Digital 6000

Wireless technology for the next generation

PDF export of the original HTML manual

Contents

1. Preface ... 6
2. Product information ... 7
Products in the Digital 6000 series ... 8
EM 6000 | EM 6000 DANTE 2-channel receiver ... 8
SKM 6000 handheld transmitter ... 11
SK 6000 bodypack transmitter ... 13
SK 6212 bodypack transmitter ... 16
Modular L 6000 charger ... 19
Accessories ... 21
Charging modules for L 6000 charger ... 21
Rechargeable batteries and battery compartments ... 24
L 60 charger ... 30
L 70 USB charger with charging adapter for BA 62 rechargeable battery ... 31
Digital 9000 series handheld transmitter and bodypack transmitter ... 33
Command adapter ... 35
Microphones and cables ... 37
Antennas and accessories ... 39
3. Instruction manual ... 41
EM 6000 2-channel receiver ... 41
Product overview ... 41
Connecting/disconnecting the EM 6000 to/from the power supply system ... 45
Connecting the EM 6000 to a network ... 46
Outputting analog audio signals ... 48
Outputting digital AES3 audio signals ... 49
Outputting audio via a Dante® network (EM 6000 DANTE only) ... 50
Connecting the word clock ... 51
Connecting antennas ... 53
Using the headphone output ... 56
Installing the EM 6000 in a rack ... 57
Switching the EM 6000 on and off ... 59
Buttons for navigating the menu ... 60
Displays on the EM 6000 display panel ... 61
Home screen ... 63
Status messages ... 71
Muting the audio signal ... 74

Menu structure 76
Setting options in the menu 77
System menu item 105
Updating the firmware of the receiver 125
Updating the firmware of the Dante® interface 126
SKM 6000 handheld transmitter 127
Product overview 127
Inserting and removing the BA 60 rechargeable battery 129
Inserting and removing the B 60 battery compartment 132
Replacing the microphone module 135
Switching the SKM 6000 on and off 137
Displays on the SKM 6000 handheld transmitter display panel 138
Operating the menu of the SKM 6000 handheld transmitter 140
Updating the transmitter firmware 151
SK 6000 bodypack transmitter 152
Product overview 152
Inserting and removing the BA 61 rechargeable battery 154
Inserting and removing the B 61 battery compartment 158
Mounting the antenna 161
Connecting a microphone 162
Connecting an instrument or line source 164
Connecting a command adapter 165
Switching the SK 6000 on and off 166
Displays on the SK 6000 bodypack transmitter display panel 167
Operating the menu of the SK 6000 bodypack transmitter 169
Operating the SK 6000 with a command adapter 180
Updating the transmitter firmware 181
SK 6212 bodypack transmitter 182
Product overview 182
Inserting and removing the BA 62 rechargeable battery 184
Mounting the antenna 186
Connecting a microphone to the SK 6212 bodypack transmitter 188
Connecting an instrument or line source to the SK 6212 bodypack transmitter 190
Switching the SK 6212 on and off 191
Home screen 193
Displays on the SK 6212 bodypack transmitter display panel 195
Operating the menu of the SK 6212 bodypack transmitter 197

Updating the transmitter firmware ... 208
Modular L 6000 charger ... 209
Product overview ... 209
Connecting/disconnecting the L 6000 to/from the power supply system ... 210
Connecting the L 6000 to a network ... 211
Installing a charging module in the L 6000 charger ... 213
Installing the L 6000 in a rack ... 215
Switching the L 6000 on and off ... 217
Charging the rechargeable batteries in the L 6000 charger ... 218
Meaning of the LEDs ... 220
Preparing rechargeable batteries for storage (storage mode) ... 222
Resetting settings (factory reset) ... 223
Updating the firmware ... 224
Operating the L 6000 via a network ... 225
L 70 USB charger ... 226
Connecting/disconnecting the charger to/from the power supply system ... 226
Charging the rechargeable battery ... 227
Establishing a radio link ... 229
Adjusting frequencies ... 229
Encrypting the radio link ... 230
Meaning of the Link Quality Indicator ... 231
Synchronizing devices ... 233
Cleaning and maintenance ... 235
4. Knowledge base ... 237
Recommendations for using antennas ... 237
Equidistant frequency grid ... 240
Link Density Mode ... 241
Word clock scenarios for digital audio (AES3 and Dante®) ... 242
Word clock with analog audio ... 242
Word clock with digital audio ... 243
Defining the master and slave ... 244
5. Specifications ... 245
System ... 245
EM 6000 2-channel receiver ... 247
EM 6000 DANTE 2-channel receiver ... 249
SKM 6000 handheld transmitter ... 251
SK 6000 bodypack transmitter ... 252

SK 6212 bodypack transmitter....254
Modular L 6000 charger.... 256
LM 6060 | LM 6061 | LM 6062 | LM 6070 charging modules.... 258
L 70 USB charger.... 259
BA 60 | BA 61 | BA 62 rechargeable batteries.... 260
6. Regulatory information....261
EM 6000 | EM 6000 DANTE....262
L 6000....269
SK 6000 | SKM 6000.... 275
SK 6212....282

1. Preface

PDF Export of the Original HTML Manual

This PDF document is an automatic export of an interactive set of HTML manuals. Some content and interactive elements may not be included in the PDF because they cannot be displayed in this format. In addition, automatically generated page breaks may cause related content to be slightly shifted. We can therefore only guarantee the completeness of the information in the HTML manual and recommend using it. You can find it in the Documentation Portal at www.sennheiser.com/documentation.

2. Product information

All information about the product and available accessories at a glance.

> i For more information about the individual **products** in the **Digital 6000** series, see Products in the Digital 6000 series.
> For information about the available **accessories**, see Accessories.

When perfection is required there can be no compromises. The Digital 6000 system combines experience, high standards and excellent instincts for day-to-day work in the modern live event industry into one simple promise: no compromises in RF robustness, sound or workflow.

The 2-channel system delivers quality, reliability and efficiency in a compact 19-inch/1 RU format. The series incorporates the renowned Long Range mode with the proprietary audio codec (SeDAC) of the wireless masterpiece, Digital 9000.

True bit diversity evaluates the quality of each individual bit and combines the bits from the two parallel reception streams. In combination with a switching bandwidth of 244 MHz and equidistant frequency grid, it provides the greatest possible transmission reliability even in demanding RF environments. Digital 6000 is compatible with many other Sennheiser antennas and capsules and has an easy-to-follow user interface on clear OLED displays, digital and analog outputs and AES 256 encryption. The Dante Version with an Audinate Brooklyn II Card offers two additional RJ-45 connectors.

The series is ideal for touring and rental companies, theater and musical productions, broadcasting, large places of worship and corporate applications.

Products in the Digital 6000 series

The Digital 6000 series consists of the following products.

i You can also find more information here:

- You can find technical **specifications** about the individual products under Specifications.
- You can find information about **installing** and **operating** the products under Instruction manual.

EM 6000 | EM 6000 DANTE 2-channel receiver

The digital 2-channel receiver works with a switching bandwidth of 244 MHz (470 to 714 MHz), which is covered by three transmitter versions.

For larger 4-channel systems, you can cascade up to 8 EM 6000s without using additional antenna splitters and you then require only one pair of antennas.

The 2-channel receiver is available in 2 variants:

- **EM 6000** | 470 – 714 MHz, article no. 506657
- **EM 6000 DANTE** | 470 – 714 MHz, article no. 508475

The **EM 6000 DANTE** variant is identical in construction to the **EM 6000**. The only difference is that it also has an integrated Dante® interface (Audinate Brooklyn II) for connecting the device to a Dante® network. Two modes are supported for the two Dante® sockets: Redundant and Through.

> **i** You can find more detailed information about the EM 6000 in the following sections:
>
> - **Installation** and **Operation**: EM 6000 2-channel receiver
> - **Specifications**: EM 6000 2-channel receiver | EM 6000 DANTE 2-channel receiver

Delivery includes

- EM 6000 or EM 6000 DANTE 2-channel receiver
- 3 mains cables (EU, UK, and US variant)
- 2 antennas
- 2 antenna cables (BNC, 50 Ω)
- 4 rubber feet
- Quick guide
- Safety instructions
- Approval sheet

Product overview

View of the front side:

Rear view of the EM 6000:

Rear view of the EM 6000 DANTE:

SKM 6000 handheld transmitter

The SKM 6000 handheld transmitter is available in a variety of frequency variants.

- **SKM 6000 A1-A4** | 470,200 – 558,000 MHz, article no. 506302
- **SKM 6000 A5-A8** | 550,000 – 638,000 MHz, article no. 506303
- **SKM 6000 B1-B4** | 630,000 – 718,000 MHz, article no. 506304
- **SKM 6000 A5-A8 US** | 550,000 – 607,800 MHz, article no. 506367
- **SKM 6000 A1-A4 JP** | 470,150 – 558,000 MHz, article no. 506337
- **SKM 6000 A5-A8 JP** | 550,000 – 638,000 MHz, article no. 506338
- **SKM 6000 B1-B4 JP** | 630,000 – 713,850 MHz, article no. 506339
- **SKM 6000 A1-A4 KO** | 470,100 – 558,000 MHz, article no. 506352
- **SKM 6000 A5-A8 KO** | 550,000 – 638,000 MHz, article no. 506353
- **SKM 6000 B1-B4 KO** | 630,000 – 697,900 MHz, article no. 506354

i You can find more detailed information about the SKM 6000 in the following sections:

- **Installation** and **Operation**: SKM 6000 handheld transmitter
- **Specifications**: SKM 6000 handheld transmitter

Delivery includes

- SKM 6000 handheld transmitter
- MZQ 9000 microphone clamp
- Quick guide

- Safety instructions
- Approval sheet

Product overview

View of the front side:

View of the rear side with the display:

SK 6000 bodypack transmitter

The SK 6000 bodypack transmitter is available in a range of frequency variants.

- **SK 6000 A1-A4** | 470,200 – 558,000 MHz, article no. 506318
- **SK 6000 A5-A8** | 550,000 – 638,000 MHz, article no. 506319
- **SK 6000 B1-B4** | 630,000 – 718,000 MHz, article no. 506320
- **SK 6000 A5-A8 US** | 550,000 – 607,800 MHz, article no. 506375
- **SK 6000 A1-A4 JP** | 470,150 – 558,000 MHz, article no. 506349
- **SK 6000 A5-A8 JP** | 550,000 – 638,000 MHz, article no. 506350
- **SK 6000 B1-B4 JP** | 630,000 – 713,850 MHz, article no. 506351
- **SK 6000 A1-A4 KO** | 470,100 – 558,000 MHz, article no. 506364
- **SK 6000 A5-A8 KO** | 550,000 – 638,000 MHz, article no. 506365
- **SK 6000 B1-B4 KO** | 630,000 – 697,900 MHz, article no. 506366

i You can find more detailed information about the SK 6000 in the following sections:

- **Installation** and **Operation**: SK 6000 bodypack transmitter
- **Specifications**: SK 6000 bodypack transmitter

Delivery includes

- SK 6000 bodypack transmitter
- 1 antenna
- 1 belt clip
- Quick guide
- Safety instructions
- Approval sheet

Product overview

View of the front side:

View without rechargeable battery:

SK 6212 bodypack transmitter

The SK 6212 bodypack transmitter is available in a range of frequency variants.

- **SK 6212 A1-A4** | 470,200 – 558,000 MHz, article no. 508513
- **SK 6212 A5-A8** | 550,000 – 638,000 MHz, article no. 508514
- **SK 6212 B1-B4** | 630,000 – 713,800 MHz, article no. 508515
- **SK 6212 A5-A8 US** | 550,000 – 607,800 MHz, article no. 508521
- **SK 6212 A5-A8 AU** | 630,000 – 693,800 MHz, article no. 508529

i You can find more detailed information about the SK 6212 in the following sections:

- **Installation** and **Operation**: SK 6212 bodypack transmitter
- **Specifications**: SK 6212 bodypack transmitter

Delivery includes

- SK 6212 bodypack transmitter
- 1 antenna

- 1 belt clip
- Quick guide
- Safety instructions
- Approval sheet

Product overview

View of the front side:

View of the rear side:

View from above:

Modular L 6000 charger

The L 6000 charger is used to charge the BA 60, BA 61, BA 62 and BA 70 rechargeable batteries.

The charging modules LM 6060 (for the BA 60), LM 6061 (for the BA 61), LM 6062 (for the BA 62) or LM 6070 (for the BA 70) are required to do so. The rechargeable batteries and charging modules are available separately.

- **L 6000 EU** | Article no. 507300

> i You can find more detailed information about the L 6000 charger and the LM 6060, LM 6061, LM 6062 and LM 6070 charging modules in the following sections:
>
> - **Installation** and **Operation**: Modular L 6000 charger
> - **Specifications**: Modular L 6000 charger and LM 6060 | LM 6061 | LM 6062 | LM 6070 charging modules

Delivery includes

- 1 L 6000 charger
- 1 mains cables (EU, UK, or US variant)
- 4 dummy caps including screws (preassembled)
- 4 rubber feet
- 1 quick guide
- 1 manual with safety instructions
- 1 manual with technical data and manufacturer declarations

Product overview

View with the charging modules and rechargeable batteries inserted:

View with the LM 6060 charging modules without rechargeable batteries inserted:

View with the LM 6061 charging modules without rechargeable batteries inserted:

Accessories

Various accessory parts are available for the Digital 6000 series.

Charging modules for L 6000 charger

The following **charging modules** are available for the **L 6000** charger:

LM 6060

The LM 6060 charging module is installed in the L 6000 charger to charge the BA 60 rechargeable battery.

LM 6060 | Article no. 507198

LM 6061

The LM 6061 charging module is installed in the L 6000 charger to charge the BA 61 rechargeable battery.

LM 6061 | Article no. 507199

LM 6062

The LM 6062 charging module is installed in the L 6000 charger to charge the BA 62 rechargeable battery.

LM 6062 | Article no. 508516

LM 6070

The LM 6070 charging module is installed in the L 6000 charger to charge the BA 70 rechargeable battery of the Evolution Wireless Digital series.

LM 6070 | Article no. 509457

Rechargeable batteries and battery compartments

The following rechargeable batteries and battery compartments are available for operating the transmitters.

Rechargeable batteries:

To operate the transmitters, we recommend using the rechargeable batteries **BA 60** (for the SKM 6000 handheld transmitter), **BA 61** (for the SK 6000 bodypack transmitter) or **BA 62** (for the SK 6212 bodypack transmitter). The rechargeable batteries are available as accessories. These lithium-ion rechargeable batteries have been especially developed to achieve the optimum service life and operational reliability for the transmitters.

Lithium-ion rechargeable batteries do not have a memory effect and have a greater power density than primary batteries and NiMh rechargeable batteries. In addition, the remaining battery life of the transmitters can be read to the exact minute on the transmitter and receiver.

These rechargeable batteries must be charged only with Sennheiser **L 6000** (BA 60, BA 61 and BA 62) and **L 60** (BA 60 and BA 61) chargers.

Battery compartments:

With the **B 60** battery compartment (for the SKM 6000 handheld transmitter) and **B 61** battery compartment (for the SK 6000 bodypack transmitter) that are also available as accessories, you can use AA batteries and rechargeable AA batteries. However, the battery life of the transmitters is shorter than the BA 60 and BA 61 rechargeable battery life and depends heavily on the quality, capacitance and age of the batteries or rechargeable batteries used.

The remaining battery life can only be roughly estimated from the battery icon and a specific battery life cannot be displayed. At the end of the battery life, the transmitters may also experience oscillating on-off switching behavior.

The use of battery compartments may be a solution for rehearsals or to avoid disasters, but should generally not be considered as part of an event.

BA 60 rechargeable battery

The BA 60 rechargeable battery is intended to operate the SKM 6000 handheld transmitter.

BA 60 | Article no. 504702

BA 61 rechargeable battery

The BA 61 rechargeable battery is intended to operate the SK 6000 bodypack transmitter.

BA 61 | Article no. 504703

BA 62 rechargeable battery

The BA 62 rechargeable battery is intended to operate the SK 6212 bodypack transmitter.

BA 62 | Article no. 508517

B 60 battery compartment

The B 60 battery compartment is intended to operate the SKM 6000 handheld transmitter.

B 60 | Article no. 504700

B 61 battery compartment

The B 61 battery compartment is intended to operate the SK 6000 bodypack transmitter.

B 61 | Article no. 504701

SENNHEISER
B6

L 60 charger

As an alternative to the L 6000 charger, the L 60 charger from the Digital 9000 series can be used to charge the BA 60 and BA 61 rechargeable batteries.

L 60 EU | Article no. 504704

Features:

- Simultaneous charging of up to 2 rechargeable batteries of type BA 60/BA 61
- Cascade up to 4 chargers

i You can find further information about the L 60 charger in the Digital 9000 series instruction manual or in the download area.
sennheiser.com/download.

L 70 USB charger with charging adapter for BA 62 rechargeable battery

As an alternative to the L 6000 charger, the L 70 USB charger can be used with a suitable charging adapter to charge BA 62 rechargeable batteries.

i You can find more detailed information about the L 70 USB charger in the following sections:

- Startup and operation: L 70 USB charger
- Specifications: L 70 USB charger

L 70 USB

L 70 USB | Article no. 508861

Simultaneous charging of up to 2 rechargeable batteries of type BA 62

L 70 Adapter BA 62

L 70 Adapter BA 62 | Article no. 509263

SENNHEISER

Digital 9000 series handheld transmitter and bodypack transmitter

The Sennheiser Digital 9000 series **SK 9000** bodypack transmitter and **SKM 9000** handheld transmitter are compatible with the Digital 6000 series if operated in **LR mode.**

The SKM 9000 COM variant of the handheld transmitter has a Command button for use in command mode (see Command Mode menu item).

