWGN as high as +13 dBm, and have bandwidths up to 18 GHz. The high power modules are designed to test noise immunity for Cable TV equipment, secure communication channels, and military jamming systems. The lower power modules, <= 0 dBm, are random jitter sources for many applications including, PCIexpress, Infiniband, and 10 GigE. The Bandwidth, output power, and flatness can be modified for specific applications. A newly developed TTL controlled attenuation feature is also available.

Applications

• 10 GbE

• IEEE 802.3

• Infiniband

• PCI Express®

• CATV

• Jamming systems

CALIBRATED SOURCES

NC346 Broadband AWGN up to 67 GHz

The NC346 Series is designed for precision noise figure measurement applications. Each module's low VSWR reduces multiple reflections and significantly increases the measurement accuracy for most noise figure test configurations.

Features

• Broadband coverage

• Extremely good temperature stability

• Superior voltage stability

• Noise figure meter-compatible

NC3000 Coaxial 10 MHz to 110 GHz AWGN

The NC 3000 Series calibrated coaxial AWGN noise sources are well suited for receiver testing, noise figure measurements, or applications that require broadband noise and fast switching times. Several models include output isolators, and voltage regulators that provide excellent stability over varying temperature and voltage ranges. The NC 3000 Series includes the NC 3100 units with 15 dB ENR output for noise-figure meters, and the NC 3200 Series high-output noise sources with outputs between 26 and 35 dB ENR for radar and satellite communications system testing.

Features

• Noise output rise and fall times less than 1 N

• VSWR as low as 1.35:1.

• Noise output variation < 0.01 dB/°C and < 0.1 dB/1% ΔV.

• Input power +28 VDC at 30 mA max.

CALIBRATED SOURCES

NC3400 High ENR Coaxial 2 GHz to 18 GHz

The NC3400 Series coaxial AWGN noise sources are an excellent choice for applications requiring high ENR and immunity to large incident RF power, such as ATE, radiometer, and radar systems. The calibration accuracy and flatness of the NC3400 Series noise sources are enhanced by their low VSWR. The built-in isolator provides almost constant output impedance as the noise source bias is switched on and off. The isolator also protects the noise diode from incident RF power (consult the factory for higherpower units).

Applications

• Radar systems
• High NF device measurements

• Automated test equipment (ATE)
• 802.11ac Wi-Fi

NC3600 Series High ENR Noise Source 2 GHz to 45 GHz

The NC3600 Series coaxial noise sources are an excellent choice for applications requiring high ENR, such as ATE, radiometer, and radar systems. An SMA male connector is standard for the RF output and feed thrus for bias input. SMA female is an option. Custom frequencies and flatness available. Contact the factory with your request.

Applications

• Radar systems
• High NF device measurements
• Automated test equipment (ATE)
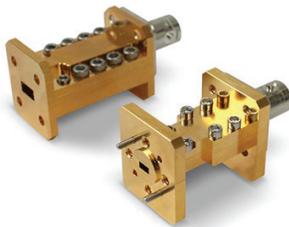
NC5000A Series 18 GHz to 110 GHz

The NC5000A Series AWGN noise sources feature outstanding stability, switching speed, and ripple-free response over standard waveguide bands. The high stability of the NC5000A Series allows these units to be used in place of cumbersome gas tube noise sources.

Applications

• Noise figure measurement
• Built-in test equipment (bite)
• Automotive Radar
• Radiometers

• Military applications
• 802.11ad, 60GHz Wi-Fi
• 60 GHz WiGig
• Small Cell Wireless Backhaul
• Wireless HD

STANDARDS

NBS-Series Cryogenic Primary Noise Standards

The NBS Series consists of calibration standards based on the primary fundamental physic constants of thermal noise and blackbody radiation. This provides the ultimate accuracy when measuring extremely low noise figures (noise temperatures). Simple, and versatile to use, the NBS-Series is an ideal solution for noise source calibrations, radiometer test references and low noise amplifier tests.

Features

- Expandable frequency range from 18 to 325 GHz
- 2 to 3 times better accuracy
- Automatic Nitrogen purge eliminates helium equipment
- Primary calibration standard
- Radiometer reference source
- SATCOM earth station conformance verifications

Wireless Telecom Group