

C214

BEDIENUNGSANLEITUNG S. 2
Bitte vor Inbetriebnahme des Gerätes lesen!

USER INSTRUCTIONS p. 16
Please read the manual before using the equipment!

MODE D'EMPLOI p. 30
Veuillez lire cette notice avant d'utiliser le système!

ISTRUZIONI PER L'USO p. 44
Prima di utilizzare l'apparecchio, leggere il manuale!

MODO DE EMPLEO p. 58
¡Sirvase leer el manual antes de utilizar el equipo!

INSTRUÇÕES DE USO S. 72
Favor leia este manual antes de usar o equipamento!





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- Please make sure that the piece of equipment your microphone will be connected to fulfills the safety regulations in force in your country and is fitted with a ground lead.



1 Description

Thank you for purchasing an AKG product. This Manual contains important instructions for setting up and operating your equipment. Please take a few minutes to **read the instructions below carefully before operating the equipment**. Please keep the Manual for future reference. Have fun and impress your audience!

- **C 214** microphone
- **H 85** shock mount
- **W 214** foam windscreen
- **High quality carrying case** for microphone and standard accessories
- Check that the packaging contains all of the components listed above. Should anything be missing, please contact your AKG dealer.
- For optional accessories, refer to the current AKG catalog or folder, or visit www.ake.com. Your dealer will be glad to help.

This large-diaphragm condenser microphone has been designed on the basis of feedback from sound engineers who have used the C 12, C 12 A, C 414 EB, C 414 B-ULS, C 414 B-TL II, and C 414 XL II microphones in recording studios around the world for years. Using hand-selected state-of-the-art, reliable components as well as advanced manufacturing processes, the C 214 meets the highest professional standards and will withstand severe handling in the recording studio for many years.

The electronic circuitry of the microphone has been redesigned to achieve maximum dynamic range and a flat frequency response. Low self-noise and high headroom add up to a dynamic range of 143 dB (A-weighted).

The transducer element uses advanced backplate technology and a diaphragm that is gold-sputtered on one side only to prevent local shorting to the back electrode even at extremely high sound pressure levels.

The all-metal body ensures efficient rejection of RF interference so you can use the microphone near transmitter stations, along with wireless microphones or other communications equipment.

1.0 Introduction

1.1 Packing List

1.2 Optional Accessories

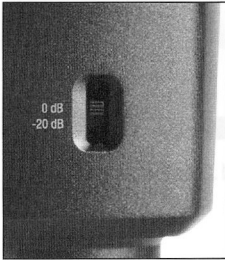
1.3 Brief Description



1 Description

1.4 Controls

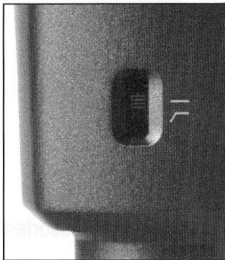
The C 214 provides selector switches for the preattenuation pad and bass cut filter.



1 Preattenuation Selector

The selector switch on the left-hand side of the microphone (fig. 1) lets you increase the microphone's headroom by 20 dB for distortion-free recordings of very loud sound sources or close to sound sources. The preattenuation pads prevent the microphone's output level, particularly at low frequencies, from overloading the miniature transformers used in mixer input stages, etc.

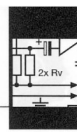
Fig. 1: Preattenuation selector.



2 Bass Cut Selector

Rumbling or wind noise may cause distortion at very low frequencies. The microphone's switchable bass cut filter (refer to fig. 2) further reduces low-end distortion. The filter slope is more than 6 dB/octave at 300 Hz and below. The bass cut also minimizes the proximity effect that may arise when close-in miking less than 6 inches.

Fig. 2: Bass cut selector.



The C 214 provides low self-noise (just 13 dB(A)!) yet high headroom. The microphone requires a phantom power source providing 12 to 52 V as per IEC 61938.

- Do not connect the microphone to any power supply other than a phantom power source (input with phantom power or external IEC standard phantom power supply) with a floating connector, using a balanced cable with studio grade connectors to IEC 268-12 only. This is the only way to ensure safe and reliable operation.



Important!



3 Using the Microphone

3.1 Introduction

The C 214 features a smooth frequency response similar to the typical sound of AKG large-diaphragm microphones.

You can use the C 214 for most musical instruments in the studio and on stage (see also section 3.5). With its cardioid polar pattern, the microphone will give excellent results in a multiplicity of recording situations, particularly, in close miking.

