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1 Description

This large-diaphragm condenser microphone has been designed on the basis of experience AKG and its customers have gained worldwide over the last decades using models such as the **C12**, **C414 B**, and **C3000**. The **C4000** uses advanced, reliable components to meet the highest professional demands and withstand even long-time, tough handling in the studio.

The **C4000** provides the following **features**:

The **dual-diaphragm transducer** is a proven design that provides different selectable polar patterns.

The **diaphragms** are made of a plastic foil that is gold-sputtered on one side and prevents local shorts to the back electrode even at extremely high sound pressure levels.

A **switchable preattenuation pad** allows you to increase the maximum SPL capability of your **C4000** **by 10 dB** for distortion-free close-in recordings. Many mixing console input stages use small transformers that are susceptible to overload, particularly at low frequencies. The **C4000's** pad prevents such overload.

A **bass cut filter** that is **switchable** on the microphone body reduces lowend distortion due to uncontrolled rumble or wind noise even further. The filter has a 12 dB/octave slope starting at 100 Hz.

The **all-metal die-cast body** shields the microphone very effectively against RF interference when using it near radio transmitters or together with wireless microphones or other communication systems.

With its high SPL capability, minimum distortion, and resistance to extreme temperatures and high humidity, the **C4000** is a truly universal microphone. A recessed switch on the microphone body allows you to select **three different polar patterns** for a wide range of recording situations. Each of these polar patterns is virtually frequency independent so that reflected sound, too will be reproduced accurately and uncolored.

2 Application

Most engineers use the **cardioid** polar pattern (center position of the polar pattern selector) for most applications. It is a standard setting for recording and gives excellent results on all kinds of voices and a wide range of instruments.

If you need to mic up closely spaced instruments separately, you want higher channel separation. Therefore, set the polar pattern selector to the right-hand position for the **hypercardioid** polar pattern. This pattern is a very good choice for concert sound applications because it rejects most of the regenerated signals arriving at the microphone from the monitor loudspeakers that are usually placed a little to the sides of the artist.

Set the polar pattern selector to **omnidirectional** (left-hand position) for "all around the mic" recording, high quality ambience (audience sound) miking, or far-field recording in exceptionally good large or small recording rooms, etc.

Although the microphone capsule is shock mounted internally, you can use the supplied **H85 "spider" suspension** to reduce vibrational noise from the stand or other sources even further. Remember to insert the cable into one of the two grooves at the rear end of the outer ring for strain relief. This removes mechanical pull from the connector and reduces vibrational noise that may be transmitted to the microphone by the cable.

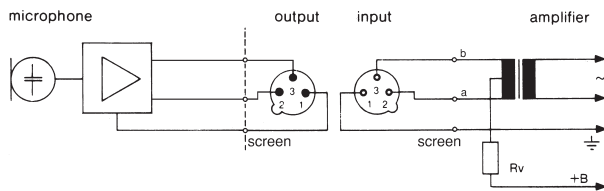
You can use the supplied **W4000 foam windscreen** both as a windscreen for outdoor recording and as an additional pop screen for vocal recording. The wind/pop screen causes almost no change in the frequency response of the microphone. A careful, subjective comparative listening test will be the best way to decide whether to use the windscreen or not.

3 Powering

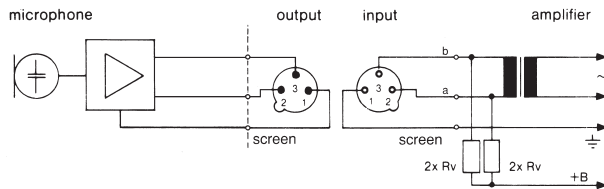
The **C4000** operates on any phantom power source to IEC 61938. This standard specifies a positive voltage of 12, 24 or 48 VDC on both audio wires referenced to the cable shield. Alternatively, you can operate the microphone on any DC voltage between 9 and 52 V fed to the microphone via standard phantom power circuitry.

Adding Phantom Power to Balanced Input Stages

Input transformer **with** center tap (floating).



Input transformer with **no** center tap (floating).



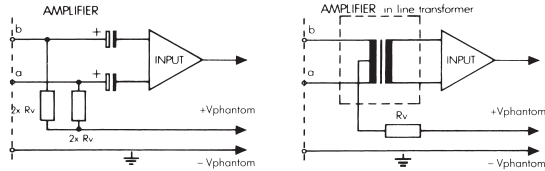
Standard values for R_v or $2 \times R_v$:

V_s	R_v	$2 \times R_v$
12 V \pm 2 V	330 ohms	680 ohms
24 V \pm 2 V	680 ohms	1200 ohms
48 V \pm 4 V	3300 ohms	6800 ohms

In order to preserve symmetry, use 2 x R_v resistors with a maximum tolerance of 0.5% only.

If the amplifier inputs are single-ended (grounded) or have no input transformers, wire either capacitors or optional transformers into the audio lines to prevent any current leakage into the input stage.

Adding Phantom Power to Unbalanced Amplifier Inputs



4 Cleaning

Microphone

- Use a soft cloth moistened with water to clean the surface of the microphone body.

Windscreen

- Wash the foam windscreen in soap suds. Do not use the windscreen before it has dried completely.

5 Standard Accessories

H85 shock mount

W4000 foam windscreen

6 Optional Accessories

For optional accessories, refer to the current AKG catalog or folder, or visit www.ake.com. Your dealer will be glad to help.

7 Specifications

Type:	1-inch dual diaphragm pressure gradient microphone
Polar patterns:	omnidirectional, cardioid, hypercardioid
Sensitivity at 1000 Hz:	25 mV/Pa (-32 dBV \pm 2 dB)
Frequency range:	20 to 20,000 Hz (refer to frequency response curves)
Electrical impedance:	\leq 200 Ohm
Recommended load impedance:	\geq 1.000 Ohm
Bass cut filter slope:	12 dB/octave below 100 Hz
Preattenuation pad:	-10 dB, switchable
Equivalent noise level to IEC 60268-4:	22 dB
Equivalent noise level to IEC 60268-4 (A-weighted):	8 dB-A
Signal/noise ratio re 1 Pa (A-weighted):	86 dB*)
Max. SPL for 0.5% THD (0/-10 dB):	350/1000 Pa \triangle 145/155 dB SPL*)
Dynamic range:	137 dB (A-weighted*)
Environment:	- temperature: -10°C to +60°C - (14°F to 140°F) - relative humidity: 90% (+20°C/68°F), 85% (+60°C/140°F)
Power requirement:	9 to 52 V phantom power to IEC 61938
Current consumption:	\leq 2 mA
Connector pinout:	3-pin male XLR to IEC standard
Size:	max. dia.: 58 mm (2.3 in.), length: 183 mm (7.2 in.)
Net weight:	450 g (1 lb.)

*) Values for 48 V phantom power; reduce by 6 dB for 24 V and 18 dB for 12 V phantom power.

This product conforms to the standards listed in the related Declaration of Conformity. To order a free copy of the Declaration of Conformity for this product, visit <http://www.akg.com> or contact sales@akg.com.