

sanken

Japan's most original microphone maker.

CU-41

Unidirectional,
double-condenser
microphone

Specially designed for
digital audio recording.

The Sanken CU-41 is a microphone that delivers a completely natural, uncolored sound. It thus provides the sound engineer with the best possible raw material for his recordings. Suited for a wide variety of applications in recording, 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 (± 1 dB) frequency response from 20Hz to 20kHz, it can faithfully pick up everything from the pulsating lows of the deepest bass instruments to the piercing highs of a coloratura soprano; with a dynamic range of 119dB (and a maximum SPL for 1% THD of 140dB) it will capture everything from the gentlest whisper to the most deafening percussive sound without any distortion or clipping; because it has a smooth cardioid polar pattern, and its patterns are uniform over the audible frequency range, it chases the targeted sound only; and because it has a uniform phase response, when used in a pair it will combine to produce an unblurred stereo sound image. Finally, its self-noise (15dB or less) is inaudible. These characteristics are, of course, optimum for digital audio recording, not to mention analogue recording.

The Secret

The secret of the CU-41's superior performance is its unique double condenser capsule design. The basic design dilemma inherent in the conventional single condenser capsule microphone has been that in order to make the microphone responsive over the full audio frequency range, its sensitivity has had to be compromised, resulting in a reduced signal-to-noise ratio. Unlike a conventional microphone, the CU-41 consists of two condenser capsules—one of small and one of large diameter—vertically mounted beneath a protective grille. The small capsule picks up the upper range of audio frequencies and the large one picks up the lower range. The diameters of the two capsules are designed to provide an optimum balance between overall sensitivity and self-noise level. An electrical circuit combines the outputs from the two capsules to provide the flat (± 1 dB) frequency response.



CU-41 Unidirectional Double-Condenser Microphone

Practical Considerations

In designing the CU-41 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). These titanium membranes are not only weather and temperature resistant, but also corrosion free, assuring a long life for the microphone. The CU-41 is also resistant to pop and handling noises. Each CU-41 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-41 features a cardioid polar pattern only and offers no filter and no attenuator. It provides uncolored sound to the professional user so that he may process it as he pleases. It is fed from a 48 volt phantom power outlet and connected by a gold plated 3-pin XLR type connector. Since it is more sensitive than ordinary microphones to noise vibration below 100Hz, it is recommended that it be mounted on the S-41 shock absorbing stand adapter, which is available as an optional accessory.