

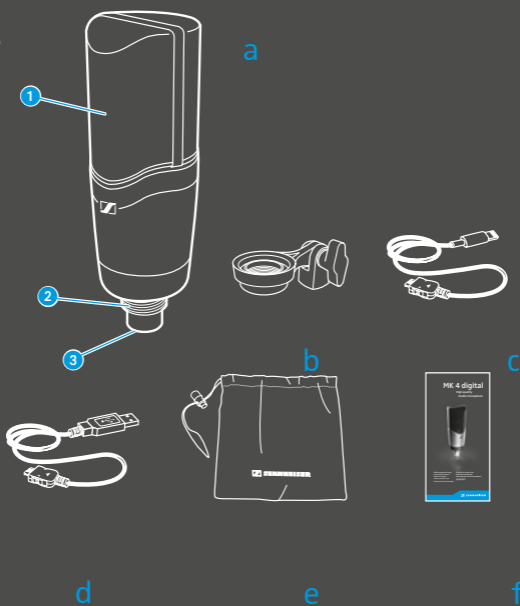
MK 4 digital

High quality
studio microphone

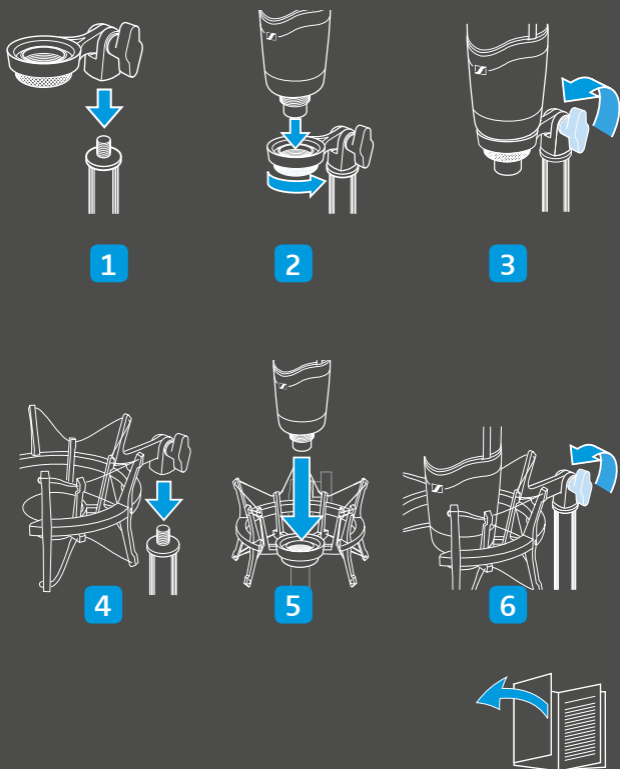


Instruction manual

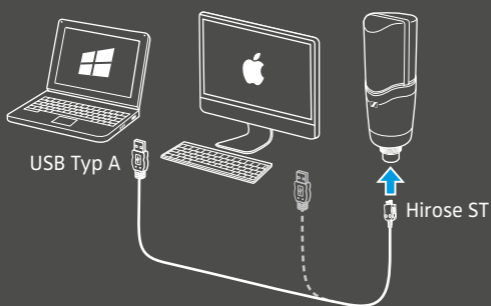
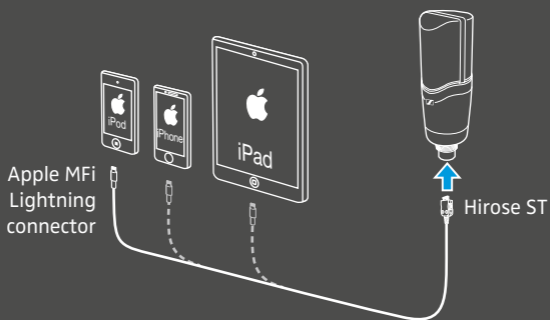
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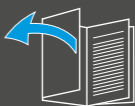
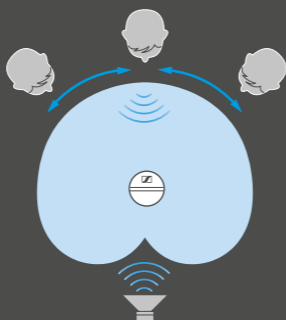
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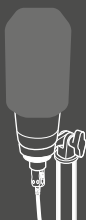
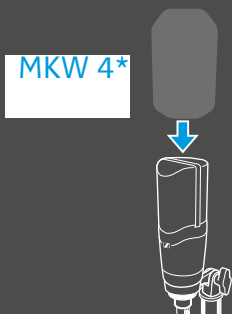
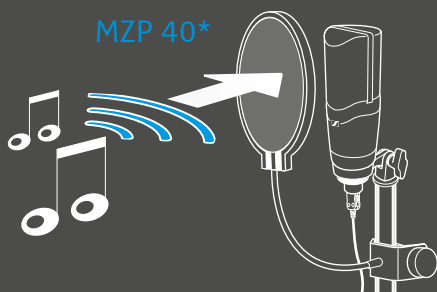
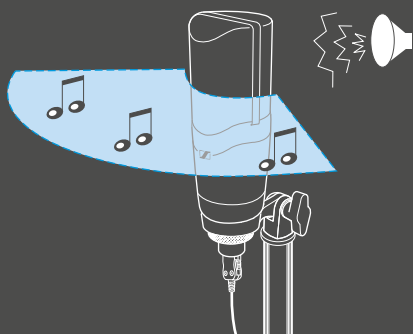
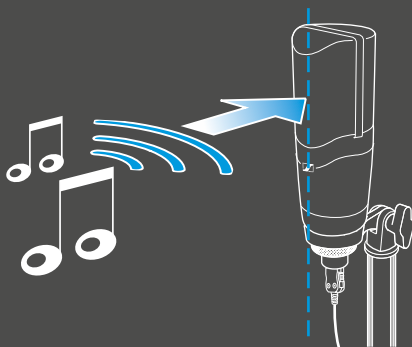
