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Data Sheet

August 1, 2026

AEROFLEX

IFR Aeroflex PN9000 Phase Noise Measurement System

IFR / Aeroflex / Noise XT PN9000 Phase Noise Measurement System The PN9000 is a modular automatic phase noise test system originally associated with Aeroflex / IFR and continued under Noise XT. It measures absolute and residual (additive) phase noise, and optionally amplitude noise, on RF and microwave sources. The base chassis covers 2 MHz to 1.8 GHz; microwave down-converter and related options extend coverage to 26.5 GHz, 40 GHz, 50 GHz, and with further options toward 140 GHz. Offset analysis starts near the carrier (0.01 Hz class; extended options to 40 MHz or 500 MHz). The instrument is intended for laboratory characterization and ATE remote control over GPIB and Ethernet. The PN9000 is a modular automatic phase noise test system originally associated with Aeroflex / IFR and continued under Noise XT. It measures absolute and residual (additive) phase noise, and optionally amplitude noise, on RF and microwave sources. The base chassis covers 2 MHz to 1.8 GHz; microwave down-converter and related options extend coverage to 26.5 GHz, 40 GHz, 50 GHz, and with further options toward 140 GHz. Offset analysis starts near the carrier (0.01 Hz class; extended options to 40 MHz or 500 MHz). The instrument is intended for laboratory characterization and ATE remote control over GPIB and Ethernet. Crystal oscillators, synthesizers, VCOs, DROs, and other frequency sources; residual/additi

No photo

MODEL

Aeroflex PN9000

CALIBRATION

**N/A — off-catalog
OEM datasheet**

CONDITION

**See OEM
documentation**

STATUS

**Not listed on
Aumictech
inventory**

RFQ / SKU

PN9000

LISTING

**Off-catalog — OEM dat
asheet only**

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

Features & description

From manufacturer datasheet

Features

- Modular single-channel architecture with configurable RF, LO, down-converter, and residual-noise options
- Measurement techniques: phase-locked loop (PLL), delay line (optional), residual/added phase noise (optional), amplitude noise (optional)
- Base RF input frequency: 2 MHz to 1.8 GHz; options to 26.5 / 40 / 50 GHz and extensions toward 140 GHz
- Offset analysis: 0.01 Hz to 1 MHz standard; optional extension to 40 MHz or 500 MHz
- Measurement accuracy: typically +/-2 dB to 1 MHz offset; +/-3 dB above 1 MHz (wider-offset options carry additional tolerance)
- Residual noise floor to about -178 dBc/Hz (high-level RF configuration at 10 kHz and beyond)
- Spurious detection level about -110 dBc
- Built-in frequency counter on RF and LO ports
- Remote control: GPIB and Ethernet for ATE
- Compact 5.25 in (3U-class) rack chassis

Built-in Counter (RF and LO): 2 MHz to 2 GHz

IF / Beat Frequency: approximately 0.3 Hz to 400 kHz Mechanical Dimensions (HxWxD): approximately 13.3 × 38.5 × 57.5 cm (5.25 in x 17.72 in x 22.63 in) Operating Temperature: -10 C to +40 C; up to 95% RH non-condensing Standard RF Input Configuration (Base Module) Frequency Range: 0.002 to 1.8 GHz RF Input Level: -20 dBm min to +10 dBm max LO Input Level: 0 dBm min to +10 dBm max RF Input Gain Steps: -10, 0, 10, 20 dB LO Input Gain Steps: 0, 10 dB Typical Residual Noise Floor (dBc/Hz): 1 Hz: -130; 10 Hz: -140; 100 Hz: -150; 1 kHz: -160; 10 kHz and beyond: -168 Nominal RF / LO Levels for Floor Spec: +6 dBm RF, +7 dBm LO Note: For RF levels below nominal, residual floor degrades approximately 1 dB per dB below nominal. Specified values often quoted with +3 dB margin for +/-2 dB accuracy.