SKM 9000 product variants

- **SKM 9000 BK A1-A4** | 470 – 558 MHz, black, article no. 504718
- **SKM 9000 BK A5-A8** | 550 – 638 MHz, black, article no. 504719
- **SKM 9000 BK B1-B4** | 630 – 718 MHz, black, article no. 504720
- **SKM 9000 BK COM A1-A4** | 470 – 558 MHz, black, article no. 504714
- **SKM 9000 BK COM A5-A8** | 550 – 638 MHz, black, article no. 504715
- **SKM 9000 BK COM B1-B4** | 630 – 718 MHz, black, article no. 504720
- **SKM 9000 NI A1-A4** | 470 – 558 MHz, nickel, article no. 504726
- **SKM 9000 NI A5-A8** | 550 – 638 MHz, nickel, article no. 504727
- **SKM 9000 NI B1-B4** | 630 – 718 MHz, nickel, article no. 504728
- **SKM 9000 NI COM A1-A4** | 470 – 558 MHz, nickel, article no. 504722
- **SKM 9000 NI COM A5-A8** | 550 – 638 MHz, nickel, article no. 504723
- **SKM 9000 NI COM B1-B4** | 630 – 718 MHz, nickel, article no. 504724
- **SKM 9000 BK A5-A8 US** | 550 – 608 MHz, black, article no. 505950
- **SKM 9000 NI A5-A8 US** | 550 – 608 MHz, nickel, article no. 505952
- **SKM 9000 BK COM A5-A8 US** | 550 – 608 MHz, black, article no. 505956
- **SKM 9000 NI COM A5-A8 US** | 550 – 608 MHz, nickel, article no. 505958
- **SKM 9000 BK A1-A4 JP** | 470 – 558 MHz, black, article no. 506115
- **SKM 9000 BK A5-A8 JP** | 550 – 638 MHz, black, article no. 506116
- **SKM 9000 BK B1-B4 JP** | 630 – 714 MHz, black, article no. 506117
- **SKM 9000 BK COM A1-A4** JP | 470 – 558 MHz, black, article no. 506118
- **SKM 9000 BK COM A5-A8** JP | 550 – 638 MHz, black, article no. 506119
- **SKM 9000 BK COM B1-B4** JP | 630 – 714 MHz, black, article no. 506120
- **SKM 9000 NI A1-A4 JP** | 470 – 558 MHz, nickel, article no. 506115
- **SKM 9000 NI A5-A8 JP** | 550 – 638 MHz, nickel, article no. 506116
- **SKM 9000 NI B1-B4 JP** | 630 – 714 MHz, nickel, article no. 506117
- **SKM 9000 NI COM A1-A4 JP** | 470 – 558 MHz, nickel, article no. 506118
- **SKM 9000 NI COM A5-A8 JP** | 550 – 638 MHz, nickel, article no. 506119
- **SKM 9000 NI COM B1-B4 JP** | 630 – 714 MHz, nickel, article no. 506120
- **SKM 9000 BK A1-A4 KR** | 470 – 558 MHz, black, article no. 506130
- **SKM 9000 BK A5-A8 KR** | 550 – 638 MHz, black, article no. 506131
- **SKM 9000 BK B1-B4 KR** | 630 – 698 MHz, black, article no. 506132
- **SKM 9000 BK COM A1-A4 KR** | 470 – 558 MHz, black, article no. 506133
- **SKM 9000 BK COM A5-A8 KR** | 550 – 638 MHz, black, article no. 506134
- **SKM 9000 BK COM B1-B4 KR** | 630 – 698 MHz, black, article no. 506135
- **SKM 9000 NI A1-A4 KR** | 470 – 558 MHz, nickel, article no. 506136
- **SKM 9000 NI A5-A8 KR** | 550 – 638 MHz, nickel, article no. 506137
- **SKM 9000 NI B1-B4 KR** | 630 – 698 MHz, nickel, article no. 506138

- **SKM 9000 NI COM A1-A4 KR** | 470 – 558 MHz, nickel, article no. 506139
- **SKM 9000 NI COM A5-A8 KR** | 550 – 638 MHz, nickel, article no. 506140
- **SKM 9000 NI COM B1-B4 KR** | 630 – 698 MHz, nickel, article no. 506141

SK 9000 product variants

- **SK 9000 BK A1-A4** | 470 – 558 MHz, article no. 504730
- **SK 9000 BK A5-A8** | 550 – 638 MHz, article no. 504731
- **SK 9000 BK B1-B4** | 630 – 718 MHz, article no. 504732
- **SK 9000 BK A5-A8 US** | 550 – 608 MHz, article no. 505954
- **SK 9000 BK A1-A4 JP** | 470 – 558 MHz, article no. 506127
- **SK 9000 BK A5-A8 JP** | 550 – 638 MHz, article no. 506128
- **SK 9000 BK B1-B4 JP** | 630 – 714 MHz, article no. 506129
- **SK 9000 BK A1-A4 KR** | 470 – 558 MHz, article no. 506142
- **SK 9000 BK A5-A8 KR** | 550 – 638 MHz, article no. 506143
- **SK 9000 BK B1-B4 KR** | 630 – 698 MHz, article no. 506144

Command adapter

Command adapter for the SK 6000 bodypack transmitter.

You can use the command adapter to switch the audio channel on the EM 6000 receiver via remote control (for example, to provide directional instructions).

Command Button | Article no. 701014

KA 9000 COM | Article no. 504735

i You can find more detailed information about the command adapter in the following sections:

- Connecting a command adapter
- Operating the SK 6000 with a command adapter

Microphones and cables

Various microphone modules, microphones and instrument cables are available for the transmitters in the Digital 6000 series.

Microphone modules

We recommend using the following microphone modules with the **SKM 6000** handheld transmitter.

- **MM 435** | Dynamic microphone module with cardioid pattern, article no. 508829
- **MM 445** | Dynamic microphone module with super-cardioid pick-up pattern, article no. 508830
- **MMD 835-1** | Dynamic microphone module with cardioid pattern, article no. 502575
- **MMD 845-1** | Dynamic microphone module with super-cardioid pick-up pattern, article no. 502576
- **MME 865-1** | Condenser microphone module with super-cardioid pick-up pattern, article no. 502581
- **MMD 935-1** | Dynamic microphone module with cardioid pattern, article no. 502577
- **MMD 945-1** | Dynamic microphone module with super-cardioid pick-up pattern, article no. 502579
- **MMK 965-1** | Condenser microphone module with selectable pattern: cardioid and super-cardioid, article no. 502582 (black) / 502584 (nickel)
- **Neumann KK 204** | Condenser microphone module with cardioid pattern, article no. 008652 (black) / 008651 (nickel)
- **Neumann KK 205** | Condenser microphone module with super-cardioid pick-up pattern, article no. 008654 (black) / 008653 (nickel)
- **ME 9002** | Condenser microphone module with omni-directional pattern, article no. 502587
- **ME 9004** | Condenser microphone module with cardioid pattern, article no. 502588
- **ME 9005** | Condenser microphone module with super-cardioid pick-up pattern, article no. 502589
- **MD 9235** | Dynamic microphone module with super-cardioid pick-up pattern, article no. 502586 (nickel) / 502591 (nickel-black)

i You can find more information about the individual microphone modules on their respective product pages at sennheiser.com or neumann.com.

Headset and Lavalier microphones

We recommend using the following Lavalier microphones and headset microphones with the **SK 6000** and **SK 6212**. bodypack transmitters.

Lavalier microphones

- **MKE 1 (Black 3-Pin)** | Lavalier microphone with omni-directional pattern, article no. 502167
- **MKE 2 (Black 3-Pin)** | Lavalier microphone with omni-directional pattern, article no. 004736
- **MKE 40 (Black 3-Pin)** | Lavalier microphone with cardioid pattern, article no. 003579
- **MKE Essential (Black 3-Pin)** | Lavalier microphone with omni-directional pattern, article no. 508251
- **MKE Essential (Beige 3-Pin)** | Lavalier microphone with omni-directional pattern, article no. 508252

Headset microphones

- **HSP 2 (Black 3-Pin)** | Headset microphone with omni-directional pattern, article no. 009862
- **HSP 4 (Black 3-Pin)** | Headset microphone with cardioid pattern, article no. 009864
- **Headmic 1 (Black 3-Pin)** | Headset microphone with omni-directional pattern, article no. 506905
- **HSP Essential (Black 3-Pin)**| Headset microphone with omni-directional pattern, article no. 508247
- **HSP Essential (Beige 3-Pin)**| Headset microphone with omni-directional pattern, article no. 508248

i You can find more information about the individual microphones on their respective product pages at sennheiser.com.

Line/instrument cables

The following cable is available to connect instruments and line sources to the **SK 6000** bodypack transmitter:

- **CI 1-4** | 6.3 mm (1/4") jack plug (silent plug) to 3-pin audio connector (Sennheiser special connector), article no. 503163

The following cable is available to connect instruments and line sources to the **SK 6212** bodypack transmitter:

- **CI R-4A-NRS** | 6.3 mm (1/4") jack plug (silent plug) to 3-pin audio connector (Sennheiser special connector), article no. 390027

AES3 cable for digital audio signals

To connect the digital audio output of the EM 6000 to a digital mixing console.

- **GZL AES 10** | AES3 cable, 10 m (32 ft), 110 Ω, double-shielded, article no. 502432

Antennas and accessories

The following antenna components are available as accessory parts.

Omni-directional antennas

- **A 1031-U** | passive omni-directional antenna, article no. 004645
- **A 3700** | active omni-directional antenna, article no. 502195

Directional antennas

- **A 2003 UHF** | passive directional antenna, article no. 003658
- **AD 3700** | active directional antenna, article no. 502197

Circularly polarized antennas

- **A 5000 CP** | passive circularly polarized helical antenna, article no. 500887

Antenna splitter

- **ASA 3000-EU** | active antenna splitter 2×1:8, article no. 009423
- **ASA 3000-UK** | active antenna splitter 2×1:8, article no. 009408
- **ASA 3000-US** | active antenna splitter 2×1:8, article no. 009407

Antenna amplifiers

- **AB 3700** | broadband antenna amplifier, article no. 502196
- **AB 9000 A1-A8** | antenna amplifier, article no. 504708
- **AB 9000 B1-B8** | antenna amplifier, article no. 504709

Antenna cables

- **GZL 1019-A1** | BNC/BNC coaxial cable, antenna cable with 50 Ω characteristic impedance, 1 m (3 ft), article no. 002324
- **GZL 1019-A5** | BNC/BNC coaxial cable, antenna cable with 50 Ω characteristic impedance, 5 m (16 ft), article no. 002325
- **GZL 1019-A10** | BNC/BNC coaxial cable, antenna cable with 50 Ω characteristic impedance, 10 m (32 ft), article no. 002326
- **RF cable** | BNC cable for daisy chaining the antenna signal, 50 Ω, 0.25 m (9.84"), article no. 087969
- **RF cable**, BNC cable for daisy chaining the **word clock** signal, 75 Ω, 0.25 m (9.84"), article no. 087972

Antennas for the bodypack transmitters

- **Antenna A1-A4** | antenna for SK 6000/9000, article no. 508892
- **Antenna A5-A8** | antenna for SK 6000/9000, article no. 508893
- **Antenna B1-B4** | antenna for SK 6000/9000, article no. 508894

- **Antenna A1-A4** | flexible antenna for SK 6212, article no. 508572
- **Antenna A5-A8** | flexible antenna for SK 6212, article no. 508573
- **Antenna B1-B4** | flexible antenna for SK 6212, article no. 508574

- **Antenna A1-A4** | stiff antenna for SK 6212, article no. 508888
- **Antenna A5-A8** | stiff antenna for SK 6212, article no. 508889
- **Antenna B1-B4** | stiff antenna for SK 6212, article no. 508890

3. Instruction manual

Starting up and operating devices of the Digital 6000 line.

The following sections contain information about installing, starting up and operating Digital 6000 series devices.

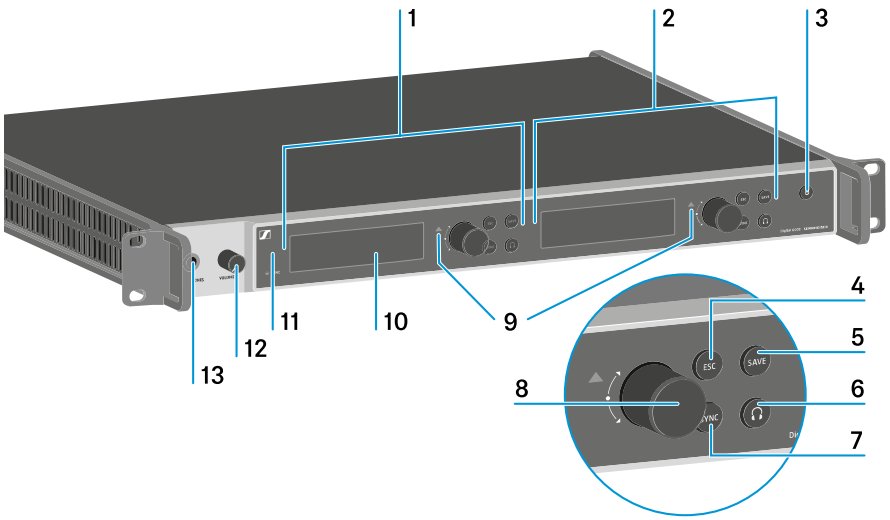
EM 6000 2-channel receiver

These sections contain information about installing, starting up and operating the EM 6000 2-channel receiver.

Product overview

Here you will find an overview of the operating elements on the front of the device and the connections on the rear.

Front



1 Displaying and using channel 1 (**CH 1**)

See Displays on the EM 6000 display panel

See Buttons for navigating the menu

2 Displaying and using channel 2 (**CH 2**)

See Displays on the EM 6000 display panel

See Buttons for navigating the menu

3 ON/OFF button

See Switching the EM 6000 on and off

4 ESC button for canceling an action in the menu (separate for CH 1 and CH 2)

See Buttons for navigating the menu

5 SAVE button for saving settings in the menu (separate for CH 1 and CH 2)

See Buttons for navigating the menu

6 Headphone button for listening in the particular channel via the **HEADPHONES** socket (13) (separate for CH 1 and CH 2)

See Using the headphone output

7 SYNC button for synchronizing the channel settings to a transmitter (separate for CH 1 and CH 2)

See Synchronizing devices

8 Jog dial for navigating through the menu (separate for CH 1 and CH 2)

See Buttons for navigating the menu

9 Warning indicator for error messages (separate for CH 1 and CH 2)

See Status messages

10 Display (separate for CH 1 and CH 2)

See Displays on the EM 6000 display panel

11 Infra-red interface for the **SYNC** function

See Synchronizing devices

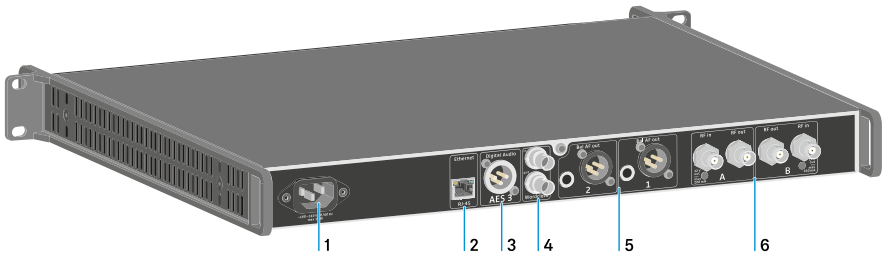
12 Volume control for the **HEADPHONES** headphone socket (13)

See Using the headphone output

13 HEADPHONES headphone socket

See Using the headphone output

Rear view of the EM 6000



1 Power socket

See Connecting/disconnecting the EM 6000 to/from the power supply system

2 Ethernet socket for controlling the device via the network (WSM and Control Cockpit)

See Connecting the EM 6000 to a network

3 Digital Audio AES3 digital audio output

See Outputting digital AES3 audio signals

4 Word clock BNC sockets

See Connecting the word clock

See System -> Wordclock menu item

See Word clock scenarios for digital audio (AES3 and Dante®)

5 Bal AF out analog audio outputs for the CH 1 and CH 2 channels

One XLR and 6.3 mm (1/4") jack per channel, transformer-balanced, parallel

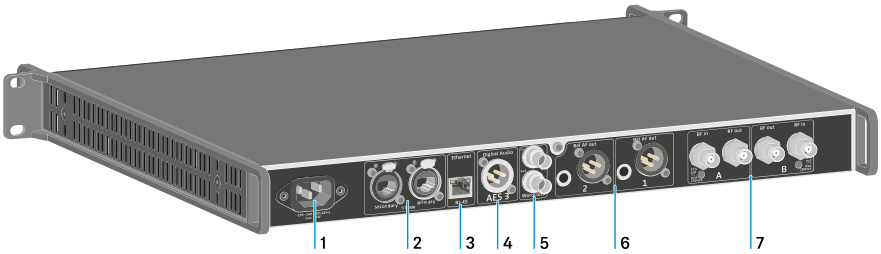
See Outputting analog audio signals

6 BNC antenna inputs and BNC antenna outputs for cascading

See Connecting antennas

See Recommendations for using antennas

Rear view of the EM 6000 DANTE



1 Power socket

See Connecting/disconnecting the EM 6000 to/from the power supply system

2 Dante® interface with two RJ-45 sockets, **Primary** and **Secondary**

See Outputting audio via a Dante® network (EM 6000 DANTE only)

3 Ethernet socket for controlling the device via the network (WSM and Control Cockpit)

See Connecting the EM 6000 to a network

4 Digital Audio AES3 digital audio output

See Outputting digital AES3 audio signals

5 Word clock BNC sockets

See Connecting the word clock

See System -> Wordclock menu item

See Word clock scenarios for digital audio (AES3 and Dante®)

6 Bal AF out analog audio outputs for the CH 1 and CH 2 channels

One XLR and 6.3 mm (1/4") jack per channel, transformer-balanced, parallel

See Outputting analog audio signals

7 BNC antenna inputs and BNC antenna outputs for cascading

See Connecting antennas

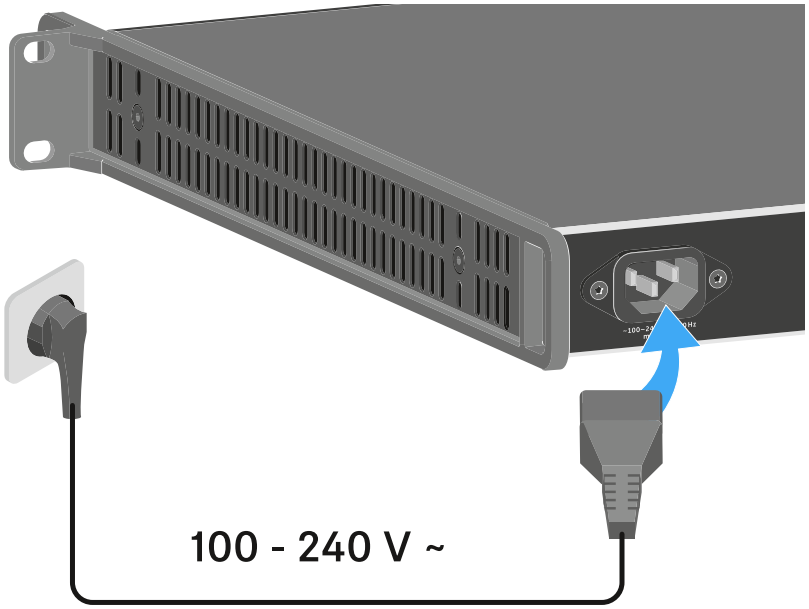
See Recommendations for using antennas

Connecting/disconnecting the EM 6000 to/from the power supply system

This section contains information on how to correctly connect the receiver to the power supply system and disconnect it again completely.

To connect the EM 6000 to the power supply system:

- Connect the mains cable IEC connector to the power socket on the rear side of the EM 6000.
- Connect the mains cable plug into a suitable wall socket.



> i Once the EM 6000 is connected to the power supply, the **ON/OFF** button lights up dimmed. If the booster voltage for antennas is activated in the menu (see System -> Booster Feed menu item), it is active already before you switch on and after you switch off the EM 6000.

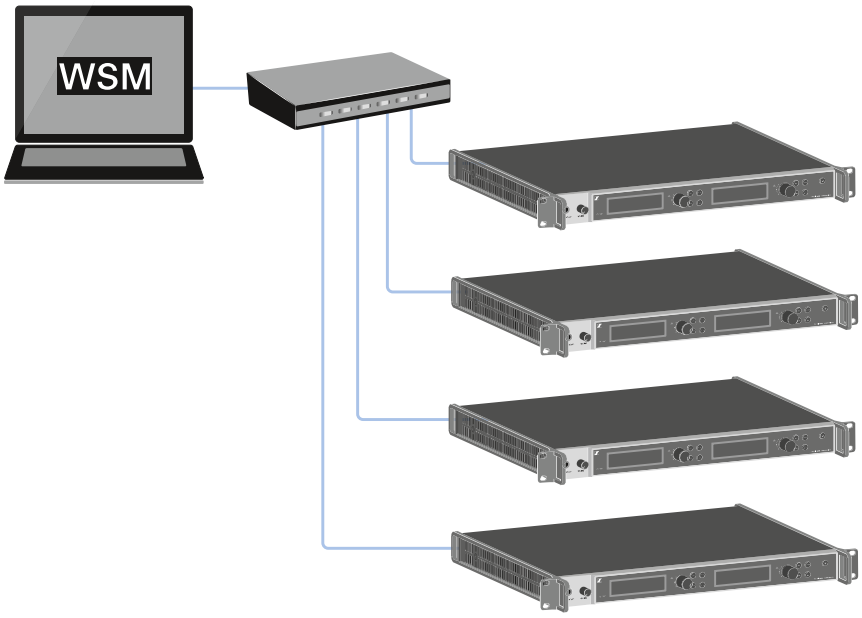
To completely disconnect the EM 6000 from the power supply system:

- Unplug the mains cable plug from the wall socket.
- Unplug the mains cable IEC connector from the power socket on the rear side of the EM 6000.