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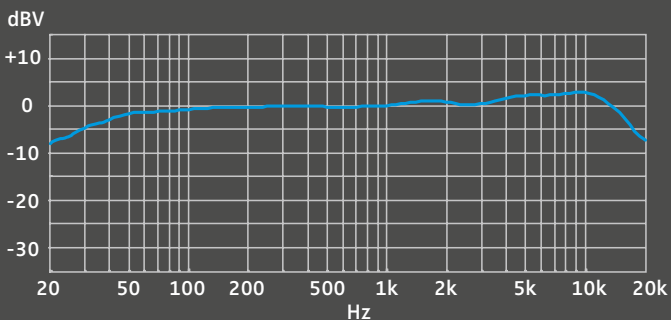
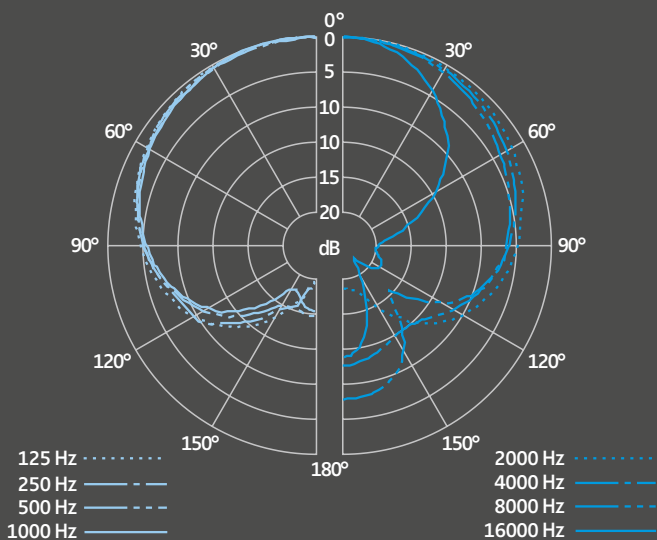


E



* optionales Zubehör / optional accessory / accessoire optionnel / accessorio opzionale / accesorios opcionales / acessório opcional / als optie verkrijgbare toebehoren / дополнительные аксессуары / 备选附件

F



The MK 4 digital

The MK 4 digital is a large diaphragm true condenser studio microphone for very detailed, professional studio recordings. The MK 4 digital connects directly to iOS devices and Mac or Windows computers and is ideal for home recording and professional studio use, as well as for mobile recording.

