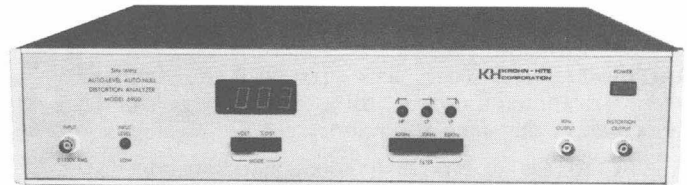




model 6900

NEW!

WIDE RANGE .1-130 Volts 5Hz-1MHz FULLY AUTOMATIC DISTORTION ANALYZER



- Fully Automatic Distortion Measurements
- Frequency Range: 5Hz to 1MHz - Auto Nulling
- Voltage Range: .1 to 130 Volts RMS - Auto Level
- Measures Distortion down to .005%

- Measures AC Voltage: .010 - 130 Volts RMS, 5Hz to 1MHz
- Internal Oscillator: 1 KHz, < .003% Distortion
- "Hands Off" Operation

The KROHN-HITE Model 6900 is the first fully automatic Distortion Analyzer to provide an easy solution to your distortion and AC voltage measurements over the frequency range from 5Hz to 1MHz.

Compare the ease of operation of the 6900 to any other distortion analyzer. The 6900 requires only an input signal. Auto frequency nulling, auto level setting, and autoranging of the digital meter automatically displays the total harmonic distortion (THD).

The 6900 measures THD from typically 3Hz to an unprecedented 1MHz and input levels from 100mV to 130 volts RMS. Ultra-low distortion can be measured with a resolution of 0.001%. Measurements can be made in less than 3 seconds from 50Hz to 1MHz.

Three switch-selectable filters are provided. A 400Hz high pass to reduce the effects of hum, 30KHz and 80KHz low pass to reduce the effects of high frequency noise. An internal low pass tracking filter is automatically activated at distortion levels below 0.1%.

As an AC Voltmeter, the 6900 measures RMS voltage from

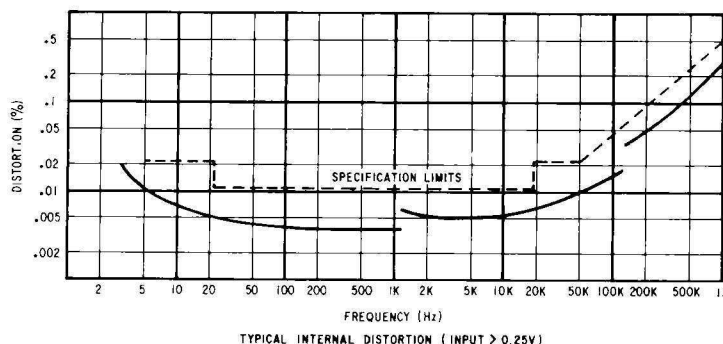
typically 3Hz to 1MHz at input levels from 10mV to 130 volts with an accuracy of 2%. A 3 digit autoranging display provides 1mV resolution.

The Model 6900 provides a distortion output signal which is the input signal after the fundamental is removed. This distortion signal can be used for additional analysis with an oscilloscope or spectrum analyzer. An analog output provides a DC voltage proportional to the distortion signal.

An ultra-low distortion (< .003%) 1KHz sinewave oscillator can be used as a source for checking linearity of components and system distortion characteristics.

An optional BCD output is available making the 6900 very useful in an automatic test system.

This fully automatic distortion analyzer is ideal for both precision laboratory measurements and routine production testing. It provides faster error free measurements for the unskilled operator. Applications include performance of components, audio amplifiers, oscillators, function generators, tape recorders, line equalizers, and filters.



SPECIFICATIONS

DISTORTION METER

FUNDAMENTAL FREQUENCY RANGE: 5Hz to 1MHz automatically tuned over entire specified input frequency range. An intermittent meter display indicates an out-of-range condition.

INPUT: No presetting required over input level from 100mV to 130 volts RMS. Impedance, 110k ohms shunted by 100pF.

DISTORTION RANGE: A digital panel meter with auto-ranging displays percentage of Total Harmonic Distortion (THD) to 19.9%.