Connecting the EM 6000 to a network

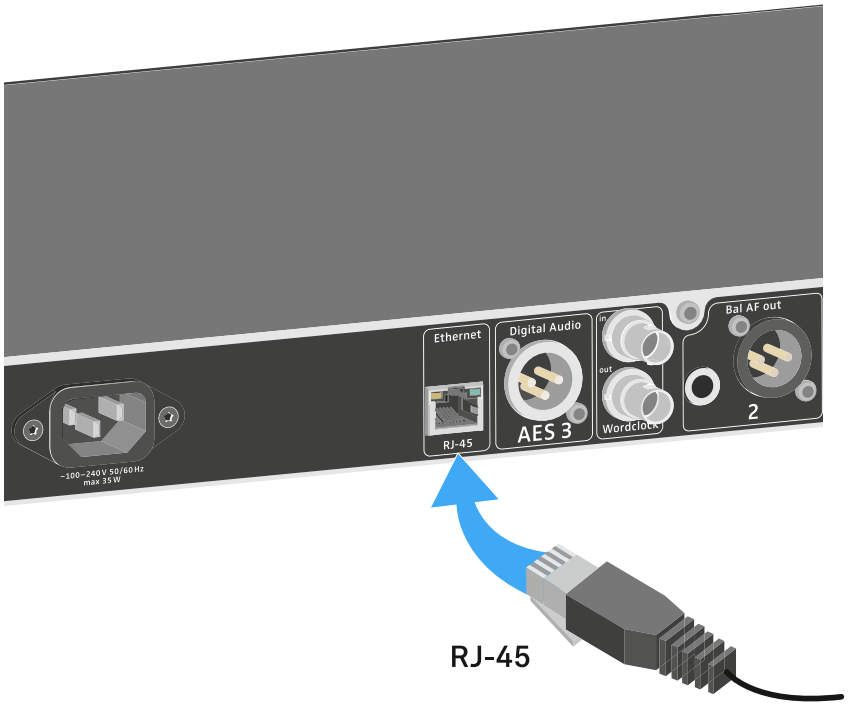
You can monitor and control one or more receivers via a network connection using the Sennheiser Wireless Systems Manager (WSM) or Sennheiser Control Cockpit (SCC) software.

> **i** The network does not have to be a homogeneous network including only receivers. You can integrate the EM 6000 into your existing network infrastructure with any other types of devices.



To connect the EM 6000 to a network:

- Connect a network cable with an RJ-45 connector (Cat5 at minimum) to the **Ethernet** socket on the rear side of the EM 6000.



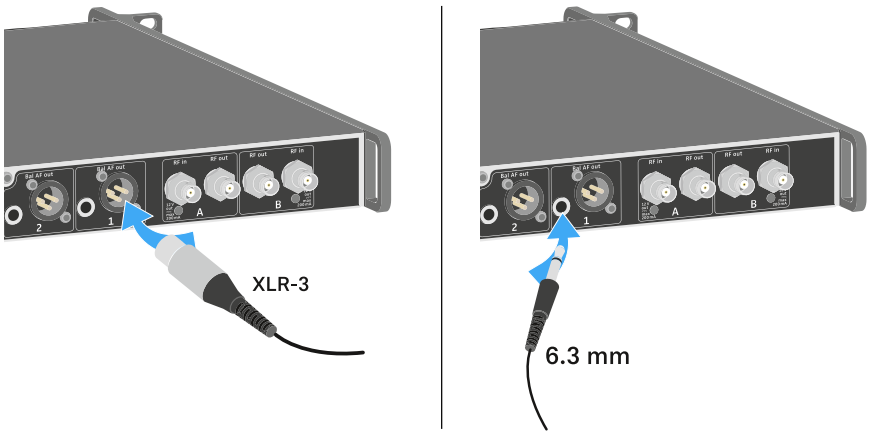
i For more information about controlling devices via the **Sennheiser Wireless Systems Manager** (WSM) or **Sennheiser Control Cockpit** (SCC) software, refer to the instruction manual for the software. You can download the software here:
sennheiser.com/wsm

sennheiser.com/control-cockpit

Outputting analog audio signals

Each of the two channels CH 1 and CH 2 on the EM 6000 has both a symmetrical XLR-3M output socket and a symmetrical 6.3 mm (1/4") jack output socket.

- Always use only one of the two Bal AF out output sockets for each channel.
  - The two output sockets of a channel are connected in parallel.
- Connect a jack cable or an XLR cable to the respective output socket.



Outputting digital AES3 audio signals

The **Digital Audio AES3** output socket is designed as an XLR-3M socket.

Use an XLR cable with a resistance of 110 ohm. Conventional XLR audio cables may not transfer the digital audio signal correctly.

To output digital AES3 audio signals:

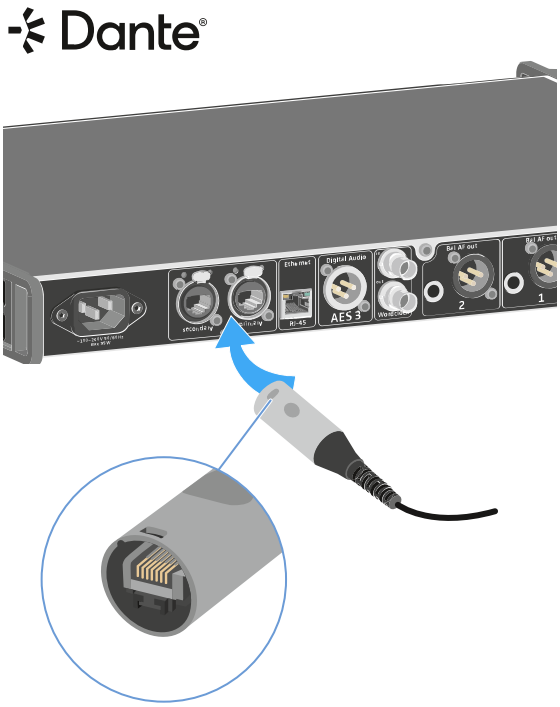
- Connect a suitable cable to the **Digital Audio AES3** socket.

i We recommend the following cable: GZL AES 10.

Outputting audio via a Dante® network (EM 6000 DANTE only)

The EM 6000 DANTE has a Dante® interface (Audinate Brooklyn II) for outputting digital audio signals via a Dante® network.

- Connect a Dante®-enabled network cable to the Dante socket on the rear side of the EM 6000 DANTE.



i We recommend using an Ethernet connector as shown in the figure.

i You can find more information about Dante® here:

- Word clock scenarios for digital audio (AES3 and Dante®)
- System -> Dante Settings (only EM 6000 DANTE) menu item

Connecting the word clock

You can use the internal word clock on the EM 6000 or connect an external word clock.

You can also output the external word clock and cascade it up to 16 receivers.

The word clock output transmits only the external word clock that is connected via the word clock input. The internal word clock is not output via the word clock output.

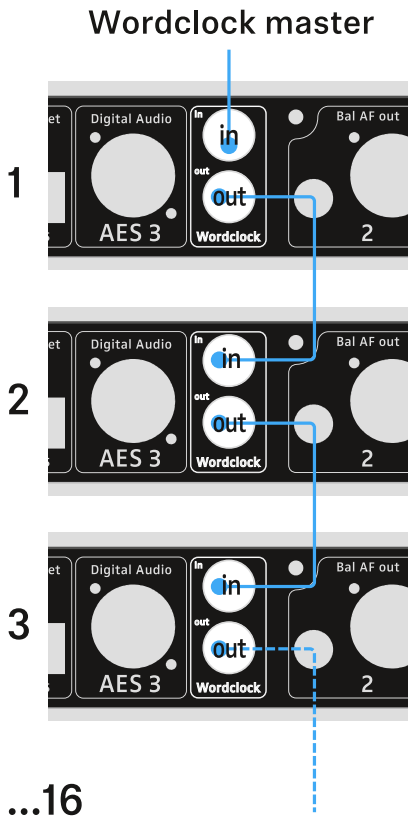
> i For more information about the word clock, see Word clock scenarios for digital audio (AES3 and Dante®).

To connect an external word clock:

- Use a coaxial BNC cable (75 Ω) to connect the external word clock to the **Wordclock In** input. A suitable cable is available as an accessory part, see Antennas and accessories.

To cascade the word clock:

- Connect the **Wordclock In** input of the next EM 6000 to the **Wordclock Out** output of the previous EM 6000.



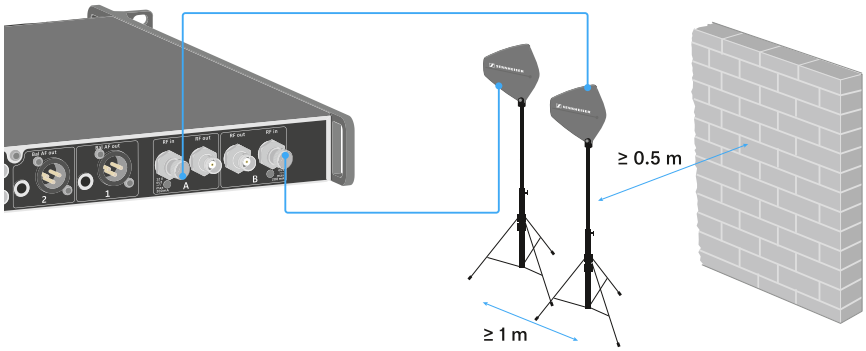
Connecting antennas

You can operate the EM 6000 with the supplied rod antennas or using remote antennas.

We recommend using remote antennas. You can also find useful information about using antennas under Recommendations for using antennas.

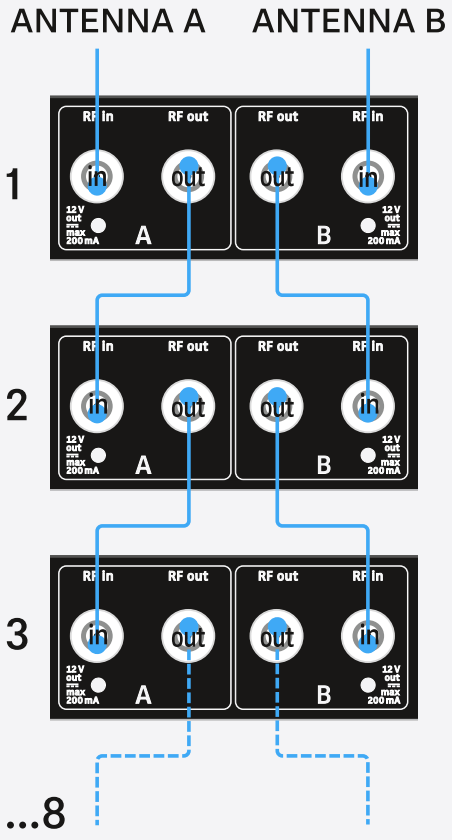
To connect remote antennas:

- Connect the first antenna to the **RF in** socket for **Antenna A** on the rear side of the EM 6000.
- Connect the second antenna to the **RF in** socket for **Antenna B** on the rear side of the EM 6000.



- Maintain a distance of at least 1 m (3 ft) between the antennas.
- Maintain a distance of at least 0.5 m (1.5 ft) between the antennas and the nearest wall.
- Position the antennas so that there is a direct line of sight between the transmitters and the antennas.
- Refer to the more detailed information under Recommendations for using antennas.

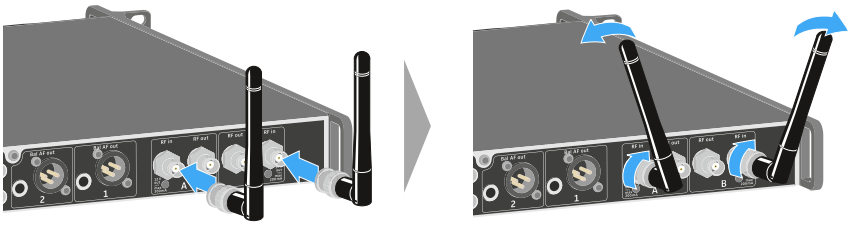
- Activate the booster feed in the EM 6000 menu if you are using active antennas. See System -> Booster Feed menu item. Alternatively, use an external antenna amplifier.

> i For larger 4-channel systems, you can cascade up to 8 receivers without using additional antenna splitters and you then require only one pair of antennas.
>
> 
>

To connect the supplied rod antennas:

- Connect the first rod antenna to the **RF in** socket for **Antenna A** on the rear side of the EM 6000.
- Connect the second rod antenna to the **RF in** socket for **Antenna B** on the rear side of the EM 6000.

- Gently angle the rod antennas to the left and right as shown in the figure.



Using the headphone output

You can use the headphone output on the front of the EM 6000 (6.3 mm jack) to listen to the audio signals of the two channels.

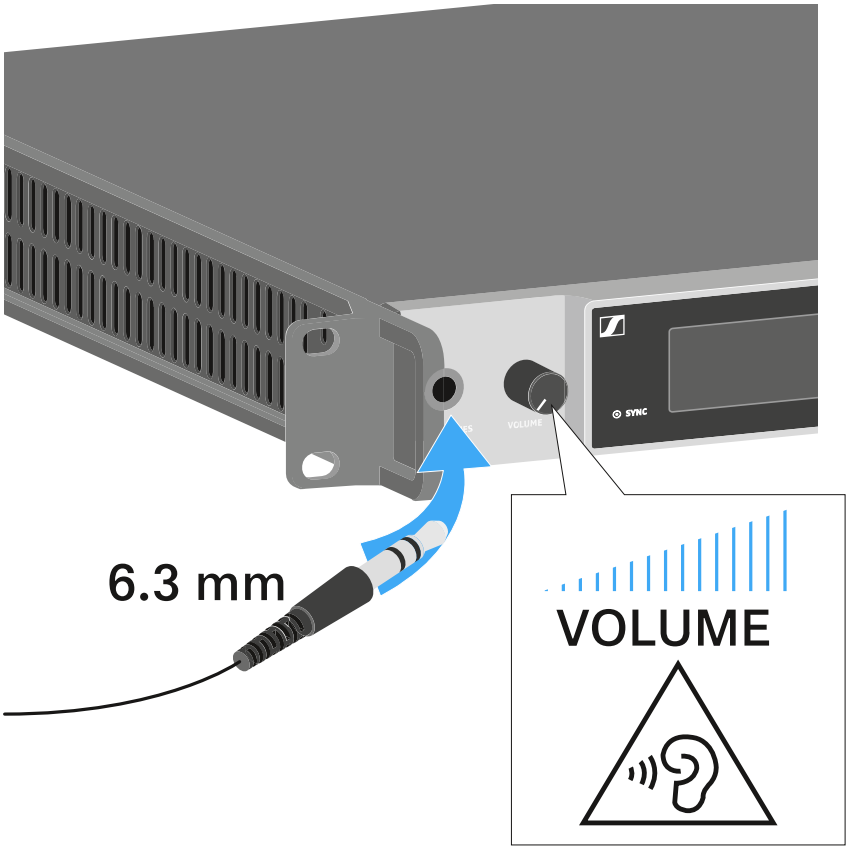
WARNING

Danger due to high volume levels

Volume levels that are too high may damage your hearing.

- Turn down the volume of the headphone output before you put on the headphone.

- Connect the headphone to the **HEADPHONES** socket.



- Press the headphone button on one of the two channels **CH 1** or **CH 2** to listen to that channel.
- Press both headphone buttons for the two channels to listen to both channels at the same time.
- Control the volume by turning the **VOLUME** control next to the **HEADPHONES** socket.

Installing the EM 6000 in a rack

You can install the EM 6000 2-channel receiver in any conventional 19" rack.

The rack mounting angles are already attached to the device.

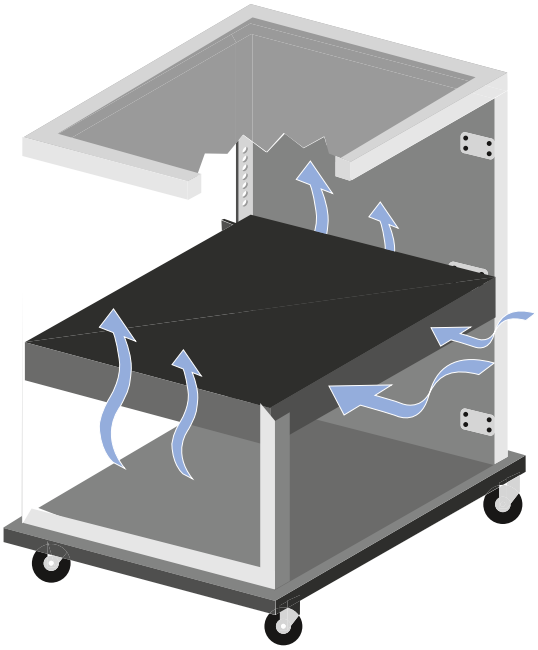
Always observe the following information during rack mounting.

NOTICE

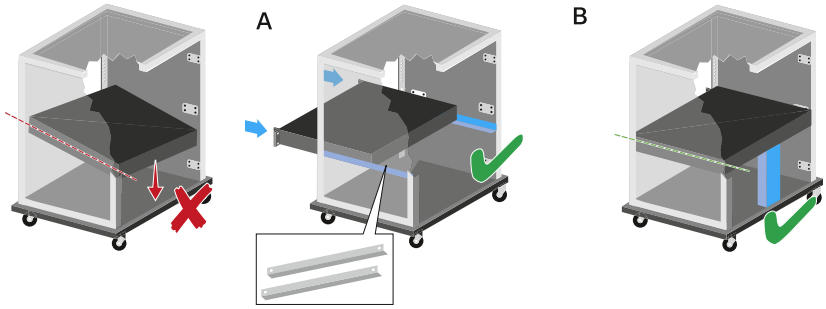
Material damages caused by devices overheating

When there is insufficient ventilation, the devices mounted in the rack may overheat.

- Ensure that there is sufficient ventilation in the rack, particularly if several devices are installed.
- If necessary, install a fan in the rack.



- Support the EM 6000 after installation in the rack. Due to the weight and depth of the device, there is a risk that it may break off in the rack and become damaged as a result.



Version A:

- Use special rack mounting rails.
- The design of the rack used must be suitable for the installation of these mounting rails.

Version B:

- Use a suitable object to support the device on the rear side.
- Ensure that this object cannot become loose.

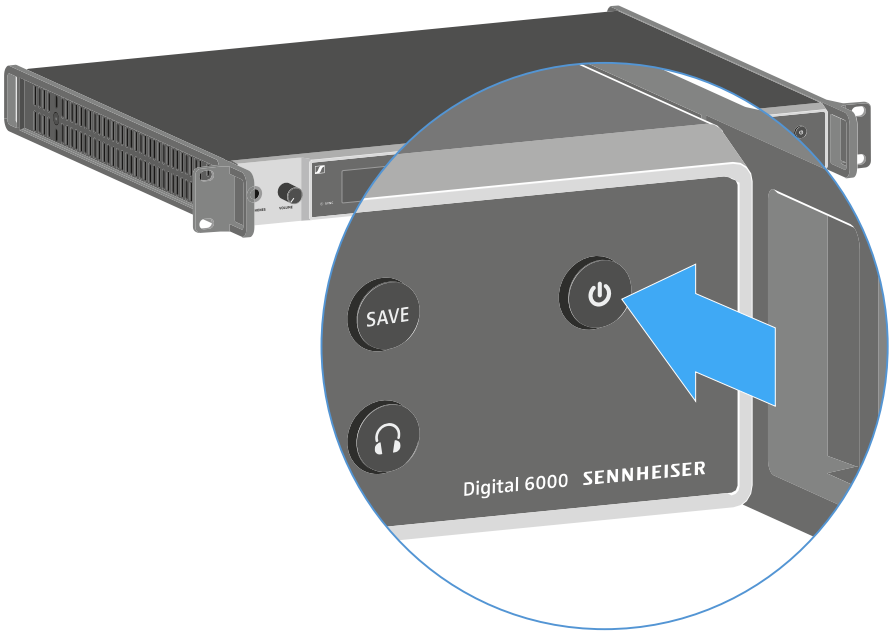
Switching the EM 6000 on and off

Before switching on the receiver, make sure that it has been correctly connected to the power supply system (see Connecting/disconnecting the EM 6000 to/from the power supply system).

> **i** Once the EM 6000 is connected to the power supply, the **ON/OFF** button lights up dimmed. If the booster voltage for antennas is activated in the menu (see System -> Booster Feed menu item), it is active already before you switch on and after you switch off the EM 6000.

To switch the receiver on:

- Short-press the **ON/OFF** button.



