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Find the *Potomac Instruments AA-51* at our website: *Click HERE*

AA-51A Audio Analyzer

Key Features

Shielded, Balanced Inputs

Auto-Null THD

Frequency Readout

Compatibility with NAB Test

Stereo Measurements

Measures:

- THD, IMD, Volts
- Signal + Noise/Noise
- Stereo Phase
- Stereo Ratio
- Wow and Flutter
- Frequency



Description

The AA-51A is a multi-purpose, precision audio analyzer that helps to automate proof-of-performance measurements and equipment maintenance. Unique features of the AA-51A make it the ideal instrument for engineers, and service professionals. Excellent RFI shielding enables measurements to be made within the high-level RF environments of commercial broadcast transmitter facilities.

Total harmonic distortion measurements are made by simply setting the Mode Switch to THD and reading the meter. The AA-51A automatically accomplishes nulling and tuning to the input frequency. This enables the operator to accurately measure the harmonic distortion at various discrete frequencies and different power levels much faster than using conventional distortion analyzers.

Intermodulation distortion measurements are performed with equal simplicity. Utilizing the SMPTE Standard intermodulation signal the AA-51A displays percent of IM. Measurements are completely automatic over a wide dynamic range.

Accurate frequency response measurements are facilitated by a wideband voltmeter which exhibits a flat response (+ or - 0.1dB) from 20 Hz to 100 kHz. Input level range is 1 mV to 100 V full scale. The average responding meter is calibrated to the rms value of a sinewave. For Signal + Noise/Noise measurements the voltmeter bandwidth may be restricted to 20 kHz by placing the mode switch in the NOISE position.

Incidental frequency modulation — “Wow and Flutter” — usually associated with tape decks, cart machines and turntables is measured automatically. The AA-51A measure weighted peak flutter as specified by IEEE Standard 193.

Stereo signals and mono signals derived from a stereo source are often degraded by phase errors and differential gain variation between left and right channels of a given audio system. The AA-51A contains both phase and ratio measuring circuitry which enables the operator to evaluate these characteristics quickly and accurately throughout the complete audio spectrum, and over a wide dynamic range. Phase angle is displayed with a zero center scale indication and a full scale, switch selected sensitivity of either + or - 180 degrees. The ratio meter is also a zero center scale device with a + or - 6dB full scale deflection.

The Phase and Ratio measurement features of the AA-51A are particularly useful for line equalization measurements, azimuth alignment of stereo tape heads, and trouble shooting of audio consoles, amplifiers, and networks.

Specifications

NPUT:

Impedance	Balanced 80 k ohms+100 pF, each pin to ground
Maximum AC	220 Vrms, each pin to ground
Maximum DC	250 Vdc, each pin to ground
Common-mode rejection	greater than 60dB
Cable connector	Switchcraft p/n 05CL3M
MON SCOPE output	5.6 Vp-p for inputs from 40 m to 90 Vrms, typical
MON PHONES output	Set to 70mVRMS, internal adj.
HIGH LED on when:	nput less than 80 Vrms (except for VM and NOISE)
LOW LED on when:	Input less than 100 mVrms, (except for VM and NOISE)

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Potomac Instruments, inc.

932 Philadelphia Ave./ Silver Spring, MD 20910-4912 / Voice: 1 301.589.2662 / Fax: 1 301.589.2665 / web: www.pi-usa.com

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AA-51A Specifications

THD METER:	
Input frequency range	20 Hz to 20 kHz, fundamental
Measurement passband	1.7 to 12.5X input frequency at -3dB
Notch attenuation	greater than 100 dB
Ranges	6 ranges, 0.03% to 10% full scale, -20 dB to -70 dB full scale
Accuracy	+ or - 15% (+ or - 1.5 dB)
Input level ranges	100 mV to 80 V
Internal THD + noise	0.01% max, 0.006% typical, 20 Hz-5 kHz 0.02% max, 0.012% typical at 20 kHz
Filters	22 kHz low-pass at input, switch selected 400 Hz high-pass, switch selected
METER MON output	100 mVp-p, meter at full scale
Nulling time	2 seconds approximately
IMD METER:	
Input signal required	60 Hz + 7 kHz, 4:1 voltage ratio
Full scale ranges	6 ranges, 0.03% to 10% full scale
Accuracy	+ or - 10%
Input level range	100 mV to 80 V
Internal IMD + noise	less than 0.015%
METER MON output	00 mVp-p, meter at full scale
AC VOLTMETER:	
Frequency response	10 Hz to 100 kHz, + or - 0.1dB max.variation
Ranges	11 ranges, 0.3 mV to 30 V full scale, -68 dBm to +32 dBm full scale
Accuracy	+ or - 3%
METER MON output	100 mVp-p, meter at full scale
Internal noise	20 uV(-92 dBm) maximum
Filter	400 Hz (at -3 dB) high-pass, switch selected
REF SET Range	greater than 10 dB
NOISE METER:	
Frequency response	20 Hz to 20 kHz at -3 dB
Ranges	11 ranges, 0.3 mV to 30 V full scale
Accuracy	+ or - 3%
METER MON output	100 mVp-p, meter at full scale
Internal noise	15 uV (-94 dBm) max.
Filter	400 Hz (at -3 dB) high-pass, switch selected
REF SET range	greater than 10 dB
PHASE METER:	
Measurement ranges	+ or - 54 degrees and + or - 180 degrees full scale
Accuracy	+ or - 3 degrees
Polarity	Positive angle means L leads R
Input frequency range	20 Hz to 20 kHz
Input level range	100 mV to 80 V
METER MON output	Rectangular wave at input frequency, duty cycle proportional to angle
RATIO METER:	
Measurement range	+ or - 6 dB
Accuracy	+ or - 0.2 dB
Polarity	Positive ratio means R greater than L
Input frequency range	20 Hz to 20 kHZ
Input level range	100 mV to 80 V
METER MON output	dc voltage proportional to ratio
WOW & FLUTTER METER:	
Measurement ranges	0.1% and 0.3% full scale
Input frequency	3.15 kHz + or - 10%
Accuracy	+ or - 10%
Input level range	100 mV to 80 V
Internal noise	less than 0.01%
METER MON output	500 mVp-p at full scale, passband 0.2Hz-200Hz
FREQUENCY COUNTER:	
Frequency range	10 Hz to 200 kHz
Resolution	less than 900 Hz (approx.), 0.1 Hz 900 Hz to 9000 Hz (approx.), 1.0 Hz 900 kHz to 24 kHz (approx.), 0.01 kHz greater than 24 kHz (approx.), 0.1 kHz
Accuracy	-1 to 0 count error in RH digit (LSD)
Input level range	1 mV to 80V
POWER:	
117 Vac (230 Vac option)	50/60 Hz, 10 W
WEIGHT, lb (kg): 5.44 (12)	
DIMENSIONS, in. (cm):	15.25 (38.74) W, 5.25 (13.34) H, 10.125 (25.72) D
Optional Rack Mount	5.25 (13.34) Rack space rqd.

Specifications subject to change without notice.

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