JA GR01

Portable white/pink noise generator

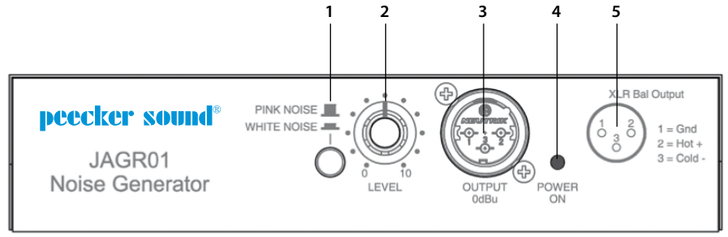
OMNI-DIRECTIONAL SOURCE



TECHNICAL SPECIFICATIONS

Noise Digital Waveform Generator	**white/pink**
Frequency Response (± 0.5 dB)	**40 Hz ÷ 22 kHz**
Output Level	**-∞ ÷ 0 dBu**
Output Impedance	**50 Ω, electronically unbalanced**
Output Connector	**Neutrik® XLR**
Power Requirements	**230 VAC (± 10%) , 50 ÷ 60 Hz**
Dimensions and Weight	
Weight	**850 g**
Dimensions (W×H×D)	**190×72×125 mm**
Approvals	**CE EN55103-1 (*Emissions*), EN55103-2 (*Immunity*), EN6065, Class I (*Safety*)**

FRONT PANEL



1. **Pink noise / White noise** - Switch button for selecting the type of noise to be generated. *White noise* when the button is down, *Pink noise* when the button is up.
2. **Level** - Potentiometer to control the level of generated noise.
3. **Output 0dB** - Generator's balanced XLR output for possible use as a source for other devices.
4. **Power ON** - *Blue* LED indicator for showing the power supply is ON.
5. **XLR Bal Output -** Output to the power amplifier through XLR connector.

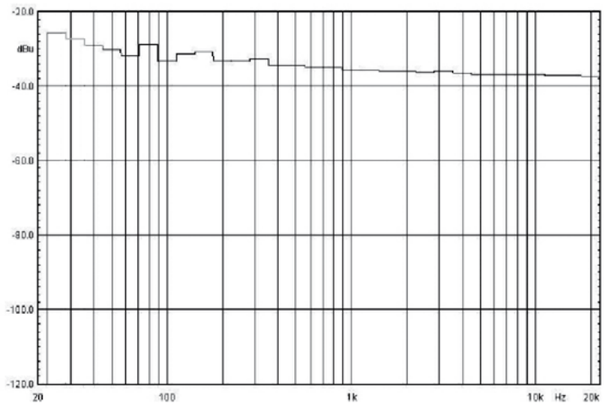
DESCRIPTION

The Peecker Sound GR01 unit is a pink/white portable noise generator used for generating these two types of noise required for testing the frequency response of acoustic and electronic systems.
The *white* noise have the same spectral energy across the whole frequency spectrum: frequency intervals of the same size contain the same energy amount. A narrow band analysis shows a flat response whilst a octave band analysis shows a 3 dB/oct. growth, because each band has a frequency interval doubled with respect to the previous (lower) one.
The *pink* noise has a spectral density decreasing with frequency. A narrow band analysis actually would shows a graph decreasing of 3 dB/oct whilst an octave band analysis shows, finally, a flat spectrum.
Since the low frequency portion has more energy, this is ideal for compensating the human ear sensitivity across the audio spectrum and is used for sound equalization in the professional field.
Human hearing system has a spectral resolution which decreases with frequency (*Bark* scale). In other words, it makes a constant percentage intervals frequency analysis and not a narrow band one. Here is why the pink noise, compared to white one, gives a more balanced frequency content sensation and is more similar to the spectrum of an average music spectrum, reason why it is used for audio systems testing.

APPLICATIONS

The GR01 portable white/pink noise generator is a valid support to the JA12 dodecahedron source in measuring building and architectural acoustics (sound insulation, acoustic absorption, reverberation time, impulse response and acoustic parameters of the rooms, and passive requirements for buildings).

SPECTRUM OF THE GENERATED NOISE (PINK, 1/3 OCTAVE)



All measurements have been taken in Sound Corporation research laboratories

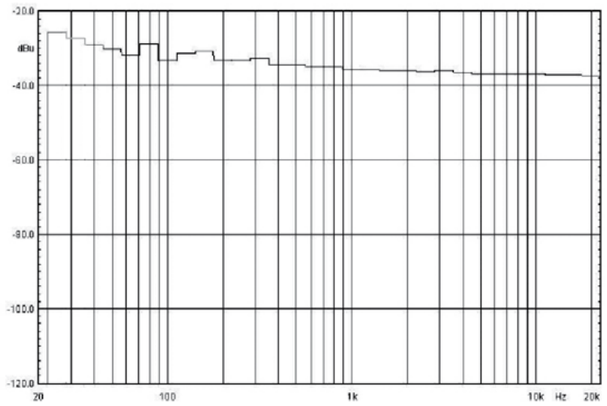
TEST REPORT No. 052/03

- **Type of test:** test of frequency response in extensive range for 1/3 of octave bands
- **Definitions:** *pink noise* means a random noise source characterized by a flat width response in each octave of frequency, namely by an even energy (even power) in each octave. *Pink noise* is created by applying a filter with a 3 dB/oct roll-off to the *white noise* - for this reason, sound results less brilliant but more rich at low frequencies compared to the one created by white noise

- **Test instruments:**
  - Personal computer with a software of Audiomatic acoustic analysis
  - Mic-amp type PRE01 S/N 01C069
  - Electret Mic type MIC02 Serial n° AV960202

- **Test conditions:**
  Line Output@59.5 mV

GRAPHIC OUTPUT OF THE TEST REPORT No. 052/03



TEST SCHEDULE OF THE GR01 NOISE GENERATOR FILTER

Frequency (Hz)	*Attenuation* (dB)
20	0
40	-3
80	-6
160	-9
320	-12
640	-15
1280	-18
2560	-21
5120	-24
10240	-27

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