MEASUREMENT (%)	RESOLUTION (%)
.000-.100	.001
.10 -2.00	.01
2.0 -19.9	.1

DISTORTION MEASUREMENT ACCURACY:

INPUT VOLTS	DIST LEVELS	FREQUENCY	SPECIFICATION
1-.25	> .01%	10Hz-50kHz	± 15% of reading or .01% whichever is greater
		5Hz-100kHz	± 15% of reading or .02% whichever is greater
		100kHz-500kHz	± 15% of reading or 0.1% whichever is greater
		500kHz-1MHz	± 25% of reading or 0.5% whichever is greater
25-130	> .005%	10Hz-50kHz	± 15% of reading or .005% whichever is greater
		5Hz-100kHz	± 15% of reading or .01% whichever is greater
		100kHz-500kHz	± 15% of reading or .05% whichever is greater
		500kHz-1MHz	± 25% of reading or 0.5% whichever is greater

RESIDUAL DISTORTION AND NOISE:

INPUT	FREQUENCY	SPECIFICATIONS
.1V-.25V	20Hz-20kHz	Less than .02%
	5Hz-1MHz	Less than 0.03% from 5Hz to 50kHz rising to 0.5% at 1MHz
	20Hz-20kHz	Less than 0.01%
.25V-130V	5Hz-1MHz	Less than 0.02% from 5Hz to 50kHz rising to 0.5% at 1MHz

SETTLING TIME (to 0.1% THD): Typically less than 3 seconds from 50Hz to 1MHz. Longer at lower frequencies.

FUNDAMENTAL REJECTION: Greater than 10dB below residual THD.

FILTERS:

400Hz High Pass: -3dB at 400Hz ± 10%; 40dB/decade rolloff.
 30kHz Low Pass: -3dB at 30kHz ± 5%; 60dB/decade rolloff.
 80kHz Low Pass: -3dB at 80kHz ± 5%; 60dB/decade rolloff.

DISTORTION OUTPUT (Residual signal after fundamental is nulled): Voltage: 100mV RMS/%THD. Impedance: Less than 500 ohms.

ANALOG OUTPUT: 100mV dc/%THD. Impedance: Less than 1k ohm.

DISPLAY: 3 digit meter with auto-ranging.

AC VOLTMETER

FREQUENCY RANGE: 5Hz to 1MHz

VOLTAGE RANGE: 0.01 to 130 volts RMS.

VOLTAGE RANGE (volts)	RESOLUTION (volts)
0.01 - 1	.001
1 - 10	.01
10 - 130	.1

ACCURACY: ± 2% ± 1 digit from 10Hz to 500kHz, ± 5% ± 1 digit from 5 Hz to 1MHz over specified voltage range.

DISPLAY: 3 digit meter with auto-ranging.

INPUT IMPEDANCE: 110k ohms shunted by 100pF.

OSCILLATOR OUTPUT

FREQUENCY: 1kHz, fixed.

OUTPUT (RMS): 5 volts at 3 milliamperes max.

DISTORTION: < .003%.

IMPEDANCE: 600 ohms.

GENERAL

METER DISPLAY: .55", 7 segment planar gas discharge.

CONTROLS:

Front Panel: MODE switch for selecting either VOLTMETER or DISTORTION operation. FILTER switch for selecting 400Hz high pass, 30kHz and 80kHz low pass operation. Power switch.
 Rear Panel: Switches for selecting 120/240V AC operation or NORMAL/LOW AC line voltage.

CONNECTORS (BNC):

Front Panel: INPUT, 1kHz OSCILLATOR OUTPUT and DISTORTION OUTPUT.

Rear Panel: INPUT, ANALOG OUTPUT.

OPERATING TEMPERATURE RANGE: 0° C to 45° C.

MAXIMUM DC COMPONENT: 100V

ISOLATION TO CHASSIS: 500V DC.

POWER REQUIREMENTS: Switch selectable, 90-110, 108-132, 180-220 or 216-264 volts, single phase, 50-400Hz, 15 watts.

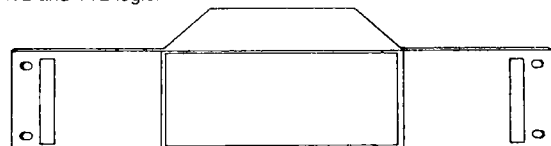
DIMENSIONS AND WEIGHTS:

	H	W	D	Net	Gross
U.S.	3½"	16%	14¾"	11.5 lbs.	13.5 lbs.
Metric	9cm	42.3cm	37.5cm	5.2 kgs.	6.1 kgs.

OPTIONAL RACK-MOUNTING KIT:

Part No. RK-319 permits installation of the Model 6900 into a standard 19" rack-spacing.

BCD OUTPUT (optional): Provides 13 lines of parallel BCD output, plus 1 MODE output, 3 decimal point outputs and 4 separate 3-state control lines. Compatible with DTL, RTL and TTL logic.



Specifications subject to change without notice.