

PERCEPTION 120

PERCEPTION 220

User Instructions p. 2

Please read the manual before using the equipment!

Mode d'emploi p. 14

Veuillez lire cette notice avant d'utiliser le système!





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1 Precaution/Unpacking

1.1 Precaution

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.

1.2 Unpacking

Check that the packaging contains all of the items listed for your microphone. Should any item be missing, please contact your AKG dealer.

PERCEPTION 120:

- Microphone
- Stand adapter
- Mini poster

PERCEPTION 220:

- Microphone
- Spider suspension
- Carrying case
- Mini poster



2 Description

2.1 Introduction

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** and keep the Manual for future reference. Have fun and impress your audience!

The PERCEPTION 120 and PERCEPTION 220 are heavy-duty, rugged condenser microphones built to the same strict quality standards as all other AKG products.

The PERCEPTION 120 uses a 2/3-inch back electret diaphragm, while the PERCEPTION 220 is a true condenser microphone with a 1-inch large diaphragm.

Designed on the basis of AKG's decades of know-how and feedback from sound engineers around the world using AKG studio microphones every day, these general-purpose microphones bring AKG stu-

dio quality to the worlds of recording, live sound, and broadcasting.

2.2 Features

The PERCEPTION 120 and 220 share the following features:

- **Cardioid polar pattern:** The microphone is most sensitive to sounds arriving from in front of it while picking up much less of sounds arriving from the sides or rear (from monitor speakers or neighboring instruments). This makes the microphone equally suited for recording and onstage use.
- **Gold-sputtered diaphragm:** The diaphragm is made of a plastic foil that is gold-sputtered on one side only to prevent shorting to the back electrode even at extremely high sound pressure levels.
- **All-metal body:** The all-metal body adds to the rejection of RF interference so you can use the

microphone near transmitter stations and along with wireless microphones or other communications equipment. The extremely rugged, heavy body and sturdy front grill protect the microphone from damage from tough handling on stage.

- **High headroom, minimum distortion:** Capable of handling sound pressure levels up to 150 dB (PERCEPTION 120) or 155 dB (PERCEPTION 220) without introducing perceptible distortion and built to resist high temperatures and humidity, the microphone will give excellent results in a wide range of applications.
- **Bass cut filter:** Selector 1 on the microphone front (refer to fig. 1) further reduces low-end distortion caused by footfall or wind noise, etc. The filter also minimizes the proximity effect that close-in miking from less than 4 inches causes in any unidirectional microphone. The filter rolls off at 12 dB/octave from 300 Hz downward.

- **Switchable preattenuation pad:** Selector 2 on the microphone front (refer to fig. 1) lets you increase the headroom by 20 dB for distortion-free close-in recording. The preattenuation pad prevents the microphone's output level, particularly at low frequencies, from overloading the miniature transformers used in many mixer input stages, etc.

2.3 Optional Accessories

- **PF 80** studio pop screen
- **ST 305** floor stand
- **W 4000** external windscreen



Fig. 1: Bass cut and preattenuation switches on microphone front.



3 Interfacing

3.1 General

Section 3 applies to both the PERCEPTION 120 and the PERCEPTION 220.

The microphone uses a condenser transducer designed for 48-volt phantom powering to DIN 45 596/

IEC 268-15 and needs an external power supply.

3.2 Pinout

The microphone provides a balanced output on a 3-pin male XLR connector:

Pin 1: ground

Pin 2: hot

Pin 3: cold

3.3 Connecting the Microphone

Refer to fig. 2.

1. Use an XLR cable to connect the microphone to a balanced XLR input with phantom power.
2. Switch the phantom power on. (Refer to the user manual of the unit to which you connected your microphone.)

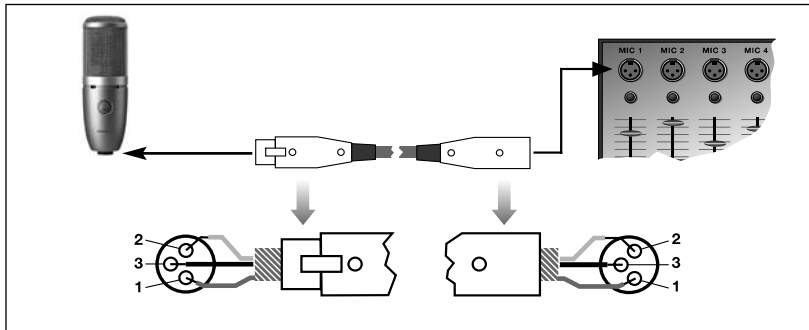


Fig. 2: Connecting to a balanced input with phantom power.



4 Using Your Microphone

4.1 General Hints

The PERCEPTION 120 and PERCEPTION 220 are general-purpose cardioid microphones for recording, broadcast, and onstage use.

Every instrument radiates its sound in a specific way. Therefore, to get the best sound it is crucial to experiment with microphone placement.

The following hints apply to both the PERCEPTION 120 and the PERCEPTION 220.

- Refer to fig. 3. The **front** of the microphone is the side of the body with the **AKG logo** on it. Therefore, always aim the logo at the sound source you are going to record! Being a unidirectional (cardioid) microphone, the PERCEPTION 120/220 will pick up very little sound from the rear.
- When recording wind instruments or vocals, make sure **not to blow or sing directly into**



Fig. 3: Microphone front.

the microphone.