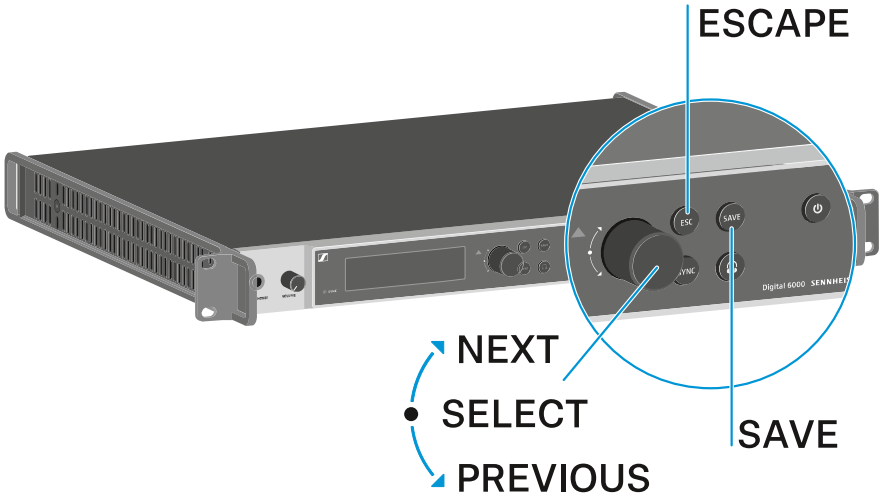
✓ The Sennheiser logo is temporarily displayed on the two displays. The two displays then show the home screen for the relevant channel.

To switch the receiver off:

- Hold down the **ON/OFF** button until the device switches off.

Buttons for navigating the menu

To navigate through the EM 6000 operating menu, you require the following buttons.



Turn the jog dial to the **right**: **NEXT**

Display the next home screen

Scroll down in the menu

Turn the jog dial to the **left**: **PREVIOUS**

Display the previous home screen

Scroll up in the menu

Press the jog dial: **SELECT**

On the home screen: open the menu

In the menu: open a menu item

Within a menu item: go to the next selection

SAVE button

Save a selection

ESC button

Navigate back one level without saving

i These buttons are located next to the two displays for the two **CH 1** and **CH 2** channels.

Displays on the EM 6000 display panel

The EM 6000 has a separate display for each of the two channels CH 1 and CH 2.

Channel-specific status information (CH 1 and CH 2)

In the displays, the home screens for both channels display the **channel-specific status information** such as the reception quality, battery life, audio level, and so on. See Home screen.

Operating menu (CH 1 and CH 2)

The display also shows the **operating menu** for the two channels **CH 1** and **CH 2**, in which you can configure channel-specific settings. See Setting options in the menu.

System settings (CH 1 only)

On the display for the channel CH 1, the system settings for the whole device are also displayed in the operating menu. See System menu item.

Home screen

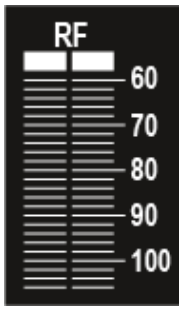
After you switch on the receiver, the two displays initially show the Sennheiser logo. After a short time, the home screen is then displayed.

The home screen has 4 different views in total, which display different status information.

- Turn the **jog dial** to the **right** or **left** to switch between the individual home screens.

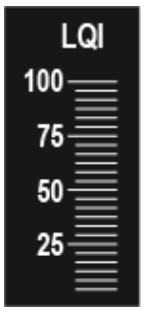
The following information is displayed on each home screen:

RF = Radio Frequency



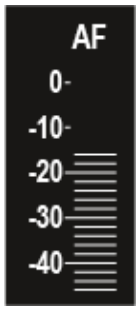
- Display of the radio link RF level for antenna A and antenna B.

LQI = Link Quality Indicator



- Shows the quality of the radio link. You can find more information under Establishing a radio link.

AF = Audio Frequency



- Shows the transmitter audio input level.
- This level is separate from the audio level that is output from the receiver.

Home screen 1

The first home screen that is displayed as the initial view after the device switches on contains the following status information.

Wireless link name

You can assign the radio link name yourself in the menu.

See Name menu item.

Frequency

You can adjust the frequency in the menu.

See Frequency menu item.

Remaining battery life

Shows the remaining battery life and the transmitter operating time.

The time is displayed only if the BA 60, BA 61 and BA 62 rechargeable batteries are used. For normal batteries, only the charge level of the batteries is displayed without time information.

For more information about rechargeable batteries and batteries, see Rechargeable batteries and battery compartments.

AES 256 encryption

The AES icon is displayed if encryption has been activated for the channel.

See Encryption menu item.

Command mode

The COM icon is displayed when command mode is activated.

See Command Mode menu item.

Link Density Mode

The LD icon is displayed when Link Density mode is activated.

See System -> Transmission Mode menu item.

Home screen 2

The second home screen contains the following status information about the receiver settings.

Bank/Channel

Shows which channel is set in which frequency bank.

See Frequency menu item.

AF Out

Shows the receiver audio output level that is output via the audio outputs.

See AF Output menu item.

Wordclock

Shows which wordclock setting is selected.

See System -> Wordclock menu item.

Booster Feed

Shows whether the booster feed for active antennas is activated.

See System -> Booster Feed menu item.

Home screen 3

The third home screen contains the following status information about the transmitter settings.

Capsule

Shows the microphone module with which the handheld transmitter is equipped

Recommended microphone modules for the handheld transmitter: Microphones and cables.

Gain

Displays the gain setting for the transmitter.

This setting can be configured in the transmitter menu. See Operating the menu of the SKM 6000 handheld transmitter, Operating the menu of the SK 6000 bodypack transmitter, or Operating the menu of the SK 6212 bodypack transmitter.

Alternatively, the gain setting can also be configured in the receiver and synchronized with the transmitter.

See Sync Settings menu item.

Low Cut

Shows the low cut filter setting for the transmitter.

This setting can be configured in the transmitter menu. See Operating the menu of the SKM 6000 handheld transmitter, Operating the menu of the SK 6000 bodypack transmitter, or Operating the menu of the SK 6212 bodypack transmitter.

Alternatively, the low cut setting can also be configured in the receiver and synchronized with the transmitter.

See Sync Settings menu item.

Model

Shows the transmitter product variant.

See SKM 6000 handheld transmitter, SK 6000 bodypack transmitter, or SK 6212 bodypack transmitter.

Home screen 4

The fourth home screen contains the following status information about the receiver network settings.

IP Mode

Shows whether the IP address is assigned automatically or manually.

See System -> Network menu item.

IP Address

Shows the IP address of the receiver.

See System -> Network menu item.

Netmask

Shows the netmask of the receiver.

See System -> Network menu item.

Gateway

Shows the gateway of the receiver.

See System -> Network menu item.

Home screen 5 (audio mute)

See Muting the audio signal.

Status messages

In certain situations, the EM 6000 display may show status messages and error messages.

For messages relating to errors that can impair function, the red triangle to the right of the display for the particular channel also lights up.

No Link

No transmitter connected.

- Check the transmitter radio link with the receiving channel. See Establishing a radio link.

Low Signal

The reception quality between the transmitter and receiver is poor (RF A or RF B below -85 dBm, LQI between 1 % and 19 %).

- Check the transmitter's radio link to the receiving channel and switch to a different frequency if necessary. See Establishing a radio link.
- Check that the antennas are positioned correctly. See Connecting antennas or Recommendations for using antennas.

Low Battery

The transmitter's batteries or rechargeable battery pack have little battery life remaining (less than 30 minutes).

- Replace the rechargeable battery or batteries.

Sync ok

The synchronization of the receiving channel with the transmitter was successful.

Sync Fail / No Frequency

The auto setup function cannot provide any more free frequencies for the transmitter frequency range.

Sync Fail / Frequency Rejected

The transmitter frequency range is incompatible with the frequency set in the receiving channel.

- Set a different frequency in the receiving channel. See Frequency menu item.

Sync Fail / Timeout

The synchronization of the receiving channel with the transmitter was unsuccessful. The infrared interface for the receiver may not have been able to establish a link to the infrared interface of the transmitter.

- Hold the transmitter in front of the infrared interface for the receiver correctly. See Synchronizing devices.

Sync Fail / Unsupported Encryption

AES 256 encryption is activated on the EM 6000 but the transmitter does not support it (SK(M) 9000).

- Use an SK 6000 or SKM 6000 if you want to activate encryption.

Encryption Error / Sync Needed

AES 256 encryption was activated on the EM 6000 but is not synchronized to the transmitter yet. The encryption cannot be activated on the transmitter. Instead, it must be transferred via the Sync function.

- Synchronize the receiving channel and the transmitter. See Synchronizing devices.

Clock Error

There is a deviation in the clock rate of the word clock (> 120 ppm for 48 kHz or > 120 ppm for 96 kHz) or there is no external word clock.

- Check the word clock settings. See Word clock scenarios for digital audio (AES3 and Dante®).

RF Peak

The RF signal is too strong (> -12 dBm). There is a risk of overloading the receiver.

- Increase the distance between the antennas and the receiver.
- Use passive antennas instead of active antennas if possible.
- If using active antennas, reduce the antenna amplification.

AF Peak

The audio level of the transmitter is too high (> -2 dBFS). The signal is at risk of overloading and becoming distorted.

- Check the audio level of the transmitter and adjust it. See the **Gain menu item** under Operating the menu of the SKM 6000 handheld transmitter, Operating the menu of the SK 6000 bodypack transmitter or Operating the menu of the SK 6212 bodypack transmitter.

Muting the audio signal

You can mute the audio signal that is output via the output sockets of the two channels.

To mute the audio signal on a channel:

- On the home screen, turn the jog dial to the right until the following view is displayed.

- Press the jog dial to activate the check box.

- Press the SAVE button to save the setting.
  - The audio output on the channel is now muted.

On the home screen, the following indicator flashes while the audio signal is muted.

To cancel the muting:

- On the home screen, press the **ESC** button.
  - The channel muting is canceled.

Menu structure

The figure shows the complete EM 6000 menu structure in an overview.

Version: Firmware 3.0

Level 1	Level 2	Level 3
Frequency		
Name		
Sync Settings →	Gain	
	Low Cut	
	Auto Lock	
	Display	
	Cable	
	Power LED Mode	
	MIC Line Mode	
	Frequency Only	
Encryption		
Command Mode		
Scan & Auto-Setup →	New Scan	
	Use Old Scan	
Walktest		
AF Output		
Test Tone		
Bank Edit		
System *(CH 1 only)* →	Transmission Mode	
	Wordclock	
	Network	
	Device ID	
	Dante *(EM 6000 DANTE only)* →	Device ID
		Mode
		PrimNet
		SecNet
		Info
	Booster Feed	
	Brightness	
	Auto Setup	
	Info	
	Hardware	
	Help	
	TX Update	
	Reset →	Reset
		Factory reset

Setting options in the menu

In the EM 6000 menu, you can configure the following settings.

Muting the receiver audio output

- See Muting the audio signal.

Adjusting frequencies

- See Frequency menu item

Setting up user-defined frequency banks

- See Bank Edit menu item

Changing the name of the radio link (link name)

- See Name menu item

Configuring settings that are transferred to the transmitter during a sync

- See Sync Settings menu item

Activating and deactivating encryption

- See Encryption menu item

Performing a frequency scan and automatic frequency setup

- See Scan & Auto-Setup menu item

Performing a walk test

- See Walktest menu item

Adjusting the output level of the receiver audio signal

- See AF Output menu item

Playing back a test tone

- See Test Tone menu item

Configuring different system settings

- Setting transmission mode
- Configuring wordclock
- Configuring network settings
- Changing device names
- Configuring Dante® settings (EM 6000 DANTE only)
- Activating the power supply for an external antenna amplifier

- Changing the brightness of the display panel
- Activating the auto-setup function
- Displaying information about software and hardware
- Updating the firmware for the transmitters
- Resetting settings
- See System menu item

> i You can find an overview of the entire menu structure under Menu structure.

Frequency menu item

In the Frequency menu item, you can adjust the frequency for the channel in question.

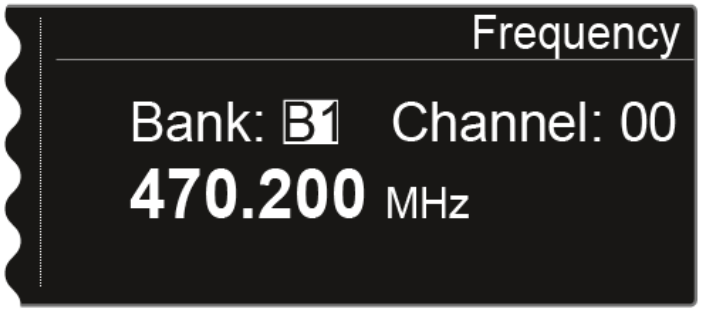
You can select a frequency from the predefined frequency banks **B1** to **B6** (up to 65 channels per bank) or manually adjust the frequency.

You can also select frequencies from the user-defined frequency banks **U1** to **U6**. You can adjust these frequency banks in the **Bank Edit** menu item. See Bank Edit menu item.

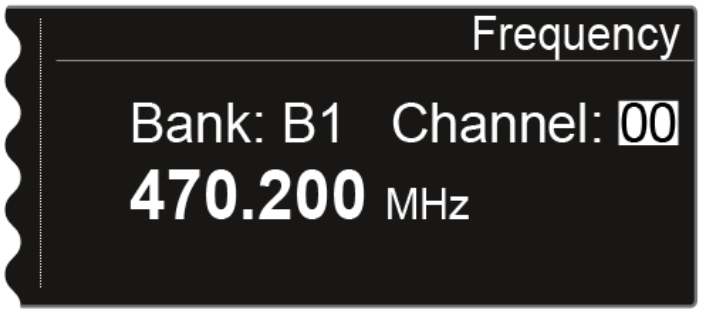
To open the Frequency menu item:

- On the home screen, press the jog dial to open the operating menu.
- Turn the jog dial until the **Frequency** menu item appears in the selection frame:

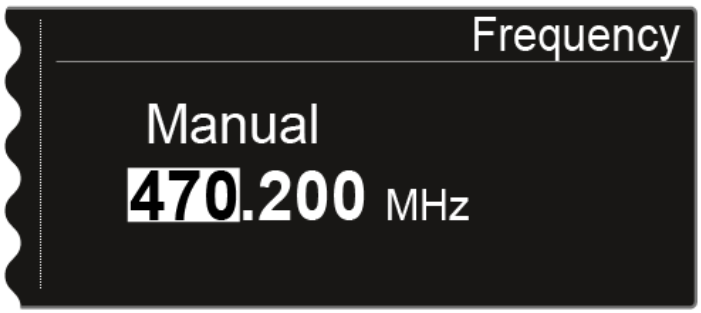
- Press the jog dial to open the menu.
  - The following view is displayed:



- Turn the jog dial to select a different frequency bank.
- Press the jog dial to go to the channel selection:



- Turn the jog dial to set a different channel.
- Press the **SAVE** button to confirm the selection of the bank and channel.
- **Or**: Press the jog dial to go to the manual frequency setting:



- Turn the jog dial to set the desired frequency.
- Press the **SAVE** button to save the set frequency.

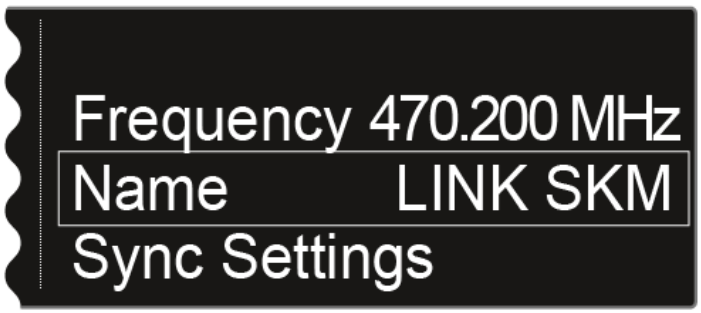
Name menu item

In the **Name** menu item, you can define the name of the link for the channel in question.

> **i** This name is the name of the radio link between the transmitter and receiver. In the network settings, you can enter the receiver name as it is displayed in a network: see System -> Network menu item.

To open the Name menu item:

- On the home screen, press the jog dial to open the operating menu.
- Turn the jog dial until the **Name** menu item appears in the selection frame:



- Press the jog dial to open the menu.
  - The following view is displayed:

- Turn the jog dial to select the desired character.
- Press the jog dial to go to the next position.
- Press the **SAVE** button to save the set name.

Sync Settings menu item

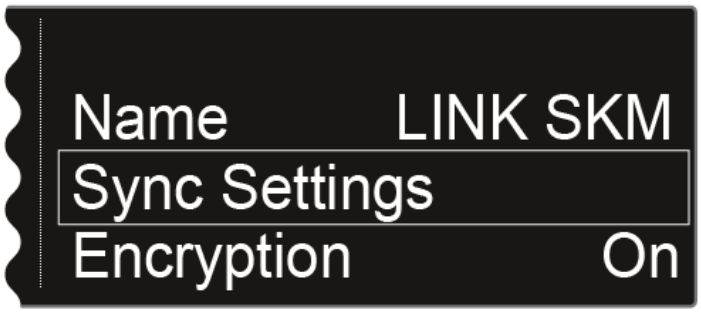
In the **Sync Settings** menu item, you can choose which settings for the transmitter you want to transfer from the receiver to the transmitter during the synchronization.

All of the settings can also be set separately in the menu on the transmitter. However, you can simply use the Sync function to configure these settings via the receiver.

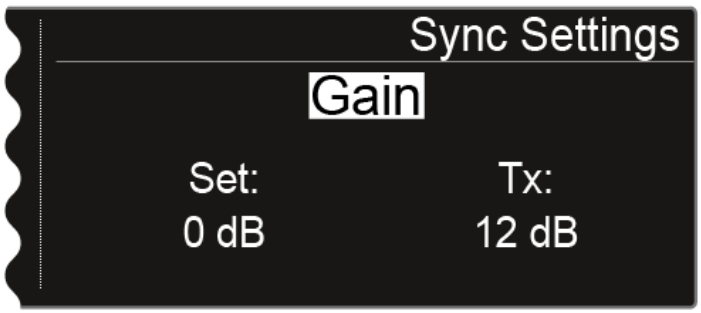
> i For more information about the **Sync** function, see Synchronizing devices.

To open the Sync Settings menu item:

- On the home screen, press the jog dial to open the operating menu.
- Turn the jog dial until the Sync Settings menu item appears in the selection frame:

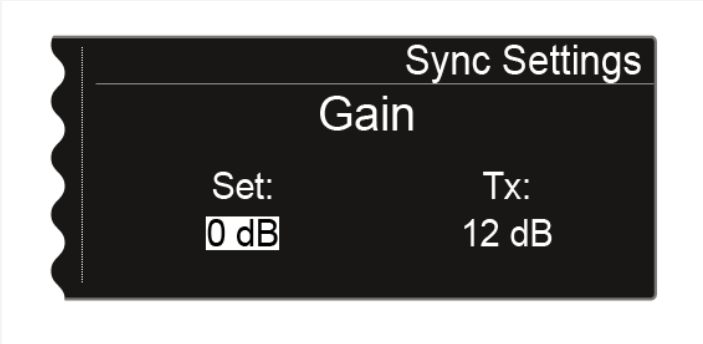


- Press the jog dial to open the menu.
  - The following view is displayed:



- Turn the jog dial to select from the following options: **Gain**, **Low Cut**, **Auto Lock**, **Display**, **Cable**, **Power LED Mode**, **MIC Line Mode** and **Frequency Only**.
- Press the jog dial to access the settings for the selected option.

ℹ The **Set** value shows the setting that you can select for the synchronization in this menu item. The **Tx** value shows the value that is currently set on the transmitter.



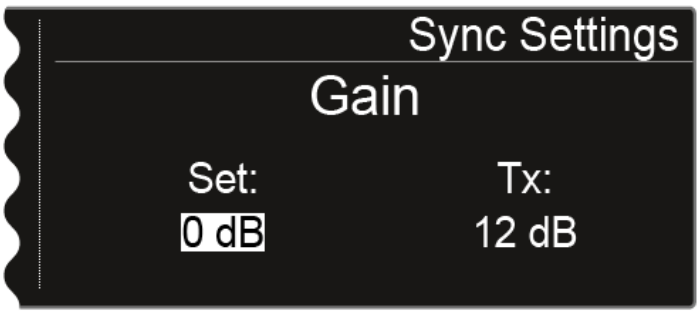
- Turn the jog dial to set the desired value.
- Press the **SAVE** button to save the selected settings.

