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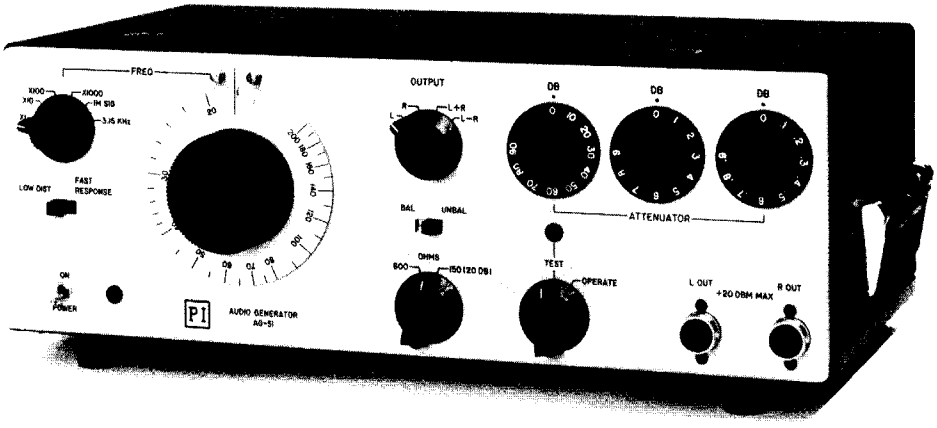
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# AG-51 Audio Generator




## Key Features

- **Transformerless Stereo Outputs (balanced or unbalanced)**
- **Output Level**
  **+20 dBm across 600 ohms**
  **0 dBm across 150 ohms**
- **Stereo Matrix Switch**
  **L, R, L-R, L+R**
- **Precision 10 dB, 1.0 dB, and 0.1 db Step Attenuators**
- **High Level of RF Shielding**

## Description

The AG-51 Audio Generator contains a low distortion 20 Hz to 200 kHz sine wave generator, an SMPTE standard inter-modulation signal generator and a fixed frequency sine wave generator at 3.15 kHz for wow and flutter tests. Signal outputs are simultaneously available at levels of up to +20 dBm (equivalent sine wave power for complex signals) at separate left (L OUT) and right (R OUT) output connectors. Outputs may be selected for left (L) only, right (R) only, left and right in phase (L+R), and left and right in phase opposition (L-R). Fully balanced or unbalanced outputs at impedance levels of 150 ohms or 600 ohms are font panel selecteable. Three precision attenuators (10, 1.0 and 0.1 dB) provide a dynamic range of 99.9 dB in 0.1 dB steps. Attenuator dials display the output level directly in dBm in the 150 ohm source impedance configuration. Automatic output leveling circuitry with a built-in self-test feature provides a constant output level thereby eliminating the need for output metering. In the TEST mode the generator output level is reduced to zero, a useful feature during noise measurements.

The time constant of the leveling control loop is determined by a front panel switch. For rapid frequency response measurements, this switch is set to the FAST RESPONSE position. This feature enables the operator to evaluate frequency response of the device under test (amplifier, filter, etc.) with a manual sweep of the frequency dial and multiplier switch. For distortion measurements, the switch is set to the LOW DIST position. This mode of operation provides minimum distortion with a slightly longer control loop time constant for accurate signal analysis at any specific frequency.

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# AG-51 Specifications

| | |
|---|---|
| **FREQUENCY RANGE** | 20 Hz to 200 kHz in four decade ranges |
| **OUTPUTS** | |
| **L** | Left only |
| **R** | Right only |
| **L + R** | Left & Right in phase |
| **L - R** | Left and Right 180° out of phase |
| **IM SIG** | Composite 60 Hz and 7 kHz @ 4:1 ratio (SMPTE Standard) |
| **3.15 KHz** | Fixed wow and flutter signal, (IEEE Standard 193-1971) |
| **OUTPUT IMPEDANCE** | |
| **Unbalanced** | 150 or 600 ohms, switch selected |
| **Fully Balanced** | 150 or 600 ohms, switch selected |
| **OUTPUT LEVEL(no atten.)** | |
| **Sine Wave Signals** | +20 dBm (7.75 V) across 600 ohm load, 15.5 V open circuit<br>0 dBm (0.387 V ) across 150 ohm load, 0.774 V open circuit |
| **IM Signal** | Peak-to-peak voltage of composite waveform is equal to peak-to-peak voltage of +20 dBm sine wave across 600 ohm load, 0 dB sine wave across 150 ohm load |
| **OUTPUT LEVEL ACCURACY** | ± 0.2 dB (20 Hz - 100 kHz)<br>± 0.5 dB (100 kHz - 200 kHz) |

| | |
|---|---|
| **ATTEN. RANGE** | 0 to 99.9 dB in 0.1dB steps |
| **ATTEN. ACCURACY** | |
| **0 to 10 db** | ±1.5% of attenuation in dB |
| **>10 dB** | ±0.2 dB (maximum) |

**INTRINSIC DISTORTION***

| **Harmonic** | **Low Distortion** | **Fast Response** |
|---|---|---|
| 20 Hz to 10 kHz | < 0.05% | < 1% |
| 10 kHz to 20 kHz | < 0.08% | < 1% |

| | |
|---|---|
| **Intermodulation** | <0.03% |
| **Incidental FM(3.15 kHz)** | <0.01% |
| **HUM and NOISE** | >80 dB below rated output |
| **DIAL ACCURACY** | ±3% |
| **POWER** | 117 Vac, (230 Vac option) 50/60 Hz, 9 W |
| **WEIGHT with cover, lb. (kg)** | 12 (5.44) |
| **DIMENSIONS in. (cm)** | 15.25 (38.74) W, 5.25 (13.34) H, 10.13 (25.75) D |
| **Optional Rack Mount** | 5.25 (13.34) Rack space rqd. |

* Slightly higher at R output in L-R, UNBAL mode.

*Specifications subject to change without notice.*

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