

NS-1

Broadband RF Noise Generator User Instructions



Definitions:

Network: An arrangement of coaxial cable and devices connected in such a manner to allow the transport of RF, video, audio, and data.

DUT: Device-Under-Test

RF: Radio frequency signals

Cable: 75 Ohm coaxial cable

Introduction:

The NS-1 is a handheld broadband noise generator. It generates a wide, even RF noise signal that is used for testing network components and aligning a building's coaxial cable network.

By injection the NS-1's signal into the network or DUT at Point A, a technician can determine the network's or DUT's frequency response by connecting a spectrum analyzer or signal level meter (such as the XR-3 meter) at Point B. This frequency response measurement indicates the network's or DUT's flatness or ability to conduct RF signal at any specific measured frequency between 1-2150 MHz.

A padded carrying case with belt clip and a spare 9V battery are included with each NS-1 Broadband Noise Generator.

Operation:



NOTE: Do not connect this noise source to a system that contains active carriers (such as TV channels, data, etc.) This noise source will cause disruption to those services.

Connect a coaxial cable from the RF OUTPUT port of the NS-1 to your receiving device. Turn the NS-1's power on. Using your receiving device, note the level of the frequency range you are testing. This is your reference level.

Next, connect the coaxial cable from the RF OUTPUT port of the NS-1 to your network or DUT. Connect your receiving device to the output point of your network or DUT. Use your receiving device to measure and note the level. Subtract this level from your reference level to obtain the unflatness of your measurement.

Battery Replacement:

If the LO BAT light does not flash once when the unit is turned on, or the LO BAT light flashes continuously, you may need to replace the battery.

- 1) Remove the NS-1 from padded case.
- 2) Remove the battery cover from the rear of the NS-1.
- 3) Replace the low battery with a new 9V alkaline battery.
- 4) Install the battery cover.
- 5) Re-insert the NS-1 back into the padded case.
- 6) Place a new spare battery in the case battery holder for future use.

Specifications:

RF Signal Type: White Noise energy, Constant Spectral Density

Frequency Range: 1 to 2150 MHz

Maximum Output Level (at least):

Total:	-101.572 dBm/Hz, -8.3 dBm, +40.5 dBmV, +100.5 dBuV
280 kHz bandwidth:	-47 dBm, -2 dBmV, +58 dBuV
24 MHz bandwidth:	-28 dBm, +21 dBmV, +81 dBuV
+ MHz bandwidth:	-34 dBm, +15 dBmV, +75 dBuV

Amplitude Output Flatness:

5 to 46 MHz:	+/- 0.5 dB
46 to 860 MHz	+/- 1.0 dB
950 to 1450 MHz	+/- 1.0 dB
1550 to 2000 MHz	+/- 2.0 dB
5 to 2150 MHz	+/- 2.5 dB

Output Impedance:	75 Ohm
Operating Temperature	0° to 120°F (-18°C to +50°C)
DC Power	9V alkaline battery
Operation Time per Battery	15 hours continuous
Low Battery Indicator	LED flashes during last 10% of battery life
Low Battery Cutoff	Turns off signal when battery is insufficient
Enclosure Type, Size, Weight	ABS Plastic, 2.4"W x 7.5"H x 0.9"D, 6 oz. (6.1cm x 19.6cm x 2.3 cm, 170 g)

Specifications subject to change without notice.

Warranty:

Applied Instrument's NS-1 has a limited warranty against defects in materials and workmanship for a period of 12 months. AI agrees to repair or replace any assembly, or component (except F-connectors, battery, and carrying case) found to be defective under normal use during this period. Applied Instruments's obligation under this warranty is limited solely to repairing the instrument proved to be defective within the scope of the warranty when returned to the factory. Transportation to the factory is to be arranged and prepaid by the customer. Authorization by Applied Instruments is required prior to shipment. Warranty will cover the return shipping within the continental USA. Transportation from the factory must be paid by the customer if ship-to address is outside of the continental USA.

PLEASE KEEP YOUR RECEIPT OF PURCHASE TO VERIFY WARRANTY DATE

If it becomes necessary to have your NS-1 serviced, you can request a RMA online at:

<https://appliedinstruments.com/pages/request-rma>

You can also email your request to support@appliedin.com

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