Sync Settings

The following settings can be transferred:

Gain

Adjusting the gain settings for the transmitter



You can configure the following settings for the **Set** value:

- **-6 dB** to **60 dB** in increments of 3 dB
- **no sync**, so that this value is not synchronized

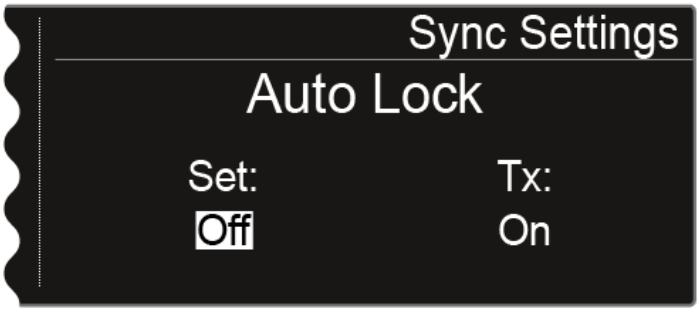
Low Cut

Adjusting the low cut filter for the transmitter

You can configure the following settings for the **Set** value:

- **30 Hz** to **120 Hz** in increments of 30 Hz
- **no sync**, so that this value is not synchronized

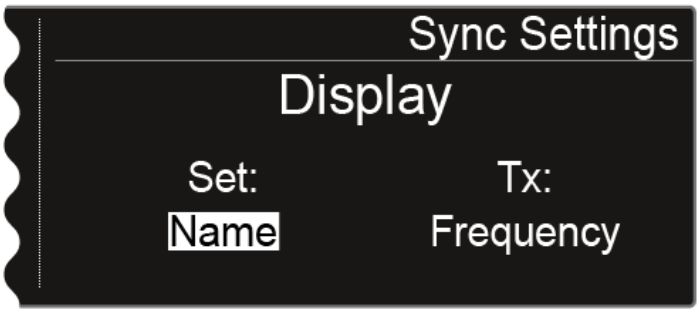
Auto Lock



You can configure the following settings for the **Set** value:

- **On** or **Off**
- **no sync**, so that this value is not synchronized

Display panel

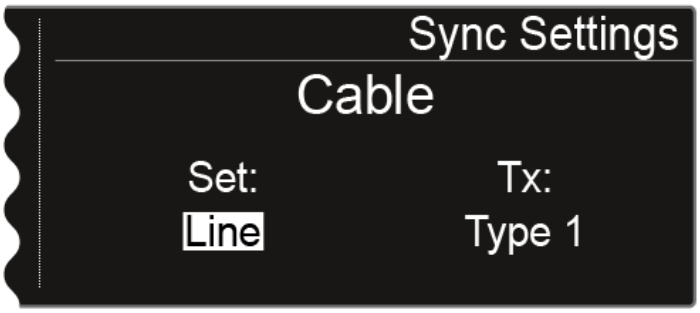


You can configure the following settings for the **Set** value:

- **Name**, **Frequency** or **Preset**
- **no sync**, so that this value is not synchronized

Cable

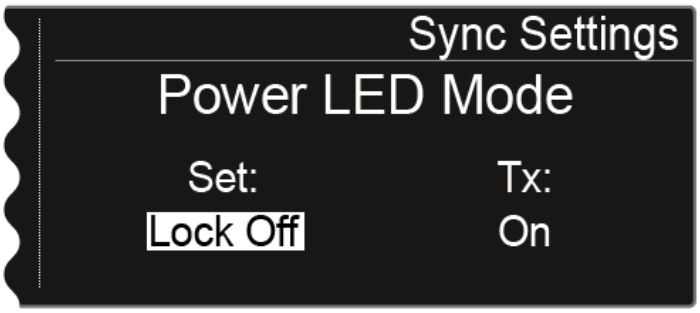
The **Cable** function is a cable emulator that you can in 3 stages (**Type 1**, **Type 2**, and **Type 3**). Cable emulation is switched off with the **Line** option.



You can configure the following settings for the **Set** value:

- **Line**
- **Type 1**, **Type 2**, or **Type 3**
- **no sync**, so that this value is not synchronized

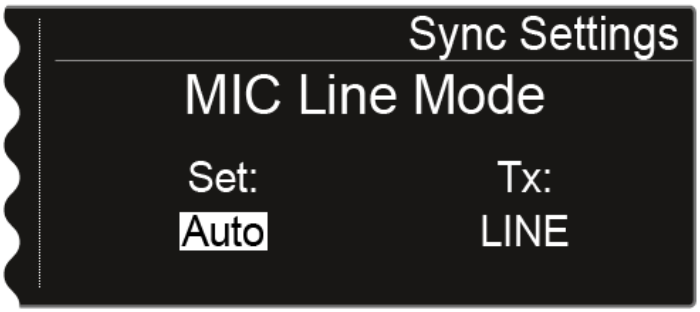
Power LED Mode



You can configure the following settings for the **Set** value:

- **On**: The blue LED remains continuously lit.
- **Lock Off**: The blue LED switches off once the lock-off function is enabled.
- **no sync**, so that this value is not synchronized

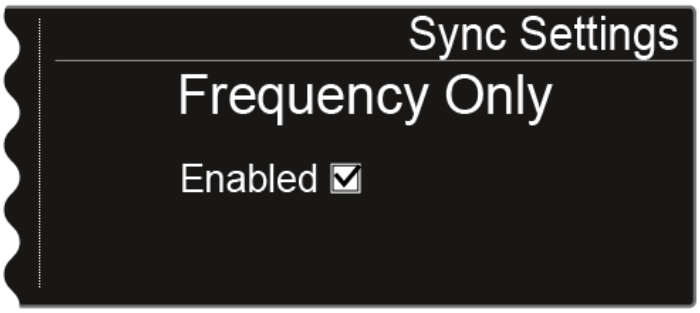
MIC Line Mode



You can configure the following settings for the **Set** value:

- **Auto**: The SK 6000 automatically detects whether a mic signal or a line signal is being received.
- **MIC**: Use this option if a microphone is connected to the SK 6000.
- **LINE**: Use this option if a line level source is connected to the SK 6000 via a line cable.
- **no sync**, so that this value is not synchronized

Frequency Only



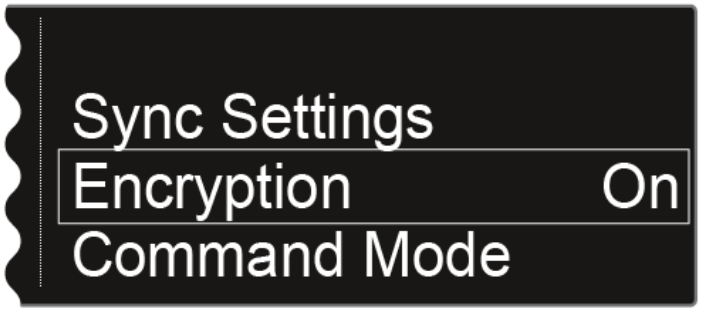
If this option is activated, only the frequency is transmitted to the transmitter. No other options are transmitted, regardless of their settings.

Encryption menu item

You can secure the radio link between the transmitter and receiver using AES 256 encryption.

To open the Encryption menu item:

- On the home screen, press the jog dial to open the operating menu.
- Turn the jog dial until the **Encryption** menu item appears in the selection frame:



- Press the jog dial to open the menu.
  - The following view is displayed:

- Turn the jog dial to choose between the On and Off values.

- Set the desired value.
- Press the **SAVE** button to save your selection.

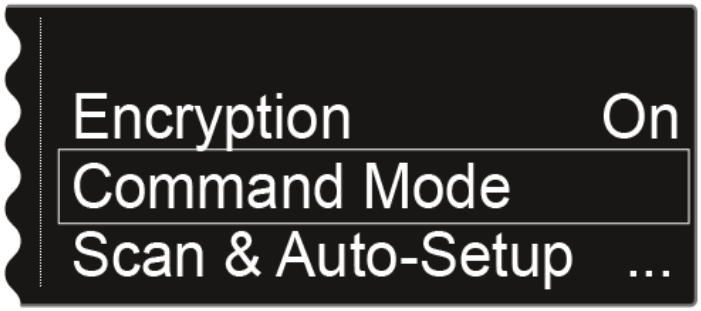
> **i** If you have activated encryption, you must first transfer this setting to the transmitter using the **Sync** function. See Synchronizing devices. Encryption cannot be activated on the transmitter itself.

Command Mode menu item

If you are using a transmitter that has a Command button, you can configure the EM 6000 audio outputs to use the Command button on the transmitter.

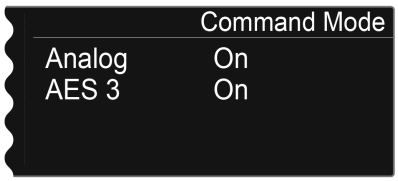
To open the Command Mode menu item:

- On the home screen, press the jog dial to open the operating menu.
- Turn the jog dial until the **Command Mode** menu item appears in the selection frame:

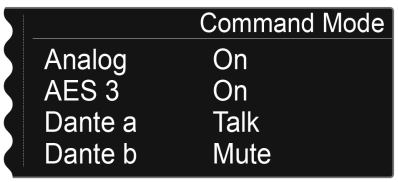


- Press the jog dial to open the menu.
  - The following view is displayed:

EM 6000:



EM 6000 DANTE:

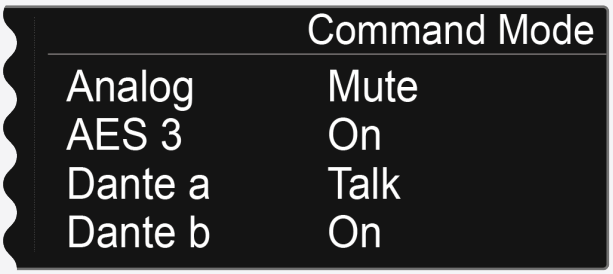


> **i** The following outputs can be assigned for use with the Command button:
> **Analog**: analog output, **Bal AF out** XLR or jack socket
> **AES 3**: digital output, **AES 3** XLR socket
> **Dante a, Dante b**: two separate channels on the Dante® network

- Press the jog dial to switch between the audio outputs.
- Turn the jog dial to switch between the **On**, **Talk** and **Mute** levels for the selected audio output.

- **On**: No Command function for the output. The audio signal is permanently active.
- **Talk**: The audio signal is muted and is active only while the Command button is pressed.
- **Mute**: The audio signal is active and is muted only while the Command button is pressed.

i **Example**: The analog output signal is transmitted through the PA system for the audience. If the Command button on the transmitter is pressed, the signal on the PA system is muted. The signal is then activated on the Dante a channel on the Dante® network. The sound technician can then hear the signal for directional instruction.



Scan & Auto-Setup menu item

The EM 6000 lets you scan the frequency spectrum and display all of the free frequencies in the selected frequency range. The automatic frequency setup can be used to distribute the free frequencies to all of the EM 6000 devices available in the network automatically.

You can select the frequency range to be scanned from the predefined frequencies **B1** to **B6** or from the user-defined frequency banks **U1** to **U6** or set them manually.

The **Auto Setup** function also helps you set up an equidistant frequency grid using the **E frequency bank** intended for this purpose. For more information about the equidistant frequency grid, see Equidistant frequency grid.

Alternatively, you can also use the **Sennheiser Wireless Systems Manager** (WSM) software or the **Sennheiser Control Cockpit** (SCC) software.

sennheiser.com/wsm

sennheiser.com/control-cockpit

Preparing the frequency scan and the automatic frequency setup:

- Activate the Auto Setup function in the System menu item for all of the EM 6000 devices in the network that you want to include in the automatic frequency setup. See System -> Auto Setup menu item.
  - If the function is not activated for an EM 6000, the automatic frequency setup cannot be performed for this EM 6000.

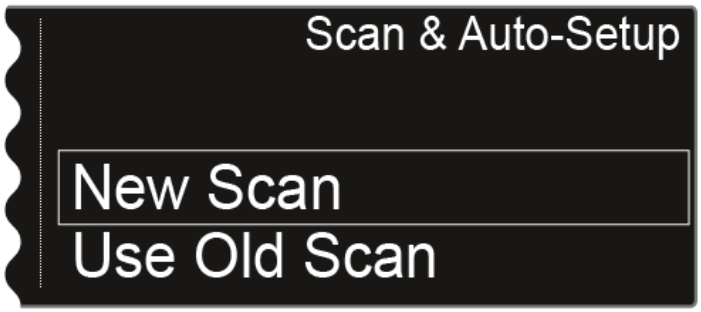
    i The EM 6000 on which you perform the **Auto-Setup** function is defined as the master device in the network. The other devices adopt the follower function.

- Switch off all transmitters before you perform the scan.
  - If transmitters are still switched on, they are detected as unavailable frequencies and the frequencies that are actually available cannot then be used.
- On the home screen, press the jog dial to open the operating menu.
- Turn the jog dial until the **Scan & Auto-Setup** menu item appears in the selection frame:

- Press the jog dial to open the menu.

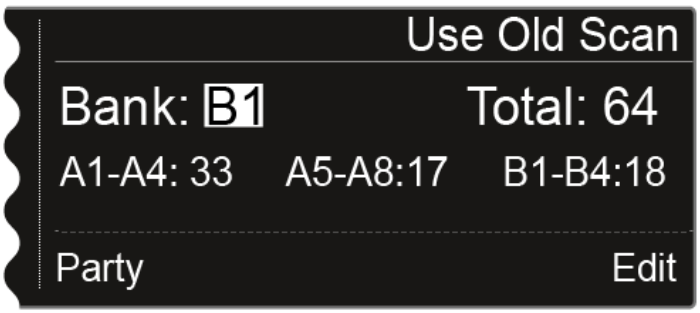
Perform the frequency scan:

- In the **Scan & Auto-Setup** menu item, select the **New Scan** option to perform a complete scan of the environment.
- In the **Scan & Auto-Setup** menu item, choose **Use Old Scan** if you have already performed a scan and you want to add only a small number of new devices to the existing production environment.



- After you choose **New Scan**, the following view is displayed.

- After you choose **Use Old Scan**, the result of the last scan is displayed.



▶ **Use Old Scan** option: Continue in the next section Editing displayed frequencies.

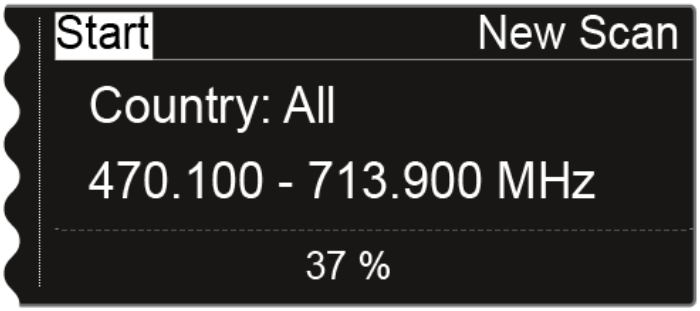
▶ **New Scan** option: Turn the jog dial to select the frequency range to be scanned:
- Choose **All** for the Country setting to scan the entire EM 6000 frequency range.
- Choose **USA**, **Japan**, **China**, or **Korea** if you use specific frequency variants for the transmitters so that only the frequency range that is actually used is scanned.

▶ **Or:** Press the jog dial to set the frequency range to be scanned manually.

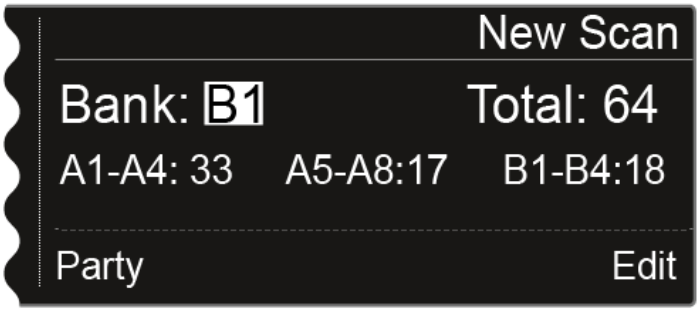
✓ You can adjust the value by turning the jog dial. Press the jog dial to move back and forth between the individual points of the frequencies.

▶ After you set the frequency range to be scanned, press the jog dial until the **Start** option in the top left of the selection is displayed with a white background.

- Press the jog dial to start the frequency scan.
  - The scan is performed. The progress is displayed in % on the display.

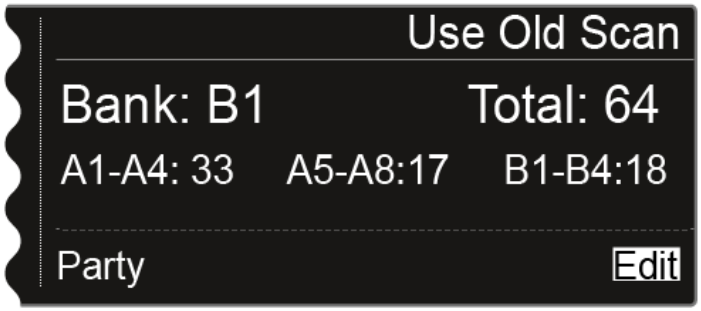


  - Once the scan is performed, the result is displayed. All of the free frequencies in the selected range are displayed.

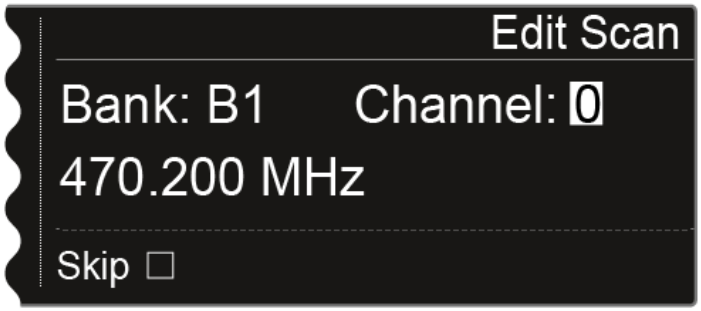


Editing displayed frequencies:

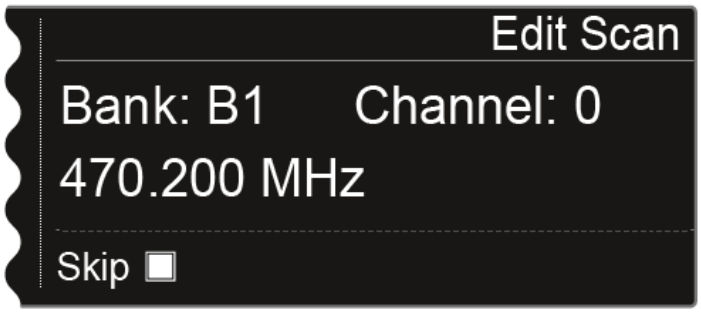
- Press the jog dial.
  - The **Party** option is displayed in the bottom left with a white background.
- Turn the jog dial to the right.
  - The **Edit** function is displayed in the bottom right in a white background.



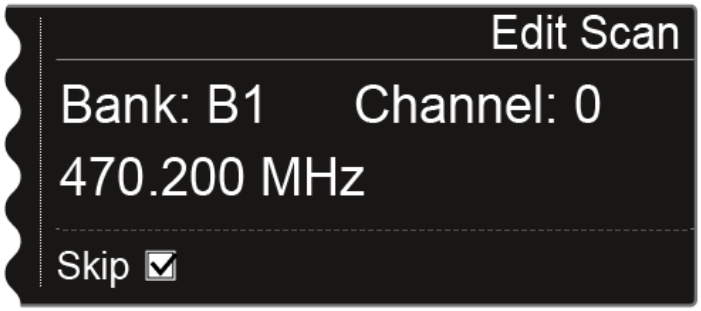
- Press the jog dial to open the **Edit** function.
  - The following view is displayed:



- Press the jog dial to search for the channel that you want to skip during the automatic frequency setup.
- Press the jog dial
  - The checkbox for the **Skip** option is highlighted in white.