3.2 Bass Cut Filter

The selectable bass cut filter will effectively cancel out any unwanted noise such as fan noise from air conditioning systems or low-frequency noise due to floor vibrations, handling noise, etc. without affecting the sound of the recorded voice or instrument on tape.

3.3 Preattenuation Pad

The selectable 20-dB preattenuation pad allows you to increase the microphone's headroom from 136 to 156 dB SPL. Remember to check that the equipment connected to the microphone (microphone preamp, mixer input, recorder input) can handle the maximum output level of the microphone without causing distortion.

3.4 Stand Mounting

- The supplied H 85 shock mount has a standard 3/8" thread insert so you can mount the microphone on almost every commercial stand or suspension with a 3/8" thread.
- To fix the shock mount on a stand with a 5/8" thread, remove the tread insert and screw the shock mount directly on the stand.
- To remove the shock mount from the microphone, rotate the bayonet-type lock at the lower end of the shock mount CCW to the point that the shock mount unlocks.

3.5 Hints on Microphone Placement

We recommend the C 214 for the following applications:

Sound source	Studio	Stage
Lead/solo vocals	• •	
Backing vocals/choir	• •	• •
Speech	• •	
Acoustic guitar	• •	• •
Electric guitar	• •	• •
Electric bass	•	•
Double bass	• •	• •
Violin	• •	•
Cello	• •	•
Zither	•	• •
Grand piano (classical music)	• •	• •

Table 1: Recommended applications.

3 Using the Microphone



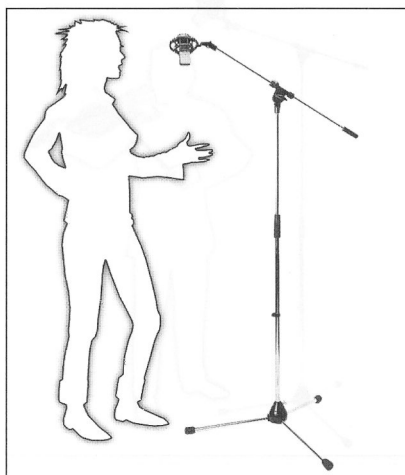
Sound source	Studio	Stage
Piano (rock & jazz)	••	••
Organ	••	•
Trumpet	••	••
Trombone	••	•
French horn	••	••
Tuba	••	•
Saxophone	••	••
Flute	••	••
Clarinet	••	••
Kick drum	••	•
Toms	•	•
Cymbals	••	••
Bongos, congas	••	••

Table 1 (cont'd)

- First choice
- Good alternative

As an introduction to the "secret science of making good recordings", the following sections describe some proven miking techniques.

- Working distance: 6 to 12 in. (15 to 30 cm)
- Bass cut: ON
- For best results, be sure to use a pop screen, e.g. the PF 80 from AKG. If no pop screen is available, use at least the supplied W 214 windscreens.
- To give the talent better control of their own voice, we recommend adding the talent's track to their head-phone monitor signal.



3.5.1 Lead Vocals

Fig. 3: Solo vocalist.



3 Using the Microphone

3.5.2 Choir/ Backing Vocals

To mic up a **large choir**, we recommend using a pair of microphones plus one spot microphone each for the soprano, alto, tenor, and bass sections. In rooms with perfect acoustics, using just a pair of high quality microphones is a proven way to get superb-sounding recordings.

Refer to section 3.5.1
Lead Vocals above

Backing vocals/technique 1: If enough tracks are available, we recommend overdubbing each voice separately.

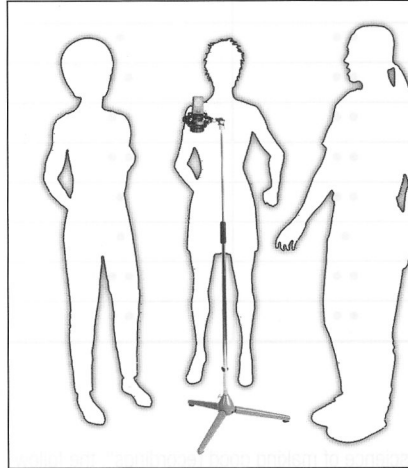


Fig. 4: Backing vocalists sharing a single microphone.

Backing vocals/technique 2:

If only one or two tracks are available for backing vocals, use one microphone each for two or three vocalists maximum. Place the vocalists in a semicircle in front of the microphone.