High-Level RF Configuration Frequency Range: 0.002 to 1.6 GHz RF Input: +10 dBm min to +20 dBm max LO Input: +10 dBm min to +20 dBm max Typical Residual Noise Floor (dBc/Hz): 1 Hz: -140; 10 Hz: -150; 100 Hz: -160; 1 kHz: -170; 10 kHz and beyond: -178 Nominal RF / LO Levels: +16 dBm RF, +17 dBm LO Representative Options PN9100: Internal low-noise reference generator (2 MHz to 4.5 GHz class, options higher)

PN9000 Characteristics / Specifications

PARAMETER	VALUE
Model	PN9000
Manufacturer	Aeroflex / IFR (Noise XT continuation)
Instrument Type	Modular automatic phase noise measurement system
RF Input Frequency (Base)	2 MHz to 1.8 GHz
RF Input Frequency (Options)	1.8 GHz to 26.5 / 40 / 50 GHz; further options toward 140 GHz
Offset Analysis (Standard)	0.01 Hz to 1 MHz
Offset Analysis (Options)	to 40 MHz or 500 MHz
RF Input Impedance	50 Ohms
Measurement Accuracy	+/-2 dB up to 1 MHz offset; +/-3 dB above 1 MHz offset (base brochure); wider offsets per option (+/-3 dB to 40 MHz; +/-5 dB to 500 MHz in later Noise XT summaries)
Reference Tuning Voltage	+/-20 V with 5 mV resolution
Phase Lock Loop	Proportional and integral gain; automatic loop compensation (can be disabled)
Spurious Level	-110 dBc
IF / Beat Frequency	approximately 0.3 Hz to 400 kHz
Mechanical Dimensions (HxWxD)	approximately 13.3 × 38.5 × 57.5 cm (5.25 in x 17.72 in x 22.63 in)
Operating Temperature	-10 C to +40 C; up to 95% RH non-condensing Standard RF Input Configuration (Base Module)
Frequency Range	0.002 to 1.8 GHz
RF Input Level	-20 dBm min to +10 dBm max
LO Input Level	0 dBm min to +10 dBm max
RF Input Gain Steps	-10, 0, 10, 20 dB
LO Input Gain Steps	0, 10 dB
Typical Residual Noise Floor (dBc/Hz)	1 Hz: -130; 10 Hz: -140; 100 Hz: -150; 1 kHz: -160; 10 kHz and beyond: -168
Nominal RF / LO Levels for Floor Spec	+6 dBm RF, +7 dBm LO

PARAMETER	VALUE
RF Input	+10 dBm min to +20 dBm max
LO Input	+10 dBm min to +20 dBm max
Nominal RF / LO Levels	+16 dBm RF, +17 dBm LO Representative Options
PN91	Internal low-noise reference generator (2 MHz to 4.5 GHz class, options higher)
PN92	Internal microwave down-converter (approximately 1.7 to 26.5 or 40 GHz)
PN95xx	Ultra-low-noise internal reference crystal oscillators
PN984x	Residual / added-noise phase shifters and splitters Offset bandwidth extensions to 40 MHz or 500 MHz Standard Operating Conditions Brochure residual floors and accuracy apply under the manufacturer-stated RF/LO levels and after proper lock. Controllers historically shipped asaPC with Windows and application software; exact host PC configuration varies by vintage.
Measurement techniques	phase-locked loop (PLL), delay line (optional), residual/added phase noise (optional), amplitude noise (optional)
Base RF input frequency	2 MHz to 1.8 GHz; options to 26.5 / 40 / 50 GHz and extensions toward 140 GHz
Offset analysis	0.01 Hz to 1 MHz standard; optional extension to 40 MHz or 500 MHz
Remote control	GPIB and Ethernet for ATE
Bandwidth	extensions to 40 MHz or 500 MHz

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Operating temperature	10 C to +40 C; up to 95% RH non-condensing
Operating Temperature	10 C to +40 C; up to 95% RH non-condensing
Frequency Range	0.002 to 1.8 GHz
RF Input Level	-20 dBm min to +10 dBm max
LO Input Level	0 dBm min to +10 dBm max
RF Input Gain Steps	-10, 0, 10, 20 dB
LO Input Gain Steps	0, 10 dB
Typical Residual Noise Floor (dBc/Hz)	1 Hz: -130; 10 Hz: -140; 100 Hz: -150; 1 kHz: -160; 10 kHz and beyond: -168
Nominal RF / LO Levels for Floor Spec	+6 dBm RF, +7 dBm LO
RF Input	+10 dBm min to +20 dBm max
LO Input	+10 dBm min to +20 dBm max
Nominal RF / LO Levels	+16 dBm RF, +17 dBm LO Representative Options
PN91	Internal low-noise reference generator (2 MHz to 4.5 GHz class, options higher)
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Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