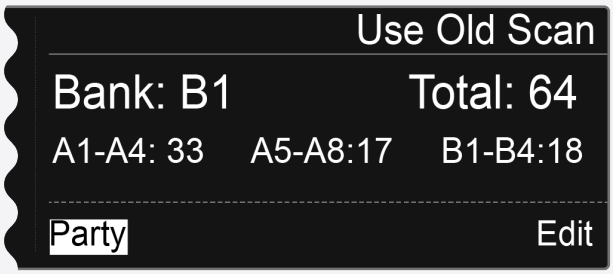
- Turn the jog dial to activate the **Skip** option for the selected channel.



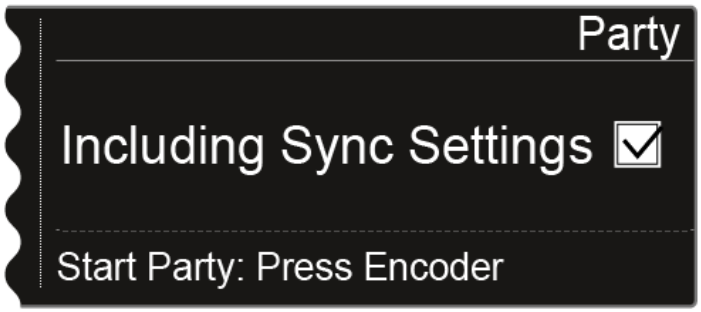
- Press the jog dial to select an additional channel to skip.
- Press the **SAVE** button to save the setting.
  - You can press the **ESC** button to cancel the function without saving.

Starting the automatic frequency setup:

i If you have performed the scan and edited the frequencies, you can start the automatic frequency setup. On the display, the **Party** option must be highlighted in white.



- Press the jog dial to display the next step.



- Turn the jog dial to choose whether the sync settings are also to be transmitted during the synchronization.
  - If you do not activate this option, only the frequency is sent to the respective transmitters.
- Press the jog dial to start the automatic frequency setup.
  - The setup is performed for all receivers that are available in the network. Note that the **Auto-Setup** option in the **System** menu item must be activated for all of the receivers. Once setup is complete, the following message is shown on all displays of all receiving channels.

- Synchronize all of the channels and the corresponding transmitters using the **Sync** function (Synchronizing devices).

> **i** If you press the **ESC** button for one channel, the sync is canceled for both channels of the particular EM 6000.
> However, if you press the **ESC** button for the channel in which you started the auto-setup function, the sync is canceled for all of the channels in the network.
>
> The EM 6000 on which you perform the **Auto-Setup** function is defined as the **master** device in the network. The other devices adopt the **follower** function.

Walktest menu item

Once you have set up and installed all of the receivers and transmitters for your event, we recommend performing a walk test.

This lets you check whether sufficient reception strength is available throughout the entire area used.

Start the walktest function in this menu item and then walk the entire area with one transmitter. The results of the walk test give you information about the reception quality.

To perform the Walktest:

- On the home screen, press the jog dial to open the operating menu.
- Turn the jog dial until the **Walktest** menu item appears in the selection frame:

- Press the jog dial to open the menu.
  - The following view is displayed: The **Start** option in the top left of the display is already highlighted for selection.

- Press the jog dial to start the walk test.
- Walk the entire area on which you want to operate the system with the transmitter.

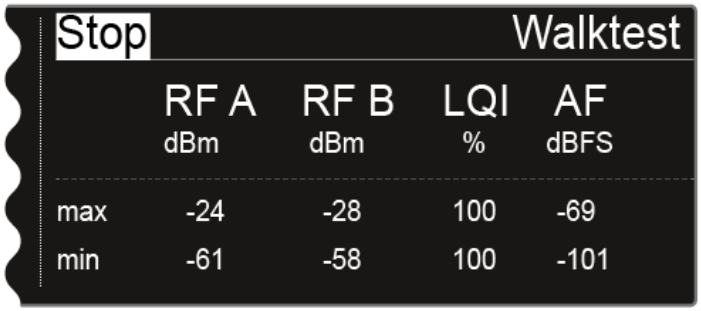
  The following values are recorded on the display:

RF A: Reception from antenna A in dBm

RF B: Reception from antenna B in dBm

LQI: Connection quality as a % - see also Meaning of the Link Quality Indicator

AF: Transmitter audio frequency in dBFS



During the walk test, the **Stop** option in the top left of the display is highlighted as the selection.

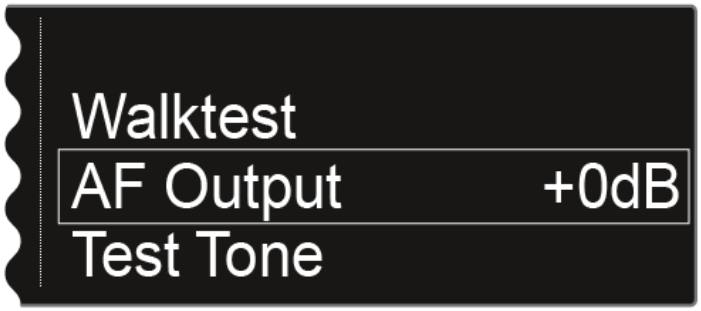
- Press the jog dial to finish the walk test when you are ready.

AF Output menu item

In the **AF Output** menu item, you can set the audio level that is output via the receiver audio outputs.

To make settings in the AF Output menu item:

- On the home screen, press the jog dial to open the operating menu.
- Turn the jog dial until the **AF Output** menu item appears in the selection frame:



- Press the jog dial to open the menu.
  - The following view is displayed:

- Turn the jog dial to set the desired value between **-10 dB** and **+18 dB**.
- Press the **SAVE** button to save the set value.

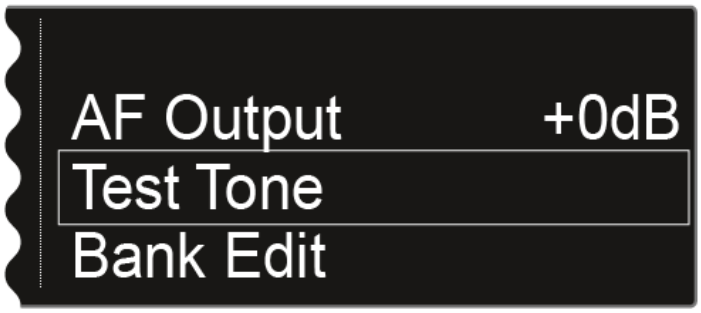
Test Tone menu item

The EM 6000 provides an option for generating a test tone.

You can use it, for example, to check the audio output of the device or level out channels on the mixing console.

To play a test tone in the Test Tone menu item:

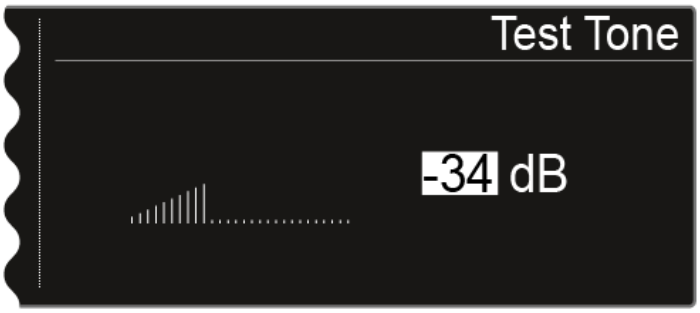
- On the home screen, press the jog dial to open the operating menu.
- Turn the jog dial until the **Test Tone** menu item appears in the selection frame:



- Press the jog dial to open the menu.
  - The following view is displayed:

- Turn the jog dial to set the volume of the test tone.

You can set the volume of the test tone between **-60 dB** and **0 dB**.



i While the test tone is played back, the transmitter audio signal is muted.

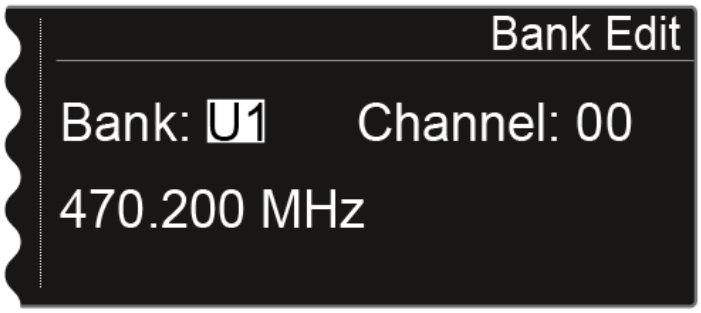
Bank Edit menu item

In addition to the predefined frequency banks **B1** to **B6**, you can assign frequencies to the user-defined frequency banks **U1** to **U6** yourself.

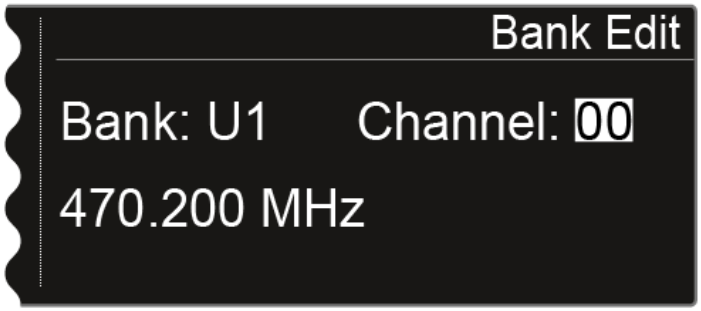
To make settings in the Bank Edit menu item:

- On the home screen, press the jog dial to open the operating menu.
- Turn the jog dial until the **Bank Edit** menu item appears in the selection frame:

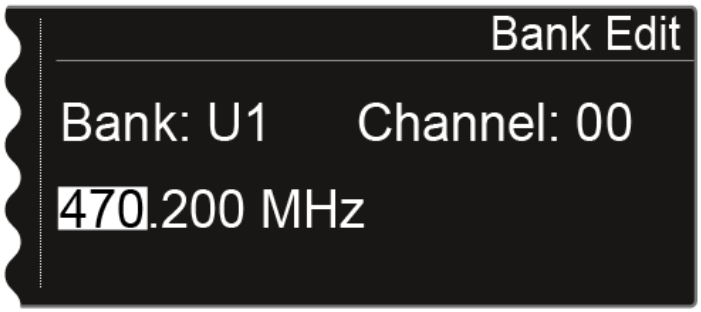
- Press the jog dial to open the menu.
  - The following view is displayed:



- Turn the jog dial to select the desired frequency bank (from **U1** to **U6**).
- Press the jog dial to switch to the channel selection.



- Turn the jog dial to select the desired channel (from **00** to **99**).
- Press the jog dial to switch to the frequency selection.



- Turn the jog dial to set the desired frequency for the selected bank and selected channel.
- Press the **SAVE** button to save the setting.

System menu item

In the System menu item, you can configure all of the cross-system settings. The System menu item is located in the menu of the channel **CH 1**.

The following sub-items are available:

Transmission Mode

- In this menu item, you can set the required transmission mode.
- See System -> Transmission Mode menu item.

Wordclock

- In this menu item, you can configure the settings for the word clock.
- See System -> Wordclock menu item.

Network

- In this menu item, you can configure the settings for the network connection.
- See System -> Network menu item.

Device ID

- You can enter the name of the device in this menu item. This name is displayed for this EM 6000 in the network.
- See System -> Device ID menu item.

Dante Settings

- In this menu item, you can configure the network settings for the Dante® network. This menu item is available only with the product version EM 6000 DANTE.
- See System -> Dante Settings (only EM 6000 DANTE) menu item.

Booster Feed

- In this menu item, you can activate the power supply for an external antenna amplifier if you are using active remote antennas.
- See System -> Booster Feed menu item.

Brightness

- In this menu item, you can set the brightness of the display. The set brightness applies to both EM 6000 displays.
- See System -> Brightness menu item.

Auto Setup

- In this menu item, you can activate the auto setup function for the EM 6000.
- See System -> Auto Setup menu item.

Info

- This menu item shows the MAC address of the EM 6000 and the current version of the firmware. You cannot configure any settings here.
- See System -> Info menu item.

Hardware

- This menu item shows information about the hardware. You cannot configure any settings here.
- See System -> Hardware menu item.

Help

- In this menu item, you can find the link to the English version of this instruction manual.
- See System -> Help menu item.

TX Update

- This menu item lets you perform a firmware update for the transmitters.
- See System -> TX Update menu item.

Reset

- This menu item allows you to reset the settings for the receiver.
- See System -> Reset menu item.

System -> Transmission Mode menu item

In this menu item, you can set the transmission mode.

Long Range mode (**LR**) is set ex works and also following a reset. If required, you can activate **Link Density** mode (**LD**) in order to accommodate even more channels in the available frequency spectrum.

> i For more detailed information about **Link Density** mode, see Link Density Mode.

The transmission mode is set in the **menu** for the **receiver**. The **receiver** and **transmitter** must then be **synchronized** (see Synchronizing devices), as it is not possible to set the transmission mode in the transmitter menu.

> i Both the **receiver** and the received **transmitter** must work in the **same transmission mode** in order for radio frequency transmission to work. If the two devices are set to different transmission modes, a connection cannot be established even if both devices are set to the same frequency.

i Depending on the **hardware version** of the SK 6000 and SKM 6000 **transmitters**, a **firmware update** may run every time the transmission mode is changed on the transmitter. This takes place during the synchronization process and takes approximately 90 seconds. With newer transmitter hardware versions (**from serial number 1469xxxxxx** onward), this is no longer the case.
It is possible to have the hardware adapted through Sennheiser customer service. To do so, contact customer service directly at the following address:

sennheiser.com/support

Step 1: Set the transmission mode in the receiver

- Turn the jog dial in the **System** menu item until the **Transmission Mode** menu item appears in the selection frame.
- Press the jog dial to open the menu.
  - The display shows you the option that is currently selected.

- Turn the jog dial to choose between the following options:
  - **LR**: Select this option if you want to use **Long Range** mode.
  - **LD**: Select this option if you want to use **Link Density** mode.
- Press the **SAVE** button to save the setting.
  - When changing the transmission mode, a message is displayed to inform you that the change will be made to both of the receiver's channels.
- Press the **SAVE** button again to confirm this message and the change in transmission mode.
  - The receiver restarts and switches to the selected transmission mode.

Step 2: Synchronize the transmission mode on the transmitter

i To also set the selected transmission mode in the transmitters, they must now be synchronized with the receiver. It is not possible to set the transmission mode in the menu of the transmitter itself.

- Press the **SYNC** button for the required channel on the receiver and hold the transmitter in front of the infrared interface of the receiver to synchronize the transmission mode on the transmitter.

i If the receiver and/or the transmitter are restored to the factory settings, **LR** mode will be active following the **reset**.

System -> Wordclock menu item

In this menu item, you can configure the settings for the word clock.

To make settings in the System -> Wordclock menu item:

- Turn the jog dial in the **System** menu item until the **Wordclock** menu item appears in the selection frame.
- Press the jog dial to open the menu.
  - The display shows you the option that is currently selected.

- Turn the jog dial to choose between the following options:
  - **Internal 48 kHz**: Choose this option if you want to use the internal word clock with a clock rate of 48 kHz.
  - **Internal 96 kHz**: Choose this option if you want to use the internal word clock with a clock rate of 96 kHz.
  - **External BNC**: Choose this option if you use an external word clock that is connected via the Wordclock In BNC input. See Connecting the word clock.
  - **External Dante**: Choose this option if you use an external word clock that is connected via the Dante® interface. This option is available only with the EM 6000 DANTE.
- Press the **SAVE** button to save the setting.

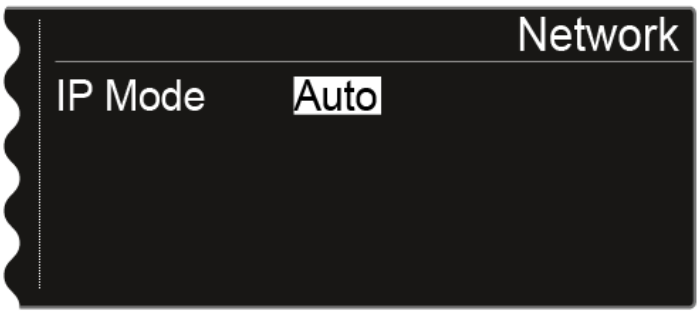
i For more information about the word clock, see Word clock scenarios for digital audio (AES3 and Dante®).

System -> Network menu item

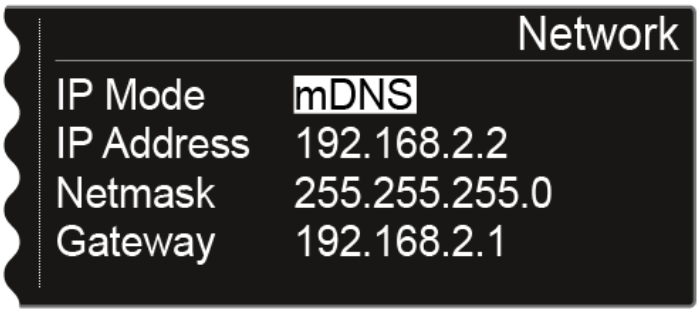
In this menu item, you can configure the settings for the network connection.

To make settings in the System -> Network menu item:

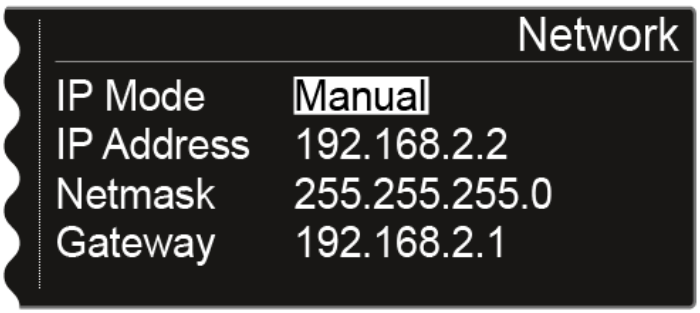
- Turn the jog dial in the **System** menu item until the **Network** menu item appears in the selection frame.
- Press the jog dial to open the menu.
  - The display shows you the option that is currently selected.
- Turn the jog dial to choose between the following options:
  - **IP Mode Auto**: The network configuration is performed automatically.



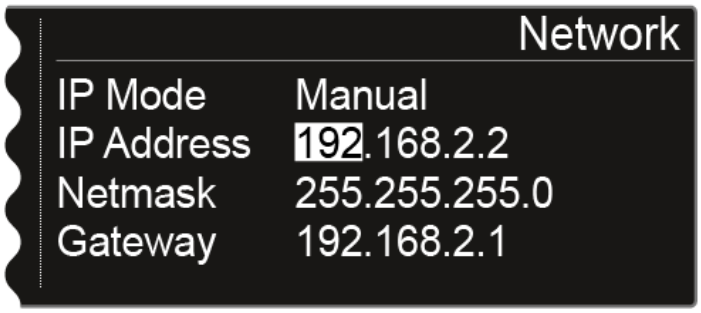
  - **IP Mode mDNS**: If you use mDNS for device identification on the network, you can manually set the IP address, netmask, and gateway.



- **IP Mode Manual**: You can manually set the IP address, netmask, and gateway.



- Press the jog dial to switch between the individual network configuration items.
- Turn the jog dial to set the value.



- Press the **SAVE** button to save the settings.

System -> Device ID menu item

You can enter the name of the device in this menu item. This name is displayed for this EM 6000 in the network.

To make settings in the System -> Device ID menu item:

- Turn the jog dial in the **System** menu item until the **Device ID** menu item appears in the selection frame.
- Press the jog dial to open the menu.
  - The following view is shown on the display.

- Turn the jog dial to select the desired character.
- Press the jog dial to go to the next position.
- Press the **SAVE** button to save the set name.

System -> Dante Settings (only EM 6000 DANTE) menu item

In this menu item, you can configure the network settings for the Dante® network.

> i This menu item is available only with the product version EM 6000 DANTE.