To avoid unwanted wind and pop noise or moisture problems, place an optional PF 80 pop screen from AKG between the microphone and vocalist/instrument.

- **Keep the microphone dry.** Moisture from blowing or singing directly at the capsule from a short distance, or extremely high humidity may cause the microphone to start crackling or go very quiet due to partial short circuits in the polarization voltage.
- If you use the microphone **in the open air**, use an optional AKG **W 4000 windscreen** to protect the microphone from moisture and reduce wind noise.
- **High volume instruments:** You can use this microphone for close-in recording of very loud instruments (brass instruments, kick drum, etc.). Just switch the preattenuation pad in to increase the microphone's capability of handling

sound pressure levels up to 150 dB (PERCEPTION 120) or 155 dB (PERCEPTION 220).

- **Low-frequency noise:** To suppress low-frequency noise such as air conditioning rumble, footfall noise, or traffic sounds, switch the bass cut filter in.



5 Cleaning

- To clean the surface of the microphone body, use a soft cloth moistened with water.



6 Troubleshooting

Problem	Possible Cause	Remedy
No sound.	<ol style="list-style-type: none">1. Power to mixer and/or amplifier is off.2. Channel or master fader on mixer, or volume control on amplifier is at zero.3. Microphone is not connected to mixer or amplifier.4. Cable connectors are seated loosely.5. Cable is defective.6. No supply voltage.	<ol style="list-style-type: none">1. Switch power to mixer or amplifier on.2. Set channel or master fader on mixer or volume control on amplifier to desired level.3. Connect microphone to mixer or amplifier.4. Check cable connectors for secure seat.5. Check cable and replace if damaged.6. Switch phantom power on. Phantom power supply: connect to power outlet or insert battery (batteries). Check cable and replace if necessary.
Distortion.	<ol style="list-style-type: none">1. Channel gain control on mixer set too high.2. Microphone too close to sound source.	<ol style="list-style-type: none">1. Turn gain control down CCW.2. Move microphone further away from sound source. Switch preattenuation pad in.



Problem	Possible Cause	Remedy
Crackling noises or low output.	<ul style="list-style-type: none">• Partial short circuits due to excessive humidity.	<ul style="list-style-type: none">• Place microphone in warm, dry room and allow to dry.



7 Specifications

7.1 PERCEPTION 120

Type:	2/3-inch back electret condenser pressure-gradient microphone
Polar pattern:	cardioid
Open-circuit sensitivity:	18 mV/Pa (-35 dBV)
Frequency range:	20 Hz to 20 kHz (see frequency response trace)
Impedance:	≤ 200 ohms
Recommended load impedance:	≥ 1200 ohms
Equivalent noise level to CCIR 468-2:	32 dB
Equivalent noise level to IEC 60268-4 (A-weighted):	22 dB-A
Signal/noise ratio re 1 Pa (A-weighted):	72 dB
Max. SPL for 0.5% THD:	130 / 150 dB SPL (0 / -20 dB)
Environment:	temperature: -10°C to +60°C R.H.: 80% (+25°C)

Powering:	48 V \pm 4 V phantom power to DIN 45 596 / IEC 268-15
Current consumption:	≤ 2 mA
Connector:	3-pin XLR (pin 2 hot)
Dimensions:	53 dia. x 165 mm high / 2 x 6.5 in.
Net weight:	525 g / 1.2 lbs.
Bass cut filter slope:	12 dB/octave, 300 Hz
Preattenuation pad:	-20 dB (switchable)

7.2 PERCEPTION 220

Type:	1-inch large-diaphragm, true condenser pressure-gradient microphone
Polar pattern:	cardioid
Open-circuit sensitivity:	18 mV/Pa (-35 dBV)
Frequency range:	20 Hz to 20 kHz (see frequency response trace)
Impedance:	≤ 200 ohms
Recommended load impedance:	≥ 1200 ohms
Equivalent noise level to CCIR 468-2:	26 dB
Equivalent noise level to IEC 60268-4 (A-weighted):	16 dB-A
Signal/noise ratio re 1 Pa (A-weighted):	78 dB
Max. SPL for 0.5% THD:	135 / 155 dB SPL (0 / -20 dB)
Environment:	temperature: -10°C to +60°C R.H.: 80% (+25°C)

Powering:	48 V \pm 4 V phantom power to DIN 45 596 / IEC 268-15
Current consumption:	≤ 2 mA
Connector:	3-pin XLR (pin 2 hot)
Dimensions:	53 dia. x 165 mm high / 2 x 6.5 in.
Net weight:	525 g / 1.2 lbs.
Bass cut filter slope:	12 dB/octave, 300 Hz
Preattenuation pad:	-20 dB (switchable)

FCC Statement

The device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

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AKG Acoustics GmbH

Lemböckgasse 21–25, 1230 Vienna/AUSTRIA, phone: +43-1 86654-0*

e-mail: sales@akg.com

AKG Acoustics, U.S.

8400 Balboa Boulevard, Northridge, CA 91329, U.S.A, phone: +1 818 920-3212

e-mail: akgusa@harman.com

For other products and distributors worldwide visit www.akg.com



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Printed in China (P.R.C.)

09/07/9100 U 1244

