

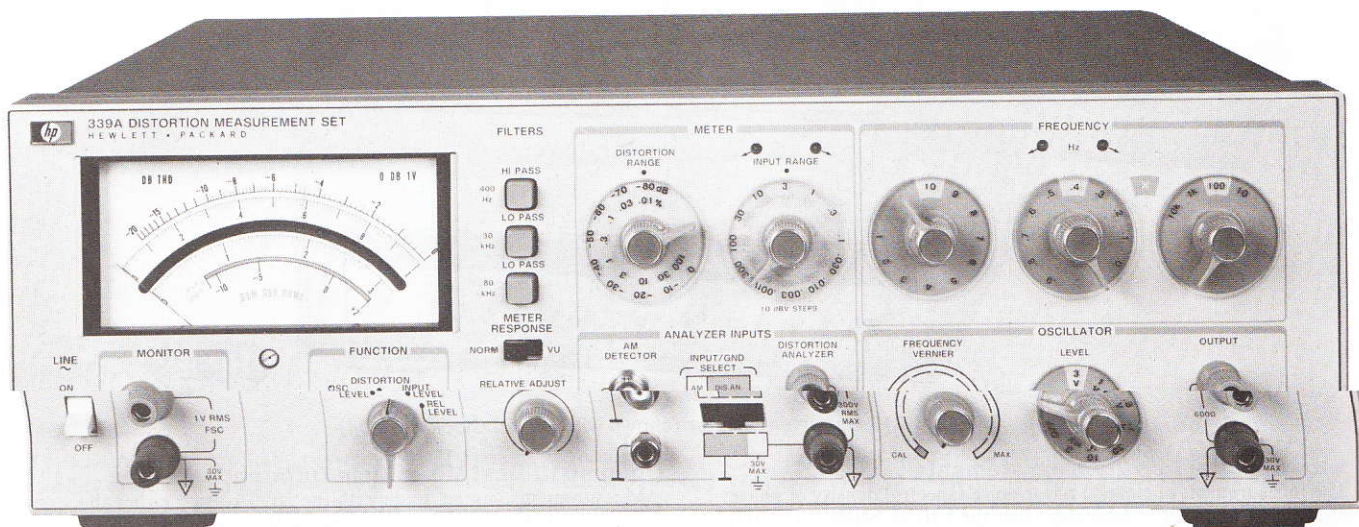
SIGNAL ANALYZERS

Distortion Measurement Set

Model 339A

- Ultra low distortion measurements
- Built-in low distortion oscillator

- Automatic
- True RMS detection



339A

Description

Hewlett-Packard's new Model 339A Distortion Measurement Set is an ultra low distortion measuring system complete with total harmonic distortion (THD) analyzer, true-rms voltmeter, and sinewave oscillator. This small, lightweight bench measurement set allows you to make THD distortion measurements as low as 0.0018% over a 10 Hz to 110 kHz frequency band including harmonics to 330 kHz.

For fast and easy THD measurements the built-in tracking oscillator in HP's 339A saves test time because you tune one instrument instead of two. Frequency and level measurements are easy to do with HP's 339A's voltmeter, which offers you a 1 mV to 300 V measurement range. The Relative Level mode has been included to further simplify frequency response measurements. Just set a 0 dBm reference at any frequency from 10 Hz to 110 kHz. Gain measurements can be read directly from the easy-to-read meter.

Operation Simplicity

Automatic frequency tuning and set-level features allow you to make rapid, error free THD measurements. The 339A's built-in tracking oscillator eliminates the need to find the fundamental frequency and tune the analyzer for a null. Just select your oscillator frequency and the rest is automatic. Automatic set-level saves time by automatically setting 0 dB (100%) reference in the distortion measuring mode. Front panel directional indicators light when the input range setting is improper insuring accurate and repeatable measurements. Automatic set-level also greatly simplifies measurements where distortion as a function of level (SINAD¹, for example) is desired. Without this feature, measurements are very time consuming and tedious.

When an external stimulus is used, analyzer tuning is simplified by directional indicator lights for reaching the fundamental null quickly and easily.

IHF Standards

The ultra low distortion and true rms measuring capabilities of the

339A will be of significant interest to the manufacturers and sales/service companies offering high performance HI-FI equipment. The 339A conforms to portions of a new standard method of measurement for audio amplifiers (IHF-A-202 1978) published by the Institute of High Fidelity, Inc. Particularly noteworthy is the rms measurement of (THD + N) according to sections 1.17 and 2.9.3.1.

SINAD¹ Measurements

Receiver sensitivity and selectivity are two of the most important checks for a transceiver. Since both of these measurements are generally made by the SINAD¹ method, it is very important to use a distortion analyzer that automatically compensates for input variations and provides an accurate indication of noise. Now, with the 339A's auto set level feature and true-rms detection, a more accurate SINAD measurement is possible.

Auto set level eliminates the need for continually checking the 100% set level reference while the receiver input is reduced during the measurement, thus eliminating several tedious operator adjustments with a considerable savings in test time. Also, the true-rms responding 339A more accurately determines the thermal noise and harmonic components in SINAD since it is not subject to the same reading and calibration errors as an average detector.

FCC Requirements

The FCC required features for broadcast testing are included in the 339A. They include an AM detector, 30 kHz low pass filter, and switchable VU meter ballistics.

Other Features

Hum and noise filters, a high level monitor output for further harmonic analysis, and floating input are standard features on the model 339A.

¹SINAD is a sensitivity measurement computed from the ratio of signal plus noise and distortion to noise and distortion.