3.5.3 Violin, Viola

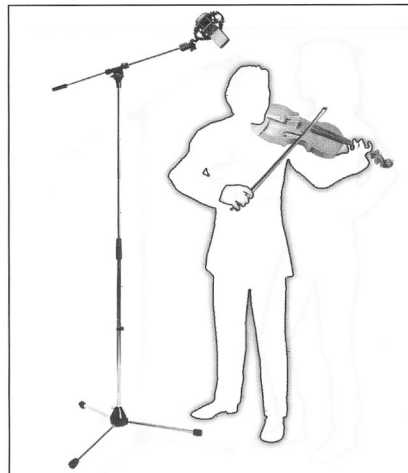


Fig. 5: Violin.

Solo violin:

Direct the microphone to the f holes from a height of 6 to 8 feet (1.8 to 2.5 m) above the floor.

Large string sections:

Use a combination of a pair of microphones in an XY, ORTF, or other stereo configuration and close-in spot microphones.

Viola:

Direct the microphone to the f holes from a height of 7 to 10 ft. (2.2 to 3 m) above the floor.

3 Using the Microphone



Double bass:

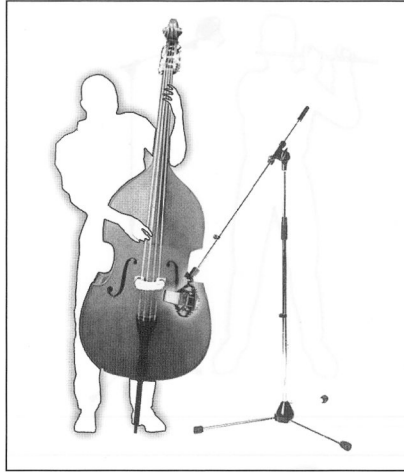
Align the microphone with one of the f holes from a distance of about 16 in. (40 cm). If you need to record the double bass together with an ensemble, place the microphone closer to the instrument to prevent leakage from other instruments into the microphone.

Cello/technique 1:

Refer to "Double bass" above.

Cello/technique 2:

Use a close-in microphone as in technique 1 above plus a distant microphone. Set the level of the close-in microphone approx. 20 dB lower than the distant mic level.



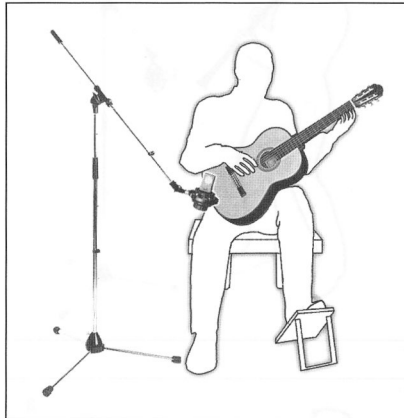
3.5.4 Double Bass, Cello

Fig. 6: Double bass.

Refer to fig. 7.

Place the microphone 20 to 40 in. (0.5 to 1 m) away from the guitar and aim it obliquely at a point between the sound hole and neck.

Using two microphones gives you even better control of the sound. Point a C 214 at the sound hole from a distance of one to two feet (30 to 60 cm). Place a small-diaphragm microphone (e.g., a C 451B) 20 to 40 in. (0.5 to 1 m) away from the guitar and align it with a point between the sound hole and neck.



3.5.5 Acoustic Guitar

Fig. 7: Miking an acoustic guitar with a single C 214.



3 Using the Microphone

3.5.6 Flute

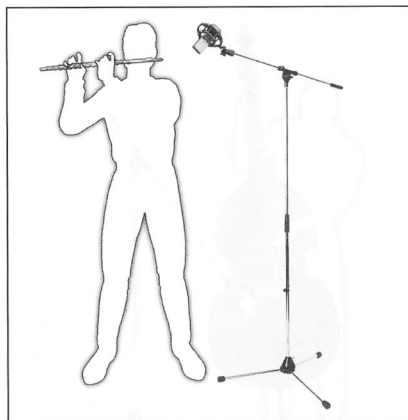


Fig. 8: Miking the flute with a single microphone.

We recommend using two microphones.

Place mic 1 above and to one side of the player (to reduce blowing noise) and align it with the player's mouth, and aim mic 2 at the instrument from the side.

If you prefer to use a single microphone, place the microphone as mic 1 above at a distance of about 7 to 8 1/2 ft. (2 to 2.5 m) above the floor.