Specifications

Specifications

PARAMETER	VALUE
Model	PN9000
Manufacturer	Aeroflex / IFR (Noise XT continuation)
Instrument Type	Modular automatic phase noise measurement system
RF Input Frequency (Base)	2 MHz to 1.8 GHz
RF Input Frequency (Options)	1.8 GHz to 26.5 / 40 / 50 GHz; further options toward 140 GHz
Offset Analysis (Standard)	0.01 Hz to 1 MHz
Offset Analysis (Options)	to 40 MHz or 500 MHz
RF Input Impedance	50 Ohms

Measurement Accuracy: +/-2 dB up to 1 MHz offset; +/-3 dB above 1 MHz offset (base brochure); wider offsets per option (+/-3 dB to 40 MHz; +/-5 dB to 500 MHz in later Noise XT summaries)

Specifications

PARAMETER	VALUE
Reference Tuning Voltage	+/-20 V with 5 mV resolution
Phase Lock Loop	Proportional and integral gain; automatic loop compensation (can be disabled)
Spurious Level	-110 dBc

Built-in Counter (RF and LO): 2 MHz to 2 GHz

Specifications

PARAMETER	VALUE
IF / Beat Frequency	approximately 0.3 Hz to 400 kHz
Mechanical Dimensions (HxWxD)	approximately 13.3 x 38.5 x 57.5 cm (5.25 in x 17.72 in x 22.63 in)
Operating Temperature	-10 C to +40 C; up to 95% RH non-condensing

Standard RF Input Configuration (Base Module)

Specifications

PARAMETER	VALUE
Frequency Range	0.002 to 1.8 GHz
RF Input Level	-20 dBm min to +10 dBm max
LO Input Level	0 dBm min to +10 dBm max
RF Input Gain Steps	-10, 0, 10, 20 dB
LO Input Gain Steps	0, 10 dB
Typical Residual Noise Floor (dBc/Hz)	1 Hz: -130; 10 Hz: -140; 100 Hz: -150; 1 kHz: -160; 10 kHz and beyond: -168

Nominal RF / LO Levels for Floor Spec: +6 dBm RF, +7 dBm LO

Note: For RF levels below nominal, residual floor degrades approximately 1 dB per dB below nominal. Specified values often quoted with +3 dB margin for +/- 2 dB accuracy.

High-Level RF Configuration

Specifications

PARAMETER	VALUE
Frequency Range	0.002 to 1.6 GHz
RF Input	+10 dBm min to +20 dBm max
LO Input	+10 dBm min to +20 dBm max
Typical Residual Noise Floor (dBc/Hz)	1 Hz: -140; 10 Hz: -150; 100 Hz: -160; 1 kHz: -170; 10 kHz and beyond: -178
Nominal RF / LO Levels	+16 dBm RF, +17 dBm LO

Representative Options

Specifications

PARAMETER	VALUE
PN9100	Internal low-noise reference generator (2 MHz to 4.5 GHz class, options higher)
PN9276	Internal microwave down-converter (approximately 1.7 to 26.5 or 40 GHz)
PN95xx	Ultra-low-noise internal reference crystal oscillators
PN984x	Residual / added-noise phase shifters and splitters

Offset bandwidth extensions to 40 MHz or 500 MHz

Standard Operating Conditions

Brochure residual floors and accuracy apply under the manufacturer-stated RF/LO levels and after proper lock. Controllers historically shipped asaPC with Windows and application software; exact host PC configuration varies by vintage.

Operational Notes

An external low-noise reference (LO) with GPIB control and FM/tuning input is typically required unless an internal reference option is installed. Residual measurements require the appropriate residual hardware options. Confirm installed options (frequency coverage, high-level RF, delay line, amplitude noise) from the chassis option list before quoting performance.

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: N/A — off-catalog OEM datasheet. See OEM documentation · Not listed on Aumictech inventory.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

Aumictech

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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.