



AEQ CM 65

CONDENSER MICROPHONE

USERS' MANUAL

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1. DESCRIPTION.

Cardioid microphone for use in studio, onstage and outdoors. Especially designed for voice, the CM65 is also perfect for use with a wide range of instruments.

It has excellent dynamic range, capable of taking over 140dB SPL and generates a clear, transparent and bright response with very low distortion regardless of the noise level collected.

The CM65's enhancement filters, acoustic and electronic, enable a better picking up of sound, close or remote range, controlling the pops from close-to voice, the puffs of wind instruments and vibration and open air background noise.

Even if this microphone is a precision instrument, it is also provided with the necessary protection for intensive use and not always very careful.

It supports high temperature and humidity, has a very rugged construction, with the transducer mounted elastically and surrounded by a grid of steel with foam inner lining providing an efficient pop protection.

The body of the microphone contains the phantom powered electronics. This electronics supports a great variety of voltages so as to be able to be used in combination with a wide range of phantom power supplies. It is not limited to the 48V Studio phantom supplies but also systems providing as low voltage as 10V and often found in gear for outside broadcast. The balanced connection is via an XLR connector.

The CM65 is delivered with a transport pouch with zipper and a snap-on mount stand adapter for 3/8" and 5/8" stands, as standard accessories.

2. SENSITIVITY AND FREQUENCY RESPONSE ADJUSTMENT SWITCH.

In order to be able to pick up the audio with fidelity and clarity in a variety of situations, the CM65 has a switch for the adjustment of sensitivity and frequency response. The switch can be positioned carefully using any fine pointed object such as a ball pen cap or a tiny flat screwdriver or trimmer.

Position "0—": Gives the maximum sensitivity with flat response, for example for studio use at distances of 20-50 cm from the mouth of each speaker.

Position "0/—": Gives the maximum sensitivity with low cut at 100 Hz and attenuation of 12 dB/octave. This position is appropriate for example for outdoor use or locations with noisy air conditioners, computers, etc. and with a recommended distance of use at 20 to 50 cm from the mouth of the speaker or the sound source.

Position "-14—": Decreases the sensitivity with flat response, for example for outdoor or stage use very close to the mouth of a speaker, singer or wind instrument.

Position "-14/—": Decreases the sensitivity with a slightly attenuated response: 4 dB/octave low and mid frequencies from 500 Hz with a soft enhancement of the high frequencies and attenuation of the pop effects generated by vocal proximity. For use in for example, noisy outdoors or close to mouth applications on stage.

For outdoor use it may be convenient to further support the existing acoustical and electronic filters by installing a wind screen.

3. RECOMMENDATIONS FOR USE.

We have developed the CM 65 in such a way that fits the most varied conditions for picking up sound. Below just a few examples:

Voice in radio studio
Voice in TV Studios, e.g. News desks
Sports Commentary, for audio-codecs and commentary positions
Voice for ENG and outdoor reporting

Song on stage and in studio
Acoustic guitar
Wind instruments
Drum-sets and cymbals
Woodblocks and Cajón

Voice in radio studio and TV Studios, e.g. News desks.

In these working environments we are normally working at distances between 20 and 40 cm. from the mouth of each speaker. The cardioid polar pattern of the CM65 provides a good discrimination between speakers even if these are not regular speakers to or well trained talents and do not speak straight into the microphone.

The human voice is very complex and with a microphone with an ample response, we are able to recognise the timbre or "signature" of each voice. There are syllables that with its harmonics reach the octave of 8-16 kHz, while others are presenting frequencies in the octave form 63 to 125 Hz. These can cause unwanted effects of pops and wind that this microphone can correct.

Use normally in the **position "0—"**. If you notice buzzing background noise, air conditioning, computers, vibrations or pops caused by the voice, try **position "0/—"** that provides a 100 Hz filter.

Sports Commentary, for audio-codecs and commentary positions.

In such environments, and if it is a static position in a commentary booth, the microphone is normally positioned between 20 and 40 cm. from the mouth of each commentator. The cardioid polar pattern of the CM65 provides a good discrimination between the commentators even if these are no regular or well trained commentators and do not speak straight into the microphone.

Since this situation is not exactly a studio situation, it is normal to appreciate ambient noise and hum. Try **position "0/—"** that provides a 100 Hz filter.

If the environment is very noisy, you can try **position "-14—"** and **position "-14/—"** and move the microphone closer to the mouth in both cases.

If your commentary position is not an enclosed booth and the microphones' internal windscreen doesn't fully eliminate noise produced by wind, it would be recommended to fit an additional external windscreen to the microphone.

Voice for ENG and outdoor reporting.

In these situations it is normal to appreciate ambient noise and hum. Try **position "0/—"** that provides a 100 Hz filter.