The MK 4 digital allows you on the one hand to make recordings using professional audio production software, while, on the other hand, Apogee offers special recording apps designed to be used as an interface and control application for iOS devices.

Features

- Large-diaphragm capsule (1") in true condenser design, internally shock-mounted for low handling noise
- 24-carat gold-plated diaphragm
- Apogee A/D conversion and mic preamp technology
- Rugged metal housing
- Designed for mobile recording
- Excellent sound quality
- Made in Germany

Areas of application

- Speech/vocals
- Acoustic guitars
- Guitar amplifiers
- Grand pianos
- Strings
- Wind instruments
- Drums and percussion

Package contents and product overview A*

- | | | | |
|---|-------------------------|---|---------------------|
| a | MK 4 digital microphone | 1 | Sound inlet basket |
| b | MZQ 4 microphone clamp | 2 | Thread for mounting |
| c | Lightning cable | 3 | Hirose ST socket |
| d | USB cable (Type A) | | |
| e | Pouch | | |
| f | Instruction manual | | |

* Diagrams can be found on the cover pages.

Putting the MK 4 digital into operation

Mounting the MK 4 digital B*

To mount the MK 4 digital using the microphone clamp:

1. Screw the MZQ 4 microphone clamp to a solid and sturdy stand
2. Place the MK 4 digital from above into the microphone clamp and screw it tight.
3. To orient the MK 4 digital, always loosen the wing screw.

To suppress structure-borne noise, you can use the MKS 4 shock mount, which is available as an optional accessory:

4. Screw the shock mount to a solid and sturdy stand
5. Place the MK 4 digital from above into the inner shock mount cage and screw it tight.
6. To orient the MK 4 digital, always loosen the wing screw.

Connecting the MK 4 digital C*

You can connect the MK 4 digital to an iOS device (iPhone, iPad or iPod touch) or to a Mac or Windows computers.

If you want to use an iOS device for your recordings:

- ▶ Connect the Hirose ST connector of the Lightning cable to the MK 4 digital and connect the Lightning connector to the iOS device.

If you want to use a Mac or Windows computer for your recordings:

- ▶ Connect the Hirose ST connector of the USB cable to the MK 4 digital and connect the USB connector to the Mac or PC.

* Diagrams can be found on the cover pages.

Preparing recordings

Depending on your device, you can use different applications to make recordings and configure your MK 4 digital.

1. iOS devices: Apogee MetaRecorder, Apogee Maestro or other compatible core audio apps
 2. Mac and Windows computer: other audio production software
- ▶ When using Apogee MetaRecorder or Apogee Maestro, observe the following chapters in the installation and configuration of the apps.

Connecting headphones or a headset

To avoid feedback when making recordings on iOS devices, the input signal of the MK 4 digital must not be sent to the device loudspeaker, but must be sent to headphones or a headset. If you want to make recordings on a Mac or Windows computer, you can also use monitoring loudspeakers.

CAUTION Limited recording quality due to a wrongly-selected audio source

The Apogee MetaRecorder and Apogee Maestro apps use the last connected device as the audio source. If you are using a headset for monitoring, recordings can inadvertently be made via the headset's microphone.

- ▶ Connect the headphones or the headset to your iOS device before connecting the MK 4 digital.
- ▶ Make sure that the MK 4 digital is recognized as the last connected device by the app.

To be able to monitor the input signal on an iOS device, you also have to activate the monitoring function in your recording app (see chapter "Preparing recordings using Apogee MetaRecorder" or "Preparing recordings using Apogee Maestro").

- ▶ Connect headphones or a headset to the headphone connection of your iOS device.
During the recording, you can monitor the input signal via the headphones or the headset.

