

KU 100

► **Dummy Head**



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Features

- Dummy head for head-related stereophony
- Pressure transducer with flat diffuse-field frequency response
- Loudspeaker compatible
- Transformerless circuitry
- Two-stage switchable low frequency roll-off
- Switchable 10 dB preattenuation
- Balanced and unbalanced outputs (XLR and BNC)

The KU 100 dummy head is a binaural stereo microphone. It resembles the human head and has two microphone capsules built into the ears. When listening through high-quality headphones it gives the illusion of being right at the scene of the acoustic events.

When using the KU 100 dummy head, the binaural stereo experience moves the listener into the scene of the original performance, in contrast to other space-related recording techniques, where the acoustic event is moved to the listener.

The dummy head is also used in many industrial applications as a measuring device, for example in acoustic research.

The KU 100 can be operated with typical 48 V phantom powering, or from an external power supply unit, or from the built-in battery.

At the bottom of the unit is a switch for the different power supply modes, as well as connectors for balanced and unbalanced output signals.

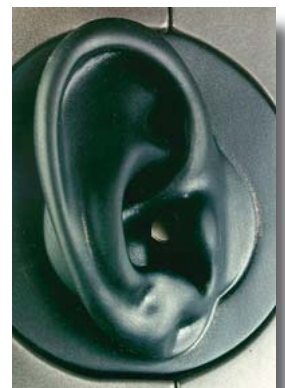
Inside the head are additional switches for 10 dB attenuation and the high-pass filter.

The Idea

The KU 100 dummy head is a replica of the human head with a microphone built into each ear.

When the recorded audio signal is reproduced through high-quality headphones the listener perceives a sound image almost identical to the one he would have heard at the recording location of the dummy head (head-related stereophony).

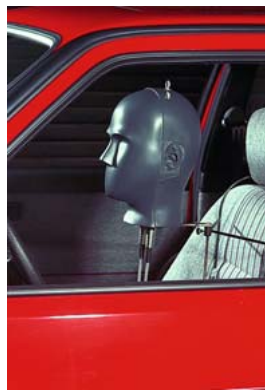
When played back through loudspeakers, the sound matches to a high degree that of conventional stereo microphones, placed in the same position. However, a superior quality is added, that of a distinct spatial depth perception.



The KU 100 dummy head is just as easy to use during creative radio drama productions, and music recordings where the room acoustics should be recorded at the same time.

The dummy head is also contributed essentially as an important tool to preserve natural sounds of all kinds.

In addition, the dummy head is frequently used to examine and document the influence of noise in industrial applications at various working places under realistic conditions.



Electrical features

The KU 100 uses transformerless circuitry with the advantage of high output capability, fast transient response, and extremely low self noise. The usual output transformers are replaced by electronic circuits. As with traditional transformers, this technique ensures good common mode rejection, and prevents RF interference, that may influence the balanced audio signals.

The dummy head provides balanced (XLR) and unbalanced (BNC) outputs. It can be powered in three different modes:

from an external P48 phantom power supply,

with batteries as part of the internal battery supply,

or from an external AC mains supply (included with the system).



Filter and attenuation

A 10 dB switch inside the head attenuates the sensitivity. A second switch selects the cutoff frequency of the high-pass filter to be either linear, 40 Hz, or 150 Hz.



Delivery range

The KU 100 comes in a robust aluminum carrying case, together with an external power supply unit, a 5-pin XLR cable, and an adapter cable that splits the 5-pin XLR output into two 3-pin XLR connectors.



Technical Data

Acoustical operating principle	Pressure transducer
Directional pattern	Ear
Frequency range	20 Hz...20 kHz
Sensitivity at 1 kHz into 1 kohm	20 mV/Pa
Rated impedance	50 ohms balanced 200 ohms unbalanced
Rated load impedance	1000 ohms
Signal-to-noise ratio, CCIR ¹⁾ (rel. 94 dB SPL)	65 dB
Signal-to-noise ratio, A-weighted ¹⁾ (rel. 94 dB SPL)	78 dB
Equivalent noise level, CCIR ¹⁾	29 dB
Equivalent noise level, A-weighted ¹⁾	16 dB-A

Maximum SPL for THD 0.5% ²⁾	135 dB
Maximum SPL for THD 0.5% with preattenuation ²⁾	145 dB
Maximum output voltage	1950 mV
Dynamic range of the microphone amplifier (A-weighted)	119 dB
Supply voltage	200...240 V / 48 V ± 4 V / 6 x 1.5 V
Current consumption	2 x 2 mA
Matching connector	XLR3F / XLR5F
Weight	3500 g
Height	280 mm
Width	180 mm
Depth	220 mm

¹⁾ according to IEC 60268-1; CCIR-weighting according to CCIR 468-3, quasi peak; A-weighting according to IEC 61672-1, RMS ²⁾ measured as equivalent el. input signal ³⁾ P48, IEC 61938



Application Hints

- Radio drama productions
- Live concert recordings in complex acoustic environments
- Documentation of
 - nature's sound,
 - theater,
 - round table discussions
- Documentation and measurement of
 - room acoustics,
 - PA systems,
 - stereo sound inside an automobile,
 - musical instruments
- Analysis of
 - noise,
 - speech intelligibility,
 - headphone performance

These are just some of the most common applications. We recommend additional experimentation to gain maximum use from this microphone.

Delivery Range

- Dummy head KU 100
- Microphone cable IC 5
- Adapter cable AC 20
- Plug-in mains unit
- Aluminium case

Catalog No.

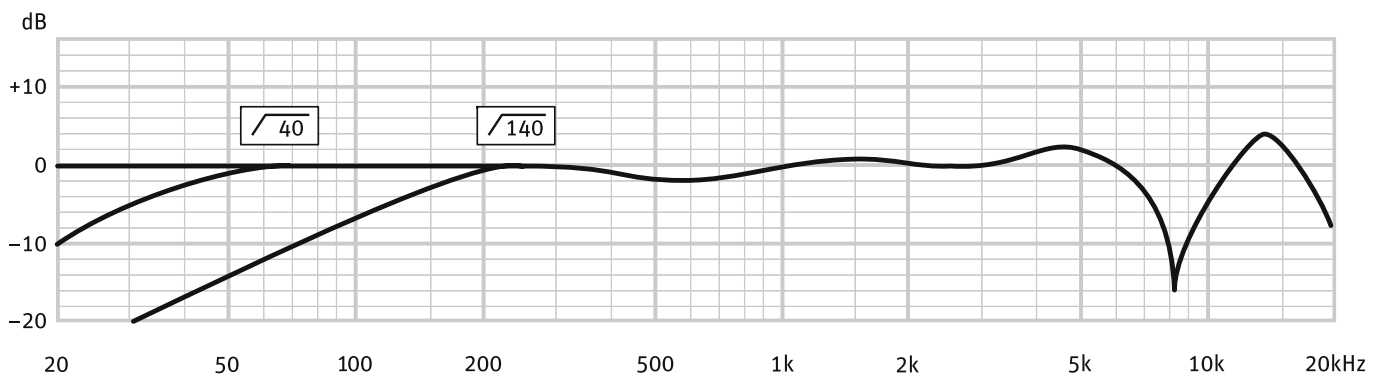
- KU 100 (230 V) blk 007130
- KU 100 (117 V) blk 007132

Selection of Accessories

- Windscreen, WSB blk 007372

A complete survey and detailed descriptions of all accessories are contained in the accessories catalog.

Meaning of color codes:
blk = black
ni = nickel



measured in free-field conditions (IEC 60268-4), tolerance ±2 dB