3.5.7 Clarinet

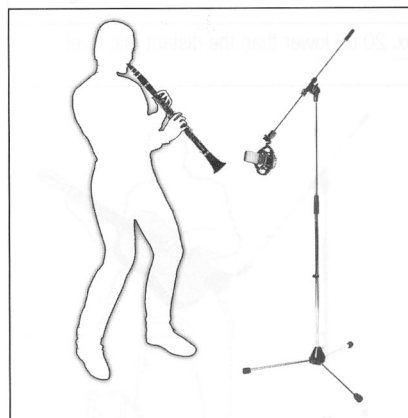
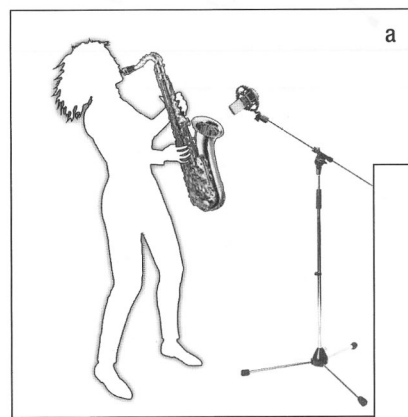


Fig. 9: Clarinet.

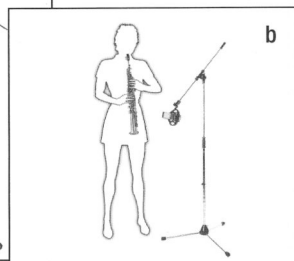
Point the microphone at the lowest key. To minimize key noise, place the microphone a little ways to the side of the instrument.

3.7.8 Tenor and Soprano Saxophones



a

Aim the microphone at the middle of the instrument from a distance of about 2 to 3 1/2 ft. (50 cm to 1 m).



b

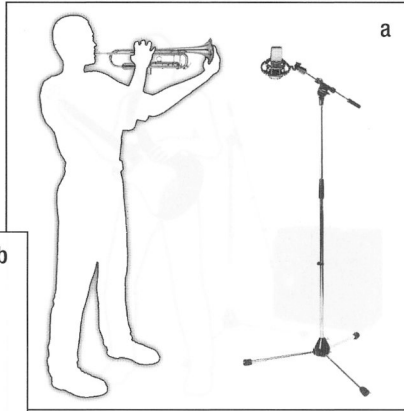
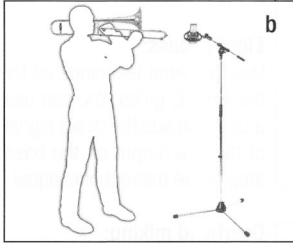
Fig. 10: Tenor saxophone (a), soprano saxophone (b).

3 Using the Microphone



Place the microphone about 1 ft. (30 cm) in front of the instrument, slightly off the bell axis. Switch in one of the preattenuation pads.

Using the supplied windscreens will help reduce blowing noise.



3.5.9 Trumpet, Trombone

Fig. 11: Trumpet (a), trombone (b).

Grand piano:

Aim a single C 214 or an XY or ORTF pair of C 214s at the middle strings from a height of 5 to 7 ft. (1.5 to 2 m).

For a rock/pop sound, place two C 214s roughly 8 to 16 in. (20 to 40 cm) above the strings. Align mic 1 with the treble strings and mic 2 with the bass strings, both at a point about 6 in. (15 cm) behind the dampers.



3.5.10 Grand and Upright Pianos

Fig. 12: Grand piano.

Upright piano:

Use the same technique as for the grand. Open the lid and have the microphones "peek into the instrument" from above.

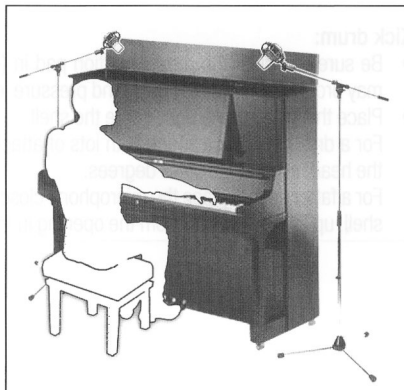


Fig. 13: Upright piano.



3 Using the Microphone

3.5.11 Electric Guitar/Bass

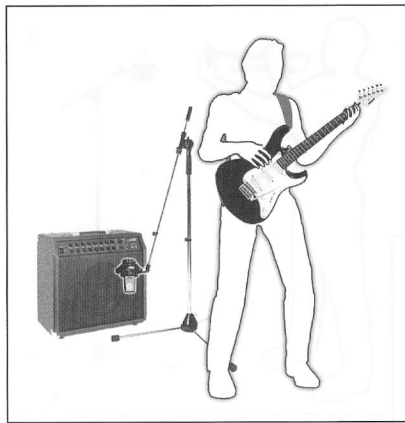


Fig. 14: Electric guitar.