If you want to use monitoring loudspeakers on a Mac or Windows computer:

- ▶ Set up the loudspeakers in the range of the lowest sensitivity of the MK 4 digital (see diagram D on the cover pages).

Installing the Apogee MetaRecorder or Apogee Maestro app

The Apogee Maestro app allows you to configure the MK 4 digital, while the Apogee MetaRecorder app allows you to make professional recordings. If desired, you can also use all other compatible apps with recording function.

If you want to use an iOS device (iPhone, iPad or iPod touch) for your recordings:

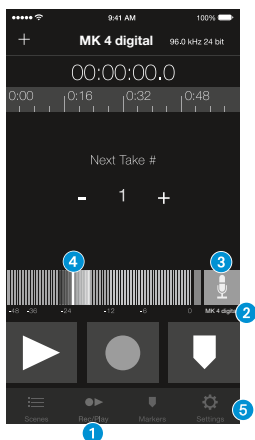
- ▶ Install the Apogee MetaRecorder and Apogee Maestro apps from the App Store.

Preparing recordings using Apogee MetaRecorder



To configure settings for the recording:

- ▶ Start the Apogee MetaRecorder app and tap on the **Rec/Play** tab **1**.
- ▶ Make sure that the MK 4 digital is connected and recognized by the app. In this case, the name of the MK 4 digital **2** is displayed below the microphone icon **3**.
- ▶ Tap on the microphone icon **3** to display the input level slider **4**.
- ▶ Move the input level slider **4** to the left or right to adjust the desired input level.

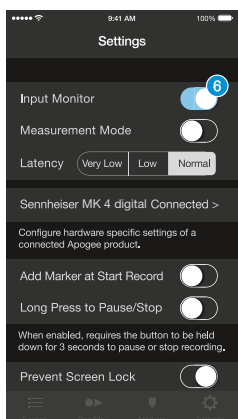


To activate the monitoring function:

- ▶ Tap the **Settings** tab **5**.
- ▶ Activate the **Input Monitor** function **6**.



Further information on the configuration and operation of the app can be found in the Apogee Knowledgebase at <http://www.apogeedigital.com/knowledgebase> or in the instruction manuals at www.apogeedigital.com/apps.



Preparing recordings using Apogee Maestro



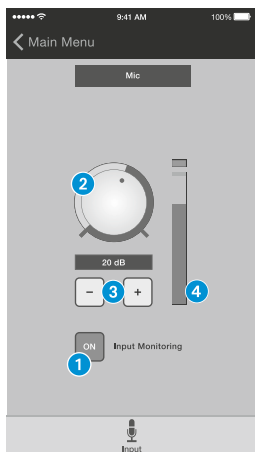
To activate the monitoring function:

- ▶ Start the Apogee Maestro app and select the Sennheiser MK 4 digital from the main menu.
- ▶ Activate the **ON** button **1** under the **Input Monitoring** menu item.

To configure settings for the recording:

- ▶ Turn the gain control **2** to adjust the desired input gain. Fine adjustment can be done using the + and – buttons **3**.

The level indicator **4** allows you to check the current setting of the input level.



i Further information on the configuration and operation of the app can be found in the Apogee Knowledgebase at <http://www.apogeedigital.com/knowledgebase> or in the instruction manuals at www.apogeedigital.com/apps.

Making recordings

Using the MK 4 digital E*

- ▶ Orient the MK 4 digital towards the mouth or audio source.
- ▶ Observe the following to avoid possible issues during recording:

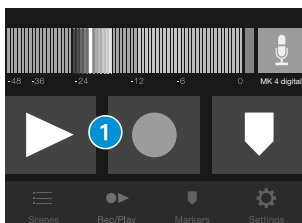
Possible issue	Measure
Noise	▶ Make sure that there is no monitoring loudspeaker or disturbing noise source (e.g. a PC fan) in the sound inlet area of the MK 4 digital.
Sibilance	▶ Do not orient the MK 4 digital towards the mouth or audio source, but position it slightly to the side.
Plosives	▶ Use a popshield, e.g. the Sennheiser MZP 40.
Wind noise	▶ Use a windshield, e.g. the Sennheiser MKW 4. The windshield changes the sound only slightly, but attenuates wind noise by approx. 10 dB.

