WARRANTY

The Applied Instruments NS-1 has a limited warranty against defects in materials and workmanship for a period of twelve months. Applied Instruments 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' 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. For customers outside of the USA, return transportation from the factory to the customer must also be paid by the customer. Authorization by Applied Instruments is required prior to shipment.

Applied Instruments assumes no liability for secondary charges or consequential damages and, in any event, Applied Instruments' liability for breach of warranty under any contract shall not exceed the purchase price of the instrument shipped, and against which a claim is made.

Any application recommendations made by Applied Instruments for the use of its products are based upon tests believed to be reliable, but Applied Instruments makes no warranty of the results to be obtained. This warranty is in lieu of all other warranties, expressed or implied, and no representative or person is authorized to represent or assume for Applied Instruments, any liability in connection with the sale of Applied Instruments products other than that set forth herein.

Please keep your receipt of purchase to verify purchase date.

If it becomes necessary to have your NS-1 serviced, contact:

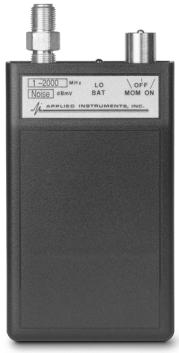
Applied Instruments, Inc.
5230 Elmwood Avenue
Indianapolis, IN 46203
Tel. +1 (317) 782-4331
Fax +1 (317) 786-9665
www.appliedin.com

APPLIED INSTRUMENTS, INC.
RF TEST AND MEASUREMENT

Revised 1 May 2018

"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

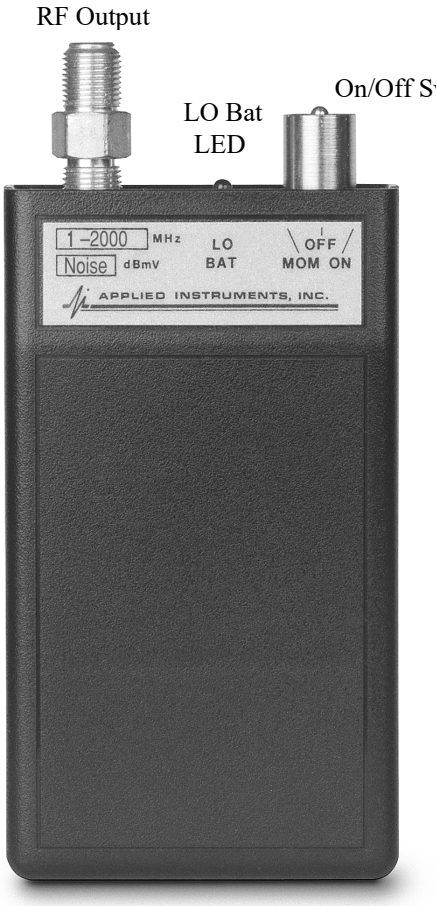
The NS-1 is a handheld broadband noise generator. It generates a wide, even RF noise signal that is used for testing network components and aligning a building's coaxial cable network.

By injecting 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 Applied Instrument's Super Buddy or 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.

Each NS-1 package contains:

- NS-1 Broadband RF Noise Generator
- Padded carrying case with belt clip
- Spare 9V battery
- Instruction page

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. Using your receiving device, 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 its padded case.
2) Remove the battery cover from the rear of the NS-1.
3) Replace the low battery with a new, fresh alkaline battery.
4) Install the battery cover.
5) Re-insert the NS-1 back into its carrying case
6) Place a new, fresh alkaline battery in the battery holder of the case 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 dBµV
280 kHz bandwidth……-47 dBm, -2 dBmV, +58 dBµV
24 MHz bandwidth…….-28 dBm, +21 dBmV, +81 dBµV
6 MHz bandwidth……...-34 dBm, +15 dBmV, +75 dBµV

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 Ω
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 4.7"H x 0.9"D, 4 oz. (6.1 cm) x (11.9 cm) x (2.3 cm), 113 g

Specifications subject to change without notice.