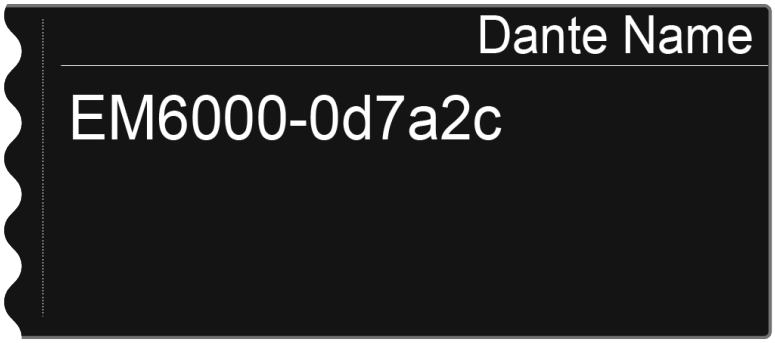
To make settings in the System -> Dante Settings menu item:

- Turn the jog dial in the **System** menu item until the **Dante Settings** menu item appears in the selection frame.
- Press the jog dial to open the menu.
  - In the Dante Settings menu items, the following sub-items are available.

> i Note that all settings that you configure in the sub-items and save with the **SAVE** button are flagged with a star in the **Dante Settings** menu. Once you configure all the settings, you must close the overall **Dante Settings** menu item with the **SAVE** button to apply the configured settings. If you close the **Dante Settings** menu item with the **ESC** button, all the settings are discarded.

Device ID

- This menu item shows the device name under which the EM 6000 DANTE is available in the Dante® network.
  - You cannot configure any settings here.



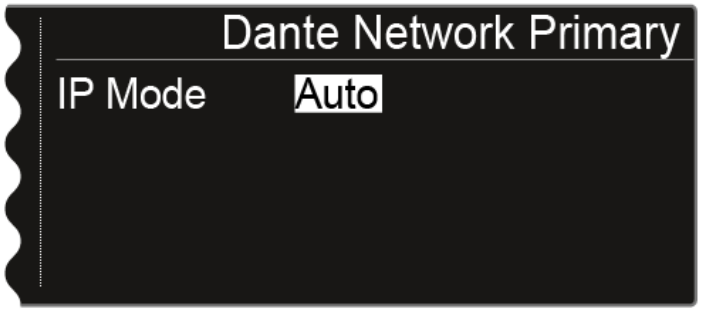
Mode

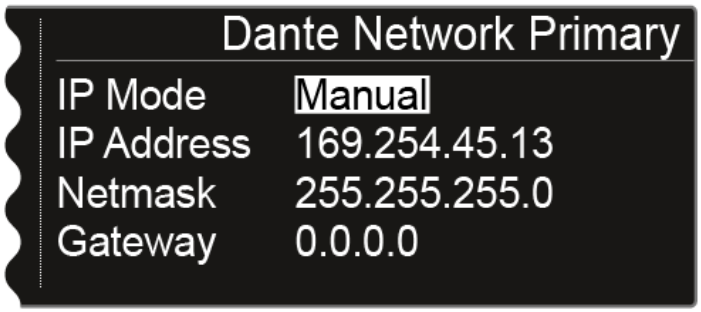
- You can set two modes for the two RJ-45 **Primary** and **Secondary** sockets on the Dante® interface.
  - **Through** mode: The signal is daisy-chained to cascade multiple EM 6000 DANTE receivers. The sequence of the two RJ-45 sockets is not defined. It is detected automatically.
  - **Redundant** mode: The two RJ-45 sockets issue the same audio signal as two separate networks.
- Turn the jog dial to choose between the two modes **Through** and **Redundant**.
- Press the **SAVE** button to save the setting.
  Please note: Incorrect Dante® network cabling (for example, **Primary** and **Secondary** on one switch) or switching over the Dante® configuration without adapting the network cabling may cause the Dante® system to stop responding.

PrimNet

> i Network configuration for the **Primary** RJ-45 socket.

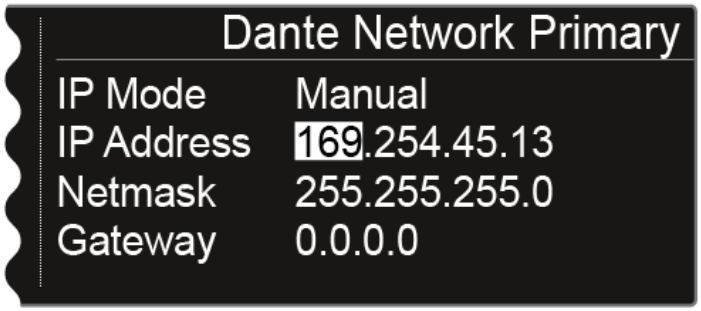
- Turn the jog dial to choose between the two IP assignment modes **Auto** and **Manual**.





- Press the jog dial to confirm your selection.

- Press the jog dial in **Manual** mode to switch between the individual network configuration items.



- Turn the jog dial to set the value.
- Press the **SAVE** button to save the settings.

SecNet

- Configure the network settings for the **Secondary** RJ-45 socket as in the **PrimNet** sub-item.

Info

- This menu item shows the MAC address of the Dante® interface, the network configuration status and the current version of the Dante® firmware.

  ✓ You cannot configure any settings here.

- The device type is also displayed:
  - **Device Type Dante 1**: EM 6000 DANTE with one RJ-45 socket (old version, no longer available)
  - **Device Type Dante 2**: EM 6000 DANTE with two RJ-45 sockets

  You can find information about updating the Dante® firmware under Updating the firmware of the Dante® interface.

System -> Booster Feed menu item

In this menu item, you can activate the power supply for an external antenna amplifier if you are using active remote antennas.

> i You can find more information about antennas under Recommendations for using antennas.

To make settings in the System -> Wordclock menu item:

- Turn the jog dial in the **System** menu item until the **Booster Feed** menu item appears in the selection frame.
- Press the jog dial to open the menu.
  - The display shows you the option that is currently selected.

- Turn the jog dial to choose between the **On** and **Off** options.

- Press the **SAVE** button to save the setting.
- Switch the power supply for external antenna amplifiers on only if you are actually using external antenna amplifiers.

- If the power supply for external antenna amplifiers is activated, it becomes active immediately once the EM 6000 is connected to the power supply system, regardless of whether the EM 6000 is switched on or off. See Connecting/disconnecting the EM 6000 to/from the power supply system.

System -> Brightness menu item

In this menu item, you can set the brightness of the display.

The set brightness applies to both EM 6000 displays.

To make settings in the System -> Brightness menu item:

- Turn the jog dial in the **System** menu item until the **Brightness** menu item appears in the selection frame.
- Press the jog dial to open the menu.
  - The following view is shown on the display.

- Turn the jog dial to set the desired display brightness.
- Press the **SAVE** button to save the setting.

System -> Auto Setup menu item

In this menu item, you can activate the auto setup function for the EM 6000.

If the function is activated here, an automatic frequency setup can be performed for this EM 6000. See Scan & Auto-Setup menu item.

To make settings in the System -> Auto Setup menu item:

- Turn the jog dial in the **System** menu item until the **Auto Setup** menu item appears in the selection frame.
- Press the jog dial to open the menu.
  - The display shows you the option that is currently selected.

- Turn the jog dial to choose between the **On** and **Off** options.

- Press the **SAVE** button to save the setting.

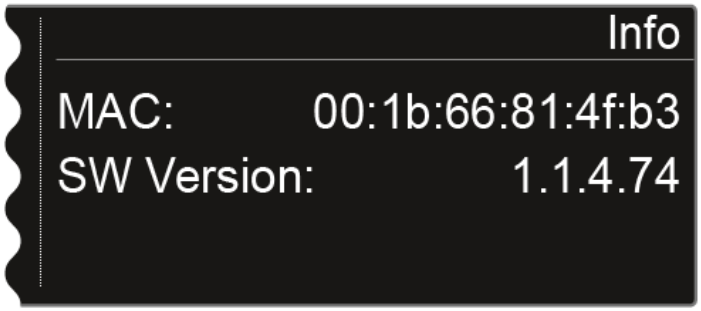
System -> Info menu item

This menu item shows the MAC address of the EM 6000 and the current version of the firmware.

You cannot configure any settings here.

To display information in the System -> Info menu item:

- Turn the jog dial in the **System** menu item until the **Info** menu item appears in the selection frame.
- Press the jog dial to open the menu.
  - The following view is shown on the display.



System -> Hardware menu item

This menu item shows information about the hardware.

You cannot configure any settings here.

To display information in the System -> Hardware menu item:

- Turn the jog dial in the **System** menu item until the **Hardware** menu item appears in the selection frame.
- Press the jog dial to open the menu.
  - The following view is shown on the display.

System -> Help menu item

In this menu item, you can find the link to the English version of this instruction manual.

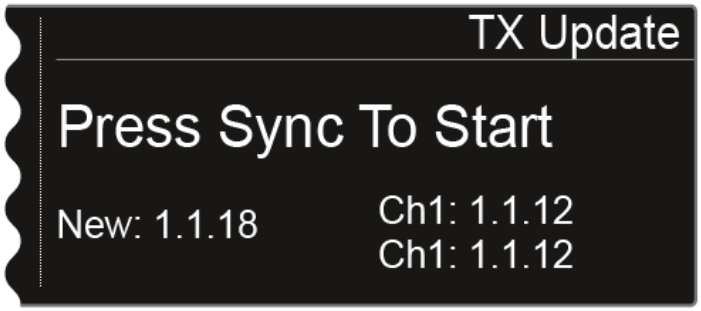
System -> TX Update menu item

This menu item lets you perform a firmware update for the transmitters.

This update is recommended after you perform a firmware update for the receiver (see Updating the firmware of the receiver).

To update the firmware for a transmitter in the System -> TX Update menu item:

- Turn the jog dial in the **System** menu item until the **TX Update** menu item appears in the selection frame.
- Press the jog dial to open the menu.
  - The following view is shown on the display.



- The following information is displayed:
  - **New** shows the version of the new firmware that is available after the firmware update for the receiver.
  - **Ch1** shows the firmware that is currently installed on the transmitter for the receiving channel CH 1.
  - **Ch2** shows the firmware that is currently installed on the transmitter for the receiving channel CH 2.
- Press the Sync button for the desired channel.
- Hold the transmitter and its infrared interface in front of the infrared interface of the receiver. See Synchronizing devices.
- Be sure not to interrupt the process.
  - If the firmware update is interrupted, the following icon is shown on the transmitter's display.

- If this is the case, repeat the process.

System -> Reset menu item

This menu item allows you to reset the settings for the receiver.

There are two options:

- **Reset**: All settings apart from the network settings and the user-defined frequency banks U1 to U6 are reset.
- **Factory Reset**: All settings are reset to the factory settings.

To reset the settings for the receiver in the System -> Reset menu item:

- Turn the jog dial in the **System** menu item until the **Reset** menu item appears in the selection frame.
- Press the jog dial to open the menu.
- Choose one of the two options **Reset** or **Factory Reset** and press the jog dial to confirm your selection.
- Press the **SAVE** button to save the setting.

Updating the firmware of the receiver

You can update the firmware for the EM 6000 receiver using the **Sennheiser Wireless Systems Manager** (WSM) software or the **Sennheiser Control Cockpit** (SCC) software.

- To do so, connect the EM 6000 to a network (see Connecting the EM 6000 to a network).
- Establish the connection with the **WSM** or **Control Cockpit** software.

> i For more information about controlling devices via the **Sennheiser Wireless Systems Manager** (WSM) or **Sennheiser Control Cockpit** (SCC) software, refer to the instruction manual for the software. You can download the software here:
> sennheiser.com/wsm
>
> sennheiser.com/control-cockpit

The firmware for the Dante® interface of the EM 6000 DANTE cannot be updated via WSM or the Control Cockpit.

- See Updating the firmware of the Dante® interface.

To update the transmitter's firmware, go to **System -> TX Update** in the menu of the EM 6000.

- See System -> TX Update menu item.

> i You can find the **latest firmware** on the Digital 6000 product page or in the Sennheiser website's download area:
> sennheiser.com/digital-6000
>
> sennheiser.com/download

Updating the firmware of the Dante® interface

To update the Dante® interface (Audinate Brooklyn II) for the EM 6000 DANTE, you require the **Firmware Updater** software from **Audinate.**

You can access it using the link below:

audinate.com/products/firmware-update-manager

- To update the firmware, connect your computer to the Dante® interface of the EM 6000 DANTE with a network cable.

i You can find the **latest firmware** on the Digital 6000 product page or in the Sennheiser website's download area:
sennheiser.com/digital-6000

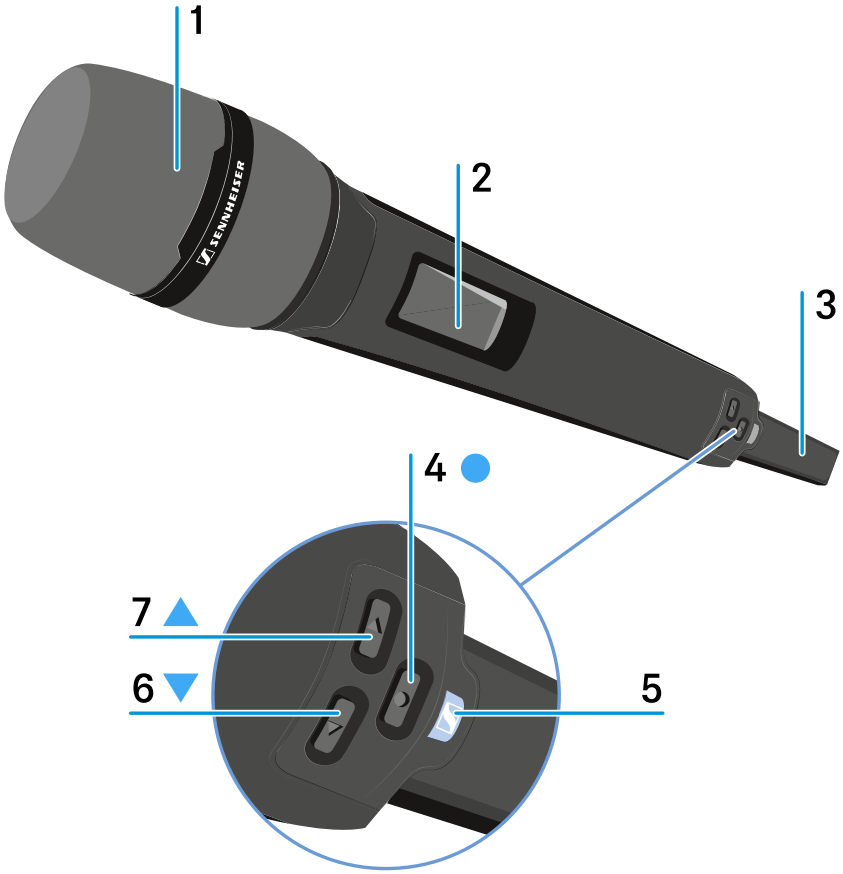
sennheiser.com/download

Use only the firmware provided by Sennheiser for the Dante® interface (Audinate Brooklyn II), as this firmware is optimized for the Digital 6000. The firmware offered on Audinate's website is not optimized for the Digital 6000 and can cause the product not to function properly.

SKM 6000 handheld transmitter

These sections contain information about installing, starting up and operating the SKM 6000 handheld transmitter.

Product overview



1 Unscrewable microphone head

See Replacing the microphone module

2 Display panel

See Displays on the SKM 6000 handheld transmitter display panel

3 BA 60 rechargeable battery/B 60 battery compartment

See Inserting and removing the BA 60 rechargeable battery

See Inserting and removing the B 60 battery compartment

4 SET button

Open a menu item

Save a setting in the menu

See Operating the menu of the SKM 6000 handheld transmitter

5 ON/OFF (ESC) button

Switch the transmitter on or off

See Switching the SKM 6000 on and off

Escape function in the menu

See Operating the menu of the SKM 6000 handheld transmitter

6 DOWN button

Navigate through the transmitter operating menu

Change values in the operating menu

See Operating the menu of the SKM 6000 handheld transmitter

7 UP button

Navigate through the transmitter operating menu

Change values in the operating menu

See Operating the menu of the SKM 6000 handheld transmitter

Inserting and removing the BA 60 rechargeable battery

i We recommend using the BA 60 rechargeable battery instead of the B 60 battery compartment. You can find more information about this subject under Rechargeable batteries and battery compartments.

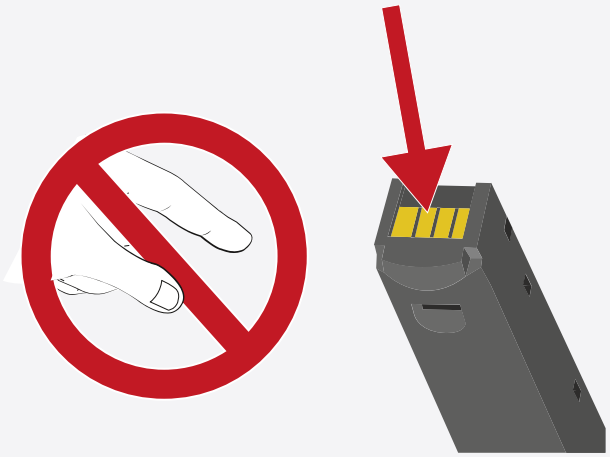
NOTICE

Damage to the handheld transmitter and/or rechargeable battery/battery compartment

If you touch the following contacts, they may become dirty or bent.

- BA 60 rechargeable battery charging and data contacts
- B 60 battery compartment contacts

▶ Do not touch the BA 60 rechargeable battery contacts or the B 60 battery compartment contacts.



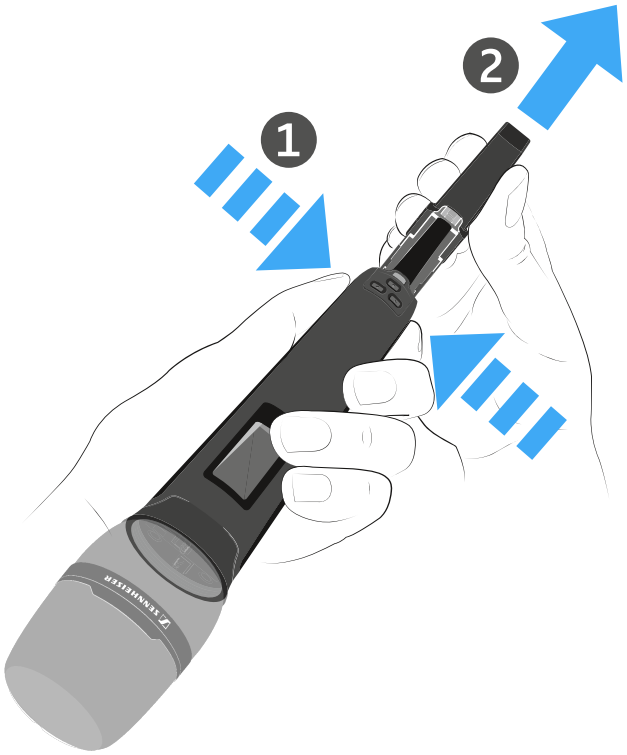
▶ Charge the BA 60 rechargeable battery before using it for the first time. For information about charging, see Charging the rechargeable batteries in the L 6000 charger.

To insert the BA 60 rechargeable battery into the SKM 6000 handheld transmitter:

- Insert the BA 60 rechargeable battery into the SKM 6000 handheld transmitter as shown in the figure until it audibly clicks into place.

To remove the BA 60 rechargeable battery from the SKM 6000 handheld transmitter:

- Press the two catches as shown in the figure and pull the BA 60 rechargeable battery out of the SKM 6000 handheld transmitter.



Inserting and removing the B 60 battery compartment

i We recommend using the BA 60 rechargeable battery instead of the B 60 battery compartment. You can find more information about this subject under Rechargeable batteries and battery compartments.

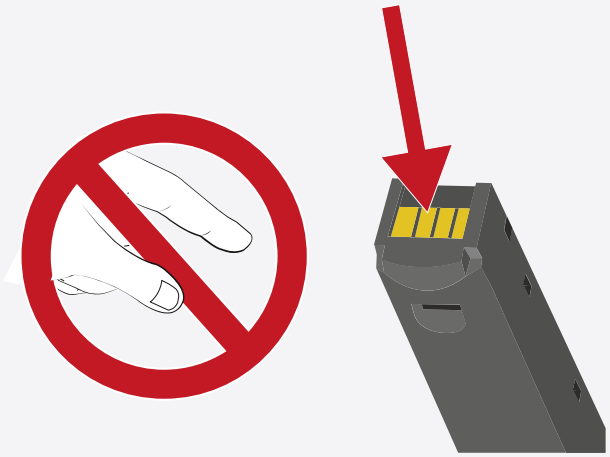
NOTICE

Damage to the handheld transmitter and/or rechargeable battery/battery compartment

If you touch the following contacts, they may become dirty or bent.

