



ADVANCED NOISE TECHNOLOGY

NAL2000 SERIES

Carrier/Noise Reference and Carrier Signature Calibration Standard



Applications:

- AM/PM Carrier Noise Measurement Systems Standard
- Wideband, True Noise Source for System Development
- AM/PM Discriminator Dynamic Range & Sensitivity Calibrator
- Traceable Carrier/Noise Reference for Precision Laboratory Measurements

Features:

- Operating Frequency Coverage in the UHF, L, S, C, X, and Ku Bands
- Accurate, Wideband Noise (10%, typical)
- Standard Rack-mount Unit, with Internal Low Noise Power Supply
- NIST Certification and Traceability
- Ultra-Reliable, Patented Technology

The NAL2000 Series instrument contains a wideband Gaussian Noise Source, which is characterized for AM/PM Noise Signatures and Power Spectral Density flatness over a customer specified bandwidth. The instrument is designed to provide noise measurement accuracies of better than +/-1 dB at user frequencies spanning 500 MHz to 26 GHz. The NAL2000 Gaussian Noise Source is the first Noise Artifact instrument specifically developed to vastly improve the accuracy of AM and PM noise measurements. Inherent design reliability assures that the Noise Artifact will remain consistent over long-term use.

The unit, when used in conjunction with a stable carrier signal, provides an acutely accurate noise reference to confirm the sensitivity of PM Discriminators and AM Detectors. In addition, the unit allows consistent determination of the dynamic range of noise measurement instruments as well as communications systems.

The unique technology of the NAL2000 allows it to be used as a Reference Noise Standard, providing AM and PM Noise Calibration capability, which can be traceable to NIST. To learn more, consult the TCI white paper, "NAL2010 AM and PM CALIBRATION REFERENCE, SPECIFICATIONS and APPLICATIONS."

Techtrol Cyclonetics Inc.

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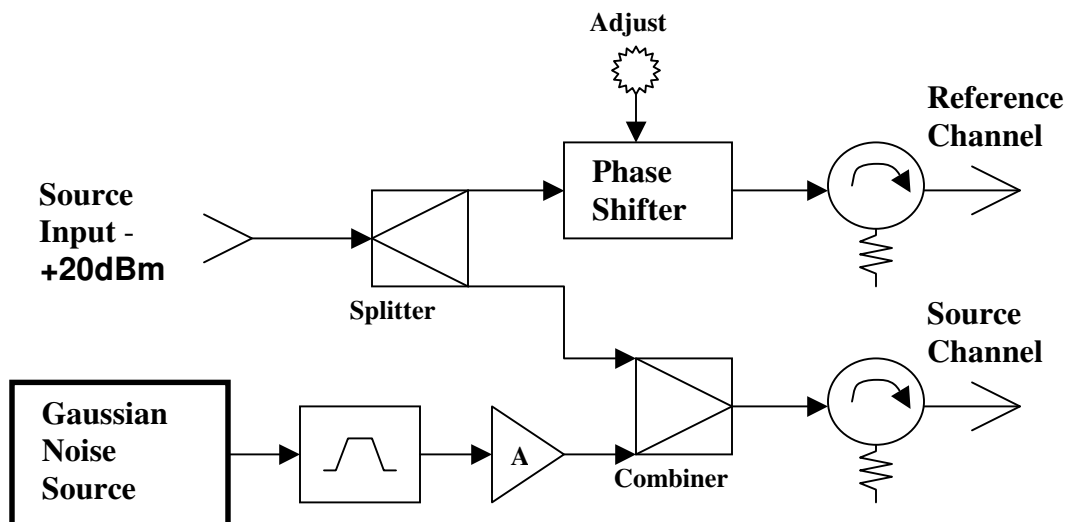
Specifications:

Carrier Frequency:	UHF, L, S, C, X, and Ku Bands
Output Noise Level:	-110 dBm/Hz, nominally
Noise Bandwidth:	Fo \pm 5% (min), customer defined
Noise Density Calibration Accuracy:	\pm 0.75 dB typical, over customer bandwidth
Carrier Input Level:	+20 dBm, nominal (+30 dBm max)
Phase Adjustment Range:	\pm 180 degrees, min
Carrier Signal Path Loss:	4 dB, nominal
Input/Output Connector Type:	SMA, standard or N-type, optional
Power:	120/240 VAC 57-63 Hz, Dual Fused
Size:	3.5" High x 19" Wide x 17" Deep (3U, 19" rack-mount cabinet)

Internal Gaussian Noise source can be turned OFF or ON via the front-panel toggle switch.

Custom features made available upon request.

Simplified Block Diagram of the NAL2000 Series Noise Calibrator



Notes:

1. TCI supplied Noise Level Certification is standard. NIST Certification is provided upon request, as an additional cost option.
2. Instrument can be returned to TCI for re-verification, or else can be contracted directly through NIST.

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