3.5.12 Drums

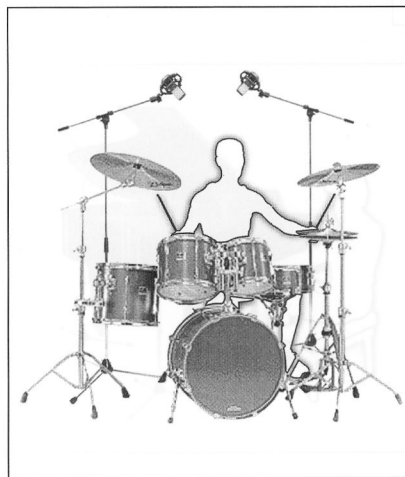


Fig. 15: Typical drum kit.

Electric guitar:

Position the microphone 3 to 6 in. (8 to 15 cm) in front of the speaker, aiming at a point off the speaker diaphragm center. Use the bass cut and a preattenuation pad. You may want to use an additional distant microphone.

Electric bass:

Use the same technique as for the electric guitar. You can use a DI box to add the direct signal of the line output on the bass amp to the microphone signal.

Overhead miking:

Place two C 214s in an AB or XY configuration about 2 3/4 to 4 ft. (80 to 120 cm) above the drummer's head. This technique will pick up the entire kit, delivering a highly natural sound. Use little or no EQ!

Hanging and floor toms:

Use one microphone for each tom or for every two toms, aligning the microphone with the rim of the top head. To reduce leakage from other instruments, attenuate the HF range above 10 kHz using the channel EQ(s).

Kick drum:

- Be sure to switch the preattenuation pad in (-20 dB) because the kick drum may produce extremely high sound pressure levels.
- Place the microphone right inside the shell.
For a dry, "click" type sound with lots of attack, position the microphone near the head, at an angle of 45 degrees.
For a fatter sound, place the microphone closer to the front head or outside the shell, up to 6 in. (15 cm) from the opening in the front head.

4 Cleaning



- Use a soft cloth moistened with water to clean the surface of the microphone body .
- Wash the foam windscreen in soap suds. Do not use the windscreen before it has dried completely.

4.1 Microphone

4.2 Windscreen

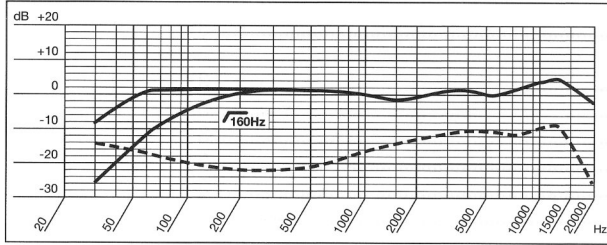


5 Specifications

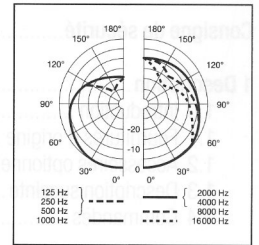
Type:	1-inch large-diaphragm backplate pressure gradient microphone
Polar patterns:	cardioid
Open-circuit sensitivity:	20 mV/Pa (-34 dBV)
Frequency range:	20 to 20,000 Hz (see frequency response graphs)
Impedance:	≤ 200 ohms
Recommended load impedance:	≥ 1000 ohms
Bass cut filter slope:	6 dB/octave at 300 Hz
Preattenuation pad:	0/-20 dB (switchable)
Equivalent noise level to IEC 60268-4 (A-weighted):	13 dB-A (0 dB preattenuation)
Signal/noise ratio re 1 Pa (A-weighted):	81 dB
Max. SPL for 0.5% THD:	136/156 dB SPL (0/-20 dB)
Dynamic range (A-weighted):	123/143 dB (0/-20 dB)
Environment:	temperature: -10°C to +60°C R.H.: 95% (+20°C); 85% (+60°C)
Powering:	12 to 52 V phantom power to IEC 61938
Current consumption:	< 2 mA
Connector:	IEC standard 3-pin XLR
Dimensions:	54 x 43 x 160 mm / 2.1 x 1.7 x 6.3 in.
Net weight:	290 g / 10.2 oz.

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

Frequency Response



Polar Diagram





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