If the environment is very noisy, you can try **position "-14—"** and **position "-14/—"** and in both cases move the microphone closer to the mouth.

Use a foam windscreen if you notice that the built-in windscreen of the microphone does not eliminate wind noise.

Song on stage and in studio.

The CM 65 is particularly suitable for singing, since it is designed to be insensitive to vibrations having a wide frequency response and a switch to incorporate filters and attenuators. Use the different positions of the switch to suit the situation.

On a stage it is normal to be exposed to background noise and hum. Try **position "-14___"** and **position "-14/—"** and in both cases move the microphone closer to the mouth. In the latter position you will be able to notice increased brightness of the voice and a moderate insensibility to hum and pops. You can also try **position "0/—"** that provides a 100 Hz filter.

Use the microphone in **position "0___"** if it is being used in a studio and the singer is positioned at some distance from it.

If you notice pops caused by the voice, try **"0/—"** that provides a 100 Hz filter.

Tips for song.

Experienced singers will be able to get the most out of the microphone through the practice and experimenting with it. In addition to practicing with switch positions, depending on the position from where the singer is vocalising (directly or laterally to the microphone) and the distance from mouth to microphone, it is possible to obtain variations in sound that can be consciously practiced and improved.

Instruments: Acoustic guitar, Wind instruments, Drum-sets, cymbals, Woodblocks and Cajón.

The CM65 microphone from AEQ is suitable for this whole range of musical instruments. Use your experience or obtain on-line guidance and consultation in regards to how to correctly pick up the sound of your instrument, tips for the location and orientation of the microphone that allows to obtain different effects of tonal balance. Note that if you place the microphone near the instrument it may be advisable to use **position "-14___"**, and if you want an extra brightness and remove proximity pop effects, **position "-14/—"** may be the appropriate.

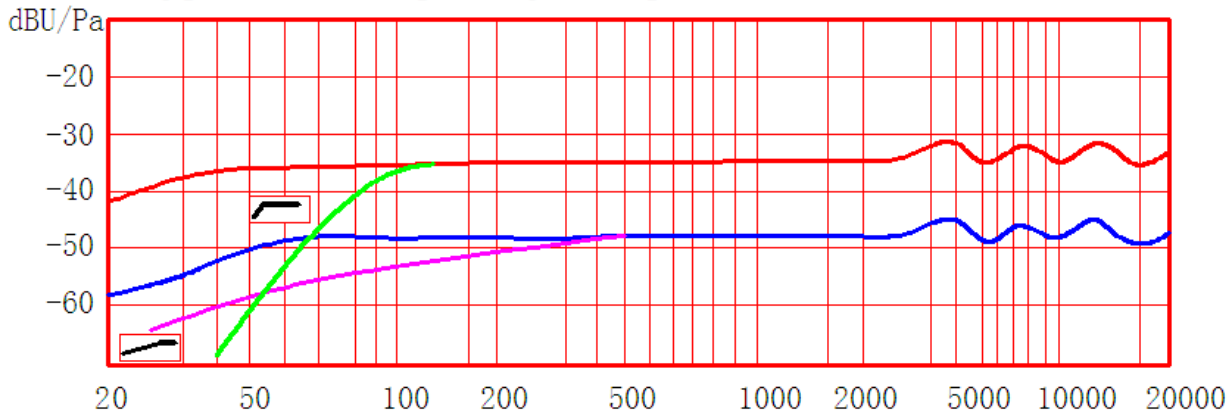
4. TECHNICAL SPECIFICATIONS.

Principle: condenser transducer, connected to pre-amp with adaptive impedance and filters, Phantom powered.

Polar pattern: Cardioid.

Frequency range: 30 to 20,000 Hz \pm 3dB (with the sensitivity and frequency response switch in the flat positions).

Typical Frequency Response Curve



Sensitivity: -34 dB (0dB = 1V / Pa at 1 kHz).

Electrical impedance: 450 ohm \pm 30% balanced.

Connector: balanced connection, Standard XLR-3 connector: Ground pin 1, V+ pin 2, V- pin 3.

Case material: zinc alloy and aluminium, steel grid.

Finish: matte black.

Dimensions and weight:

- Diameter: 45 mm head, body of 21-24 mm.
- Total length 190 mm.
- Weight: 250 g net.

Power: Phantom power according to IEC 61938. Supports standard voltages of 12, 24 or 48 or any intermediate Voltage – adapts to the majority of mixing consoles and phantom power supplies on the market.

Accessories included:

- Snap-on mount stand adapter for 3/8" and 5/8" stands.
- Transport pouch with zipper.

Dimensions and weight, packing included:

- 220 x 185 x 65 mm (L x W x H).
- Gross weight: 435 g.