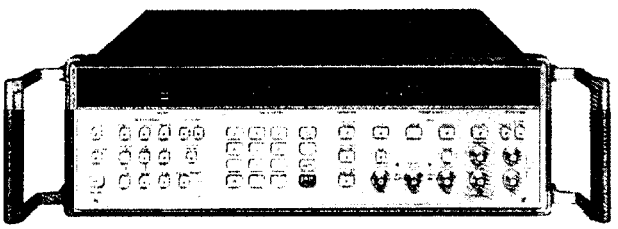
HP 3708A
- Carrier tracking maintains accurate & repeatable C/N & C/I conditions
- Fast, alternative residual BER measurement
- Accurate simulation of radio system interference



HP 3708A

DESIGNED FOR HP-IB SYSTEMS

HP 3708A Noise and Interference Test Set

The HP 3708A provides an accurate method of assessing performance of microwave radio and satellite modem systems by providing the Carrier to Noise (C/N) and Carrier to Interference (C/I) conditions necessary to make C/N & C/I vs Bit Error Ratio (BER) measurements. Accurate and repeatable C/N and C/I ratios can be maintained even in the presence of severe signal variations.

The HP 3708A is equally at home in manufacturing, commissioning, or maintenance. Its measurement accuracy allows small changes in performance to be identified with confidence. The instrument is designed for easy access to the IF section of the radio system. The carrier level is monitored and calibrated levels of interference and Gaussian noise are added to stress the system in a controlled way.

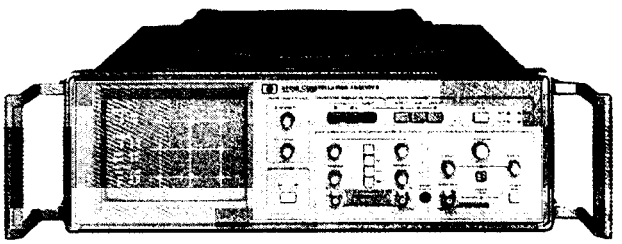
The HP 3708A has the flexibility to accommodate a wide variety of radio designs, a selection of calibrated internal filters giving accurately specified Carrier to Noise ratios in any noise bandwidth. The interference facility allows the addition of a wide variety of interference signals to accurately simulate the effects of radio interference on system performance. Connectors are 75 Ω unbalanced, and standard 70 MHz and 140 HMz reference tones are provided.

Options

Std: 75 Ω unbalanced connector. Reference tone oscillator frequency is 70/140 MHz.
001: 50 Ω unbalanced connector.
Special options: Reference tone oscillator frequencies, specifically for portable application of the HP 3708A in determining residual BER, are available on a special order basis.

Ordering Information	Price
HP 3708A Noise and Interference Test Set	$19,600
Opt 001 50 Ω Unbalanced Connectors	+ $210

HP 3709B
- For troubleshooting, fine-tuning and preventive maintenance
- Identifies digital radio impairments
- Analyzes magnitude of distortions



HP 3709B

DESIGNED FOR HP-IB SYSTEMS

HP 15709A

HP 3709B Constellation Analyzer

The HP 3709B is used to characterize the performance and condition of digital radios both in-service and out-of-service by analysis of constellation patterns. In addition to displaying constellation patterns, the HP 3709B measures the linear and nonlinear distortions revealed by the patterns, and can provide a formatted report containing the pattern and measurement results on a ThinkJet printer.

Measurements

Constellation: Amplitude, closure, lock- and quad-angle errors, non-linear distortion (rms, am-am, am-pm)
Modulation schemes: QPSK, 16QAM, 64QAM, 256QAM, 9QPR, 25QPR, 49QPR, 81QPR

Monitor Points

I and Q signals: Any of the above schemes with signal levels in the range 30 to 400 mV p-p across the constellation. (dc offset must be no more than 0.5 × signal amplitude).
Clock: 1 MHz to 80 MHz (100 mV to 1 V p-p)
Impedance level: All HP 3709B inputs are 75 Ω terminated.

Options

001: 50 Ω unbalanced input connectors
003: Siemens series 1.6/5.6 mm input connectors
130: High Impedance Interface Kit. Contains 1 x HP 15709A High Impedance Interface and 3 x HP 10435A 1 metre 10:1 probes
Special Options: A low bit rate version (0.1 – 8 MHz) is available to special order.

HP 15709A High Impedance Interface

This specially designed accessory provides three high impedance, filtered inputs which allow the HP 3709B to be connected to radios without protected 75 or 50 Ω monitor points, using standard oscilloscope passive probes (e.g., HP 10435A 10:1, 1 metre probe).
Gain: × 5 (= overall × 0.5 gain when used with 10:1 probes)
Impedance: 1 MΩ

Ordering Information	Price
HP 3709B Constellation Display	$14,100