

sanken

Japan's most original microphone maker

CU-44X

Output transformerless,
unidirectional,
double-condenser
microphone

Specially designed for
digital audio recording.

The CU-44X is the first transformerless model in a new line of high quality microphones which feature the world's only dual-capsule condenser design. The transparent characteristics of Sanken microphones have made them the preferred choice for digital recording throughout the world.

The precision craftsmanship and highest quality materials assure that the CU-44X delivers a completely natural, consistently uncolored sound. The sonic results provide the engineer with the best possible raw material for a wide variety of recording applications. Suitable for records and CDs, broadcasting, television and motion picture studios (in both on-mike and off-mike settings), it delivers a functional transparency and distortion-free performance.

With a flat frequency response (within ± 1 dB) from 20Hz to 20kHz, the CU-44X faithfully captures the full range of frequencies from the deepest of bass sounds to the highest of vocal nuances. An incredible 132dB dynamic range covers everything from the gentlest whisper to the most explosive percussion without distortion or clipping.

The smooth cardioid polar pattern, and uniform response over the entire audio range, allows the CU-44X to capture the chosen audio target. Absolutely uniform phase response and rigid manufacturing standards mean that when used in pairs, the results are impeccable, unblurred stereo imaging.

In addition, self-noise (13dB or less) is inaudible. These characteristics are, of course, optimum for digital audio, as well as analogue recording.

The Source

The source of the CU-44X's superior performance is its unique double-condenser capsule design. The basic design dilemma inherent in the conventional single-condenser capsule microphone has led to compromising sensitivity in order to provide response over the full audio frequency range. The results are a decrease in signal-to-noise ratio.

Unlike conventional microphones, the CU-44X consists of two condenser capsules - one with a small diameter and one with a large - vertically mounted beneath a protective grill. The smaller capsule picks up the upper range of audio frequencies while the larger picks up the lower range. The



CU-44X

diameters of the two capsules are designed to provide an optimum balance between overall sensitivity and self-noise level.

Of special value is the superior off-axis 90-degree response, which is one of the most important factors in digital recording and cannot be comparably achieved with single-capsule design. An electrical circuit combines the output from the two capsules to provide the flat (± 1 dB) frequency response.

Practical Considerations

In designing the CU-44X Sanken has paid close attention to practical considerations. The microphone is, for example, immune to the effects of humidity and temperature change, because its condenser diaphragms are made of titanium membranes (one micron thick). The membranes are not only weather and temperature resistant, but also corrosion free, assuring a long microphone life.

The CU-44X is also resistant to pop and handling noises. Each CU-44X undergoes a stringent quality control examination before leaving the factory, and is provided with a calibration chart giving essential data for the professional user.

The CU-44X features a cardioid polar pattern only and offers no filter or attenuator. The user is given pure, uncolored sound which may be processed as chosen. It is fed only by the P-44X, a 100 volt power supply able to feed two CU-44Xs, through a gold plated 4-pin XLR type connector. Since the CU-44X is more sensitive than ordinary microphones to noise vibration below 100Hz, it is recommended that it be mounted in the supplied S-44X shock absorbing stand adaptor.