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Data Sheet

August 14, 2026

HP / AGILENT

HP / Agilent 3708A Noise and Interference Test Set

The HP 3708A Noise and Interference Test Set injects calibrated white noise and/or external interference into microwave radio IF paths to establish accurate C/N and C/I ratios for BER testing. OEM product and HP Journal descriptions list IF operation covering common microwave-link intermediate frequencies from about 10 MHz to 140 MHz, injected noise bandwidths from 10 MHz to 200 MHz via internal filters or an external filter, automatic tracking of carrier fading with typical 10 ms response, true-RMS IF power metering, and a high-stability 0 dBm reference tone. Digital and FM microwave radio fade simulation, C/N and C/I versus BER characterization, satellite modem noise tolerance tests, and field measurements under rapid received-signal-level variations. Series Family: HP Queensferry digital radio test Specification Ambient Class: laboratory ambient unless OEM table states otherwise Calibration Path: OEM noise test set procedures Documentation: HP 3708A specifications brochure and HP Journal July 1987 design articles



MODEL

HP / Agilent 3708A

CALIBRATION

Available on request

CONDITION

Used

STATUS

In stock

RFQ / SKU

3708A

LISTING

<https://aumictechlabs.com/products/3708a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The HP/Agilent 3708A Noise and Interference Test Set is a precision instrument for evaluating communication system performance by injecting calibrated white noise and interference signals

into IF sections of digital and FM radio systems. It maintains constant Carrier-to-Noise (C/N) and Carrier-to-Interference (C/I) ratios independent of input carrier power variations, enabling accurate C/N and C/I versus Bit Error Ratio (BER) characterization for microwave radio, satellite, and digital TV forward error correction (FEC) systems.

Technical Specifications

Noise Generation
Noise Type: Band-limited white noise
Noise Output Level: +6 dBm to -80 dBm (filter-dependent);
-70 dBm/Hz to -154 dBm/Hz (filter-dependent)
IF Output Level: 6 dB lower than Noise Output
connector Noise Power Accuracy: ± 0.25 dB (+6 dBm to -10 dBm at $23 \pm 3^\circ\text{C}$); ± 0.5 dB (+6 dBm to -55 dBm)
Noise Bandwidth Accuracy: ± 0.15 dB $\pm 2.5\%$
Crest Factor: Typically 15 dB
Carrier Path (Reference Tone) Oscillator Frequency: 70 MHz or 140 MHz, crystal-controlled, front-panel selectable
Oscillator Level: 0 dBm ± 0.15 dB (factory-set to 0 dBm ± 0.05 dB at $23 \pm 3^\circ\text{C}$)
Carrier Path Gain (70 MHz): 0 ± 0.4 dB (typically 0 ± 0.1 dB)
Frequency Flatness: ± 0.2 dB (70 ± 20 MHz); ± 0.3 dB (140 ± 40 MHz)
Group Delay: Typically 0.2 ns
Loss to IF Output: Typically 15 dB
Interference Path Input Frequency Range: 10 MHz to 200 MHz, broadband
Valid Interferer Input Power: -30 dBm typical
Impedance & Connectors Standard Configuration: 75 Ω unbalanced
Option 001: 50 Ω unbalanced

Measurement Performance
C/N Power Ratio Range: -10 dB to 60 dB
C/N Accuracy: ± 0.5 dB

Key Features
Microprocessor-controlled power metering maintains constant C/N and C/I ratios under varying input carrier conditions
Broadband interference mixing capability stresses systems deterministically with or without simultaneous noise injection
Crystal-controlled reference oscillator with selectable 70 or 140 MHz operation
Dual-impedance connector options (50 Ω or 75 Ω) support diverse radio platforms

Typical Applications
Modem performance characterization in microwave radio and satellite systems
Digital TV FEC system tolerance evaluation
Fading simulation and system resilience assessment in digital and FM radio receivers
BER measurement versus noise and interference ratio in communication link analysis

3708A Characteristics / Specifications

PARAMETER	VALUE
Instrument Family	HP 3708A
IF Frequency Coverage Class	10 MHz to 140 MHz common microwave IF
Injected Noise Bandwidth Range	10 MHz to 200 MHz
Noise Bandwidth Control	internal filters or external filter
Tracking Response Typical	10 ms
Carrier Tracking Fade Rate Example	maintains ratio under 50 dB/s and 10 dB/s RSL variations class
Injection Assembly Loss	0 dB
Maximum Carrier Power Through Path	5 dBm
Standard IF Impedance	75 Ohm
Remote Interface	HP-IB IEEE 488
Reference Tone Level	0 dBm high stability
Power Meter Type	true RMS IF
Interference Facility	external broadband mix with or without noise
Form Factor	benchtop / rackable test set
Primary Measurement	C/N and C/I ratio setting for BER
Operating Mode	microprocessor controlled noise density adjust
Series Family	HP Queensferry digital radio test
Specification Ambient Class	laboratory ambient unless OEM table states otherwise
Calibration Path	OEM noise test set procedures
Documentation	HP 3708A specifications brochure and HP Journal July 1987 design articles
Safety Earth Required	yes
Bandwidth	Range: 10 MHz to 200 MHz

3708A Specifications

PARAMETER	VALUE
HP 3708A Noise And Interference Test Set	Overview
Automatic C/N tracking under carrier fading	Broadband interference injection with or without noise
True RMS IF power meter	High stability 0 dBm reference tone
Technical Specifications	Instrument Family: HP 3708A

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
Instrument Family	HP 3708A
IF Frequency Coverage Class	10 MHz to 140 MHz common microwave IF
Injected Noise Bandwidth Range	10 MHz to 200 MHz
Noise Bandwidth Control	internal filters or external filter
Tracking Response Typical	10 ms
Carrier Tracking Fade Rate Example	maintains ratio under 50 dB/s and 10 dB/s RSL variations class
Injection Assembly Loss	0 dB
Maximum Carrier Power Through Path	5 dBm
Standard IF Impedance	75 Ohm
Option 001 Impedance: 50 Ohm unbalanced	
Specifications	
PARAMETER	VALUE
Remote Interface	HP-IB IEEE 488
Reference Tone Level	0 dBm high stability
Power Meter Type	true RMS IF
Interference Facility	external broadband mix with or without noise
Form Factor	benchtop / rackable test set
Primary Measurement	C/N and C/I ratio setting for BER
Operating Mode	microprocessor controlled noise density adjust
Series Family	HP Queensferry digital radio test
Specification Ambient Class	laboratory ambient unless OEM table states otherwise
Calibration Path	OEM noise test set procedures
Documentation	HP 3708A specifications brochure and HP Journal July 1987 design articles
Option 909: rack and handle kit	
Safety Earth Required: yes	

Notes

From HP 3708A product feature summaries and Hewlett-Packard Journal July 1987 design articles describing IF coverage, noise bandwidth, tracking response, and injection path limits. Confirm 75 Ohm versus Option 001 50 Ohm connectors and full accuracy footnotes on the HP 3708A specifications sheet.

Ordering Information

OPTION	DESCRIPTION
Option 001	Impedance: 50 Ohm unbalanced

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

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

Aumictech
788 S 500 E, Pleasant Grove, UT 84062
sales@aumictech.com · +1 (484) 841-9341
<https://aumictechlabs.com>

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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.