* Diagrams can be found on the cover pages.

Making recordings using an app

i If you are using an iPhone or an iPad, it is recommended to set the device to flight mode to prevent incoming calls from interrupting the recording.

- ▶ Start the Apogee MetaRecorder app or another compatible core audio app.
The MK 4 digital is automatically recognized and selected as the input device.
- ▶ If you haven't done so already, connect a pair of headphones to the headphone socket of the iOS device or the Mac or Windows computer.
During the recording, you can monitor the input signal via the headphones.
- ▶ Tap on the Record button **1** to start the recording.



Cleaning and maintaining the MK 4 digital

CAUTION Damage to the product due to liquids

Liquids entering the product can short-circuit the electronics or damage the mechanics. Solvents or cleansing agents can damage the surfaces of the product.

- ▶ Keep all liquids away from the product.
- ▶ Do not use any solvents or cleansing agents.

- ▶ Only clean the product only with a dry cloth.

When not using the MK 4 digital for extended periods of time:

- ▶ Store the MK 4 digital in a dry, clean and dust-free place at room temperature.

i Accessories are available from your Sennheiser partner. A list of suitable accessories can be found on our website at www.sennheiser.com.

Specifications

Apogee PureDigital analog-to-digital converter

Bit depth	16/24 bits
Sampling frequency	44.1/48/88.2/96 kHz
Latency	platform-dependent
Jitter of the audio output signal	platform-dependent
DC offset of the audio data	none (zero)
Conversion	multibit DeltaSigma
Preamplification	0 dB to 50 dB
Power supply	powered by iOS device or Mac/Windows computer

MK 4 digital microphone

Transducer principle	externally polarized condenser microphone
Diameter of diaphragm	25.4 mm/1"
Acoustic operating principle	pressure gradient transducer
Pick-up pattern	cardioid
Frequency response	20 Hz to 20,000 Hz
Sensitivity	min. gain: -61 dBFS (80 dB SPL, 1 kHz) max. gain: -11 dBFS (80 dB SPL, 1 kHz)
Noise level	min. gain: -117 dBFS(A) max. gain: -79 dBFS(A)
Max. SPL	min. gain: 141 dB max. gain: 91 dB
Connector	Hirose to Apple MFi Lightning connector Hirose to USB Type A
Weight	approx. 485 g
Diameter	approx. 57 mm
Length	approx. 160 mm
Operating temperature	0°C to +40°C
Storage temperature	-20°C to +70°C

Polar digram and frequency response curve

The polar digram and the frequency response curve F can be found on the cover pages.

Manufacturer Declarations

Warranty

Sennheiser electronic GmbH & Co. KG gives a warranty of 24 months on this product. For the current warranty conditions, please visit our website at www.sennheiser.com or contact your Sennheiser partner.

In compliance with the following requirements

- WEEE Directive (2012/19/EU)



Please dispose of this product at the end of its operational lifetime by taking it to your local collection point or recycling center for such equipment.






CE Declaration of Conformity



- RoHS Directive (2011/65/EU)
- EMC Directive (2014/30/EU)

The declaration is available at www.sennheiser.com/download.

In compliance with

Europe		EMC EN 55032, EN 55103/-2
USA		FCC 47 CFR 15 subpart B CAN ICES-3 (B)/NMB-3(B)
Canada		Industry Canada ICES-003
China		
Australia/ New Zealand		
Korea		MSIP-REM-SE9-MK4 A/S: 1544-1699

Statements regarding FCC and Industry Canada

This device complies with Part 15 of the FCC Rules and with RSS-210 of Industry Canada. 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.

This class B digital apparatus complies with the Canadian ICES-003. Changes or modifications made to this equipment not expressly approved by Sennheiser electronic Corp. may void the FCC authorization to operate this equipment.



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