

TELECOMMUNICATIONS TEST EQUIPMENT

Microwave Radio Noise and Interference Test Set, Multipath Fading Simulator

507

HP 3708A, 11757A

HP 3708A

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

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HP 3708A Noise and Interference Test Set

To minimize lost transmission revenue and the cost of equipment repair, an accurate, overall performance assessment of radio systems is required. This allows potential faults to be corrected before they begin to cause problems. 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.

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. Accurate and repeatable C/N and C/I ratios can be maintained even in the presence of severe signal variations.

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.

CCIR recommendations 594 recognize the importance of residual BER in assessing the overall performance of digital radio systems. The HP 3708A provides the capability to significantly reduce residual BER measurement time, and increase the confidence in measurement accuracy.

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, for correct diagnosis of specific impairments.

Options

Std: 75 ohm unbalanced connector, Reference tone oscillator frequency is 70/140 MHz.

001: 50 ohm unbalanced connector.

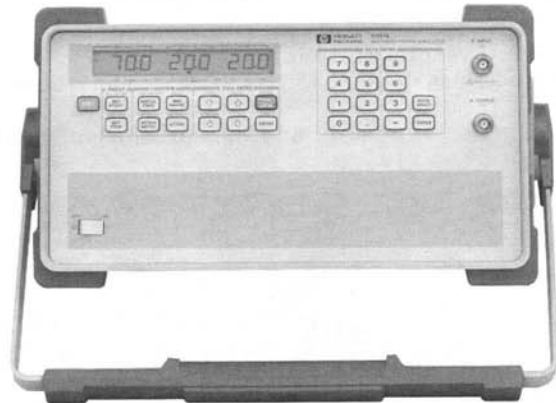
Special options: Reference tone oscillator frequencies, specifically for portable application of the HP 3708A in determining residual BER, are available on a special order basis.

Ordering Information

HP 3708A Noise and Interference Test Set \$16,750
Opt W30 Extended Repair Service. See page 725. +\$410

HP 11757A

- Test equalizers and diversity combiners, measure M-curves
- Fixed or moving notch
- Simplified 3-path model
- High performance, lightweight, rugged, easy-to-use



HP 11757A



HP 11757A Multipath Fading Simulator

The HP 11757A Multipath Fading Simulator tests the equalizers and diversity systems in modern digital microwave radios by inserting a notch in the spectrum. The depth, position, minphase/nonminphase, and delay characteristics of the notch can be adjusted. The notch can be stationary to make measurements such as M-Curves (signatures), or it can be swept in depth and position to test radios under dynamic conditions.

The simulator can also play back tables of realistic fading activity that can be stored in nonvolatile memory in the instrument. The rate of change of the notch characteristics can be set, and all transitions occur without glitches or transients that would disturb a measurement. Multiple units can be synchronized to test diversity systems.

Specifications

Notch Frequency

Range: Standard: 40 MHz to 100 MHz
Opt 140: 110 MHz to 170 MHz
Opt 147: both bands

Resolution: 100 kHz
Accuracy: ±150 kHz

Depth

Range: 0 to 40 dB
Resolution: 0.1 dB

Accuracy: Notch Depth Accuracy
1-20 dB ±0.75 dB
21-30 dB ±1.50 dB
31-40 dB ±3.00 dB

Delay

Range: 1 to 25 ns
Resolution: 0.1 ns
Accuracy: 0.5 ns

Attenuation/Gain

Range: 12 dB gain to 50 dB attenuation
Resolution: 0.1 dB
Accuracy: ±2 dB

Sweep

Sweep time: 100 ms to 99.9 s
Max. slew rates: freq: 600 MHz/s
depth: 450 dB/s

Weight: 9kg (20lbs)

Ordering Information

HP 11757A Multipath Fading Simulator (70 MHz band)
Opt 140 140 MHz band \$0
Opt 147 Both 70MHz and 140 MHz bands +\$1,000

Prices

\$14,000
\$0
+\$1,000