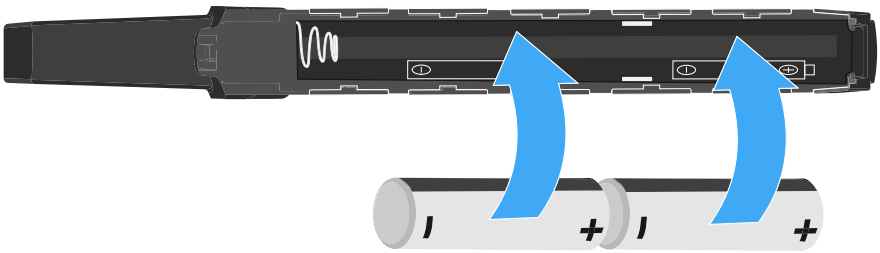
- BA 60 rechargeable battery charging and data contacts
- B 60 battery compartment contacts

▶ Do not touch the BA 60 rechargeable battery contacts or the B 60 battery compartment contacts.



Before using the battery compartment, you must insert the batteries as shown in the figure.

- Please observe correct polarity when inserting the batteries.
- Use only high-quality AA batteries (e.g. lithium or alkaline manganese batteries) or high-quality NiMH rechargeable batteries in the B 60 battery compartment.

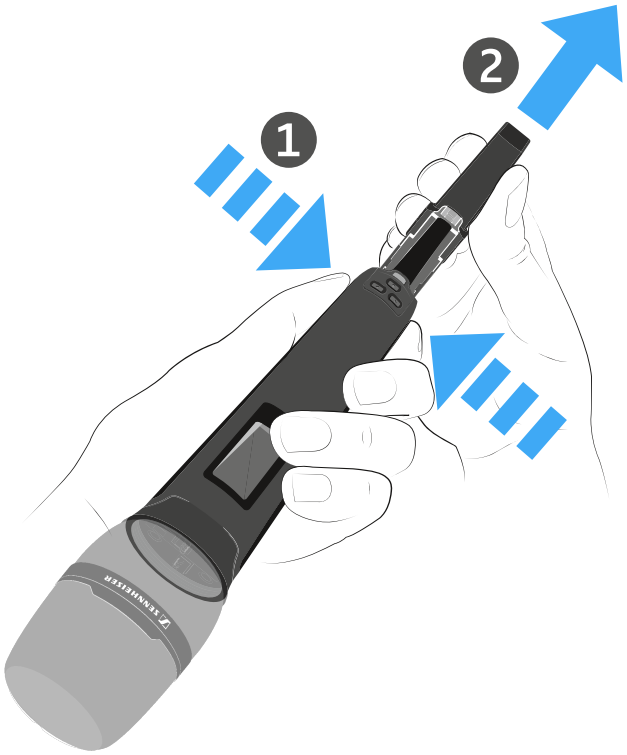


To insert the B 60 battery compartment into the SKM 6000 handheld transmitter:

- Insert the B 60 battery compartment into the SKM 6000 handheld transmitter as shown in the figure until it audibly clicks into place.

To remove the B 60 battery compartment from the SKM 6000 handheld transmitter:

- Press the two catches as shown in the figure and pull the B 60 battery compartment out of the SKM 6000 handheld transmitter.



Replacing the microphone module

We recommend using the following microphone modules with the SKM 6000 handheld transmitter.

- **MMD 835-1** | Dynamic microphone module with cardioid pattern, article no. 502575
- **MMD 845-1** | Dynamic microphone module with super-cardioid pick-up pattern, article no. 502576
- **MME 865-1** | Condenser microphone module with super-cardioid pick-up pattern, article no. 502581
- **MMD 935-1** | Dynamic microphone module with cardioid pattern, article no. 502577
- **MMD 945-1** | Dynamic microphone module with super-cardioid pick-up pattern, article no. 502579
- **MMK 965-1** | Condenser microphone module with selectable pattern: cardioid and super-cardioid, article no. 502582 (black) / 502584 (nickel)
- **Neumann KK 204** | Condenser microphone module with cardioid pattern, article no. 008652 (black) / 008651 (nickel)
- **Neumann KK 205** | Condenser microphone module with super-cardioid pick-up pattern, article no. 008654 (black) / 008653 (nickel)
- **MM 435** | Dynamic microphone module with cardioid pattern, article no. 508829
- **MM 445** | Dynamic microphone module with super-cardioid pick-up pattern, article no. 508830
- **ME 9002** | Condenser microphone module with omni-directional pattern, article no. 502587
- **ME 9004** | Condenser microphone module with cardioid pattern, article no. 502588
- **ME 9005** | Condenser microphone module with super-cardioid pick-up pattern, article no. 502589
- **MD 9235** | Dynamic microphone module with super-cardioid pick-up pattern, article no. 502586 (nickel) / 502591 (nickel-black)

NOTICE

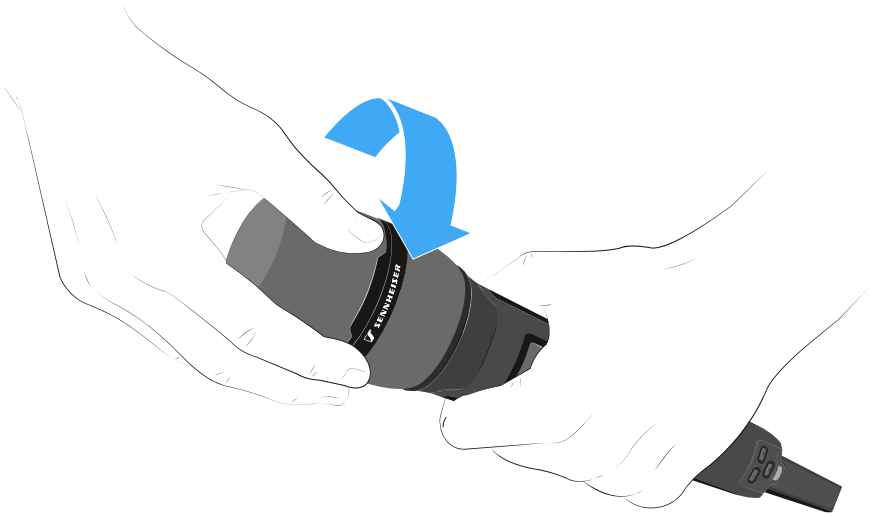
Damage to the microphone module

If you touch the contacts, they may become dirty or bent.

- Do not touch the handheld transmitter contacts or the microphone module contacts.

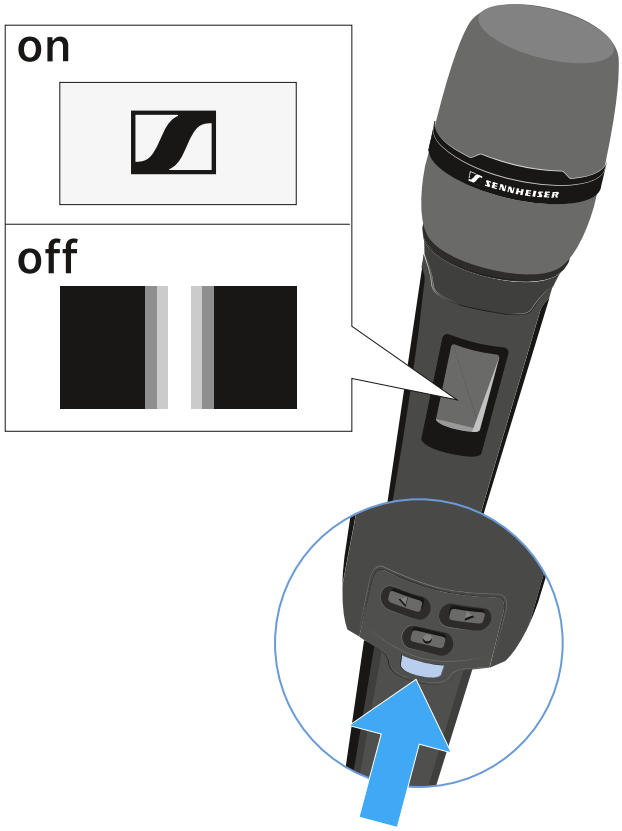
To replace the microphone module:

- Screw or unscrew the microphone module onto or from the handheld transmitter as shown in the figure.



i With some microphone modules, the upper part of the microphone basket can be screwed off. Ensure that you always completely unscrew the microphone module.

Switching the SKM 6000 on and off



To switch on the SKM 6000:

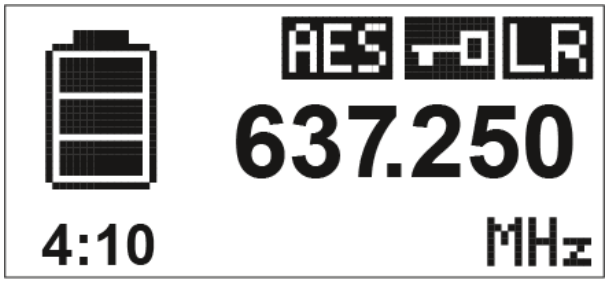
- Hold down the **ON/OFF** button until the Sennheiser logo appears on the display.

To switch off the SKM 6000:

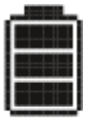
- Hold down the **ON/OFF** button until the display goes off.

Displays on the SKM 6000 handheld transmitter display panel

You can view the following information on the transmitter display.



Remaining battery life



4:10

Shows the remaining battery life and the transmitter operating time.

The time is displayed only if the BA 60 rechargeable battery is used.

For normal batteries, only the charge level of the batteries is displayed without time information.

> i For more information about rechargeable batteries and batteries, see Rechargeable batteries and battery compartments.

Frequency

637.250

Shows the set frequency.

Alternatively, the name of the radio link can also be displayed here.

See Operating the menu of the SKM 6000 handheld transmitter

Encryption

The radio link between the receiver and transmitter is secured with AES 256 encryption.

The encryption can be set only on the receiver, not on the transmitter.

See Encrypting the radio link

Lock-off function

The lock-off is activated on the transmitter.

See Operating the menu of the SKM 6000 handheld transmitter

Transmission mode (LR/LD)

The standard transmission mode of the transmitters in the Digital 6000 series is **Long Range** mode (**LR**). As a result, the transmitters in the Digital 6000 series are compatible with EM 9046 and EK 6042 if they are operated in **Long Range** mode.

If required, **Link Density** mode (**LD**) can be activated in the menu of the EM 6000 (see System -> Transmission Mode menu item) in order to accommodate even more channels in the available frequency spectrum.

> i For more detailed information about **Link Density** mode, see Link Density Mode.

Operating the menu of the SKM 6000 handheld transmitter

Navigating through the menu and making changes.

> i Product overview

To open the menu:

- Press the **SET** button.
  - The operating menu is shown on the transmitter display panel.
- Press the **UP** or **DOWN** buttons to navigate through the individual menu items.
- Press the **SET** button to open the selected menu item.

After you open a menu item, you can make changes as follows:

- Press the **UP** or **DOWN** buttons to set the displayed value.
- Press the **SET** button to save the setting.
- Press the **ESC (ON/OFF)** button to leave the menu item without saving the setting.

Tune menu item

In this menu item, you can adjust a frequency in 25 kHz steps.

When you save the setting, the set frequency is automatically assigned to the user-defined frequency preset **U**, the handheld transmitter switches from the frequency preset set up to now to the frequency preset **U**, and sends a radio signal to the set frequency.

> i Observe the general requirements and restrictions for using frequencies at the following address:
> sennheiser.com/sifa

Preset menu item

This menu item displays the frequency preset U together with its corresponding frequency.

You cannot configure any settings here.

Name menu item

In this menu item, you can set a freely selectable name for the transmitter.

The name can be up to eight characters long.

> **i** If you enter a name for the radio link in the **Name** menu item on the receiver and synchronize the receiver with a transmitter, the name entered in the transmitter is overwritten with the name entered in the receiver.

Gain menu item

In this menu item, you can adjust the input gain in 3 dB steps.

Alternatively, you can also adjust the input gain in the receiver and synchronize it with the transmitter. See Sync Settings menu item.

> **i** The range in which the input can be adjusted varies depending on the microphone module used.

Low Cut menu item

In this menu item, you can adjust the value for the low cut filter.

Setting: 60 Hz, 80 Hz, 100 Hz, 120 Hz

Alternatively, you can also adjust the low cut filter in the receiver and synchronize it with the transmitter. See Sync Settings menu item.

Display menu item

In this menu item, you can choose whether the home screen on the transmitter display shows the set frequency, the frequency preset, or the name of the transmitter or radio link.

Alternatively, you can also adjust the home screen display in the receiver and synchronize it with the transmitter. See Sync Settings menu item.

Lock menu item

In this menu item, you can activate or deactivate the lock-off for the transmitter.

Alternatively, you can also adjust the lock-off in the receiver and synchronize it with the transmitter. See Sync Settings menu item.

To enable the lock-off:

- Open the **Lock** menu item and set the value to **On**.
- Save your entry by pressing the **SET** button.
  - The automatic lock-off function will remain activated.

To temporarily deactivate the lock function:

- Press the **ON/OFF/ESC** button.
  - The message **LOCKED** is shown on the display.
- Press the **UP** or **DOWN** button.
  - The message **UNLOCK** is shown on the display.
- Press the **SET** button.
  - The lock-off function is now temporarily disabled.

  You can change settings as needed in the menu. The lock-off function is reactivated after 10 seconds of inactivity.

To disable the lock-off:

- Open the **Lock** menu item and set the value to **Off**.
- Save your entry by pressing the **SET** button.
  - The automatic lock-off function will remain disabled.

Test Tone menu item

In this menu item, you can activate a 1 kHz test tone that the transmitter transmits instead of the input signal.

Use this function to level out the system and during the walk test.

LED Mode menu item

In this menu item, you can set the behavior of the blue LED in the ON/OFF/ESC button.

ON: The blue LED remains continuously lit.

LCKOFF: The blue LED switches off once the lock-off function is enabled.

Reset menu item

In this menu item, you can reset the transmitter settings to the factory settings.

Information menu item

In this menu item, you can display the installed firmware version and the overall frequency range for the transmitter.

Updating the transmitter firmware

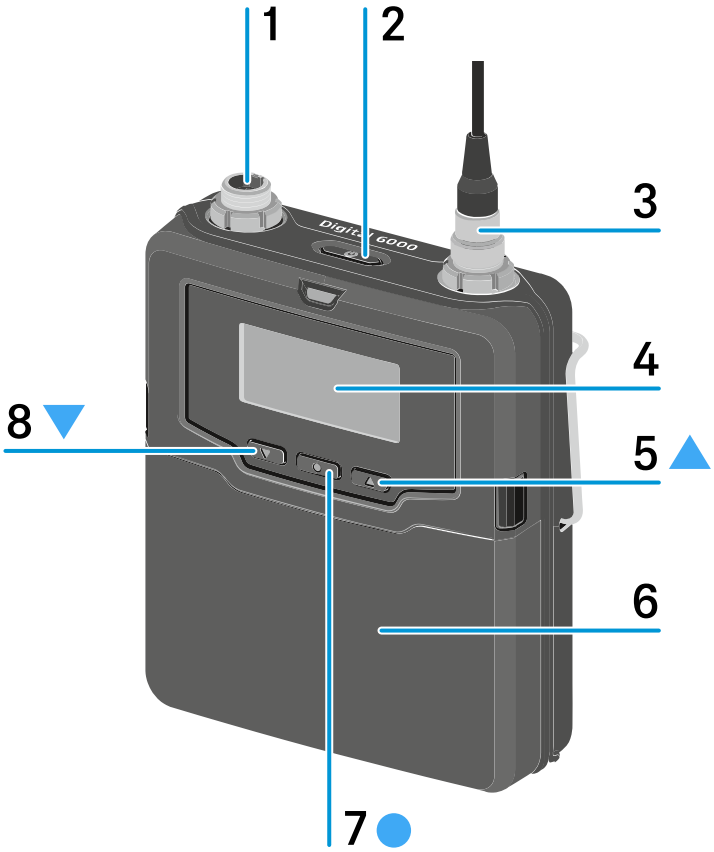
The transmitter firmware is updated via the receiver.

- Update the transmitter firmware via the TX Update function in the **System** menu item on the receiver.
  - See System -> TX Update menu item.

SK 6000 bodypack transmitter

These sections contain information about installing, starting up and operating the SK 6000 bodypack transmitter.

Product overview



1 3-pin audio connector

See Connecting a microphone

See Connecting an instrument or line source

2 ON/OFF (ESC) button

Switch the transmitter on or off

See Switching the SK 6000 on and off

Escape function in the menu

See Operating the menu of the SK 6000 bodypack transmitter

3 Antenna socket

See Mounting the antenna

4 Display panel

See Displays on the SK 6000 bodypack transmitter display panel

5 UP button

Navigate through the transmitter operating menu

Change values in the operating menu

See Operating the menu of the SK 6000 bodypack transmitter

6 BA 61 rechargeable battery/B 61 battery compartment

See Inserting and removing the BA 61 rechargeable battery

See Inserting and removing the B 61 battery compartment

7 SET button

Open a menu item

Save a setting in the menu

See Operating the menu of the SK 6000 bodypack transmitter

8 DOWN button

Navigate through the transmitter operating menu

Change values in the operating menu

See Operating the menu of the SK 6000 bodypack transmitter

Inserting and removing the BA 61 rechargeable battery

i We recommend using the BA 61 rechargeable battery instead of the B 61 battery compartment. You can find more information about this subject under Rechargeable batteries and battery compartments.

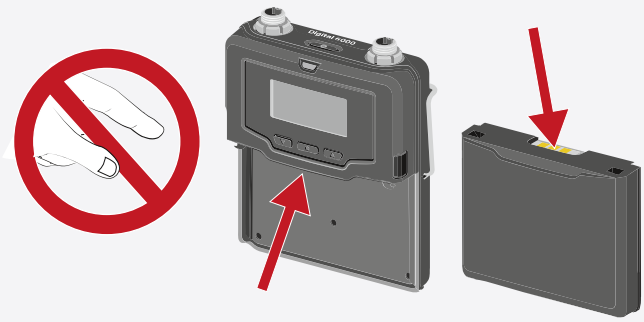
NOTICE

Damage to the bodypack transmitter and/or rechargeable battery/battery compartment

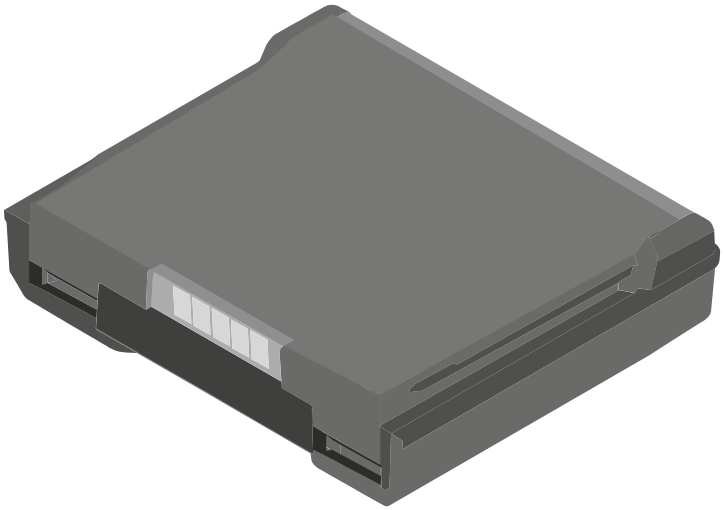
If you touch the following contacts, they may become dirty or bent.

- Supply voltage contacts and bodypack transmitter contacts
- BA 61 rechargeable battery charging and data contacts
- B 61 battery compartment contacts

▶ Do not touch the BA 61 rechargeable battery contacts or the B 61 battery compartment contacts.



- Charge the BA 61 rechargeable battery before using it for the first time. For information about charging, see Charging the rechargeable batteries in the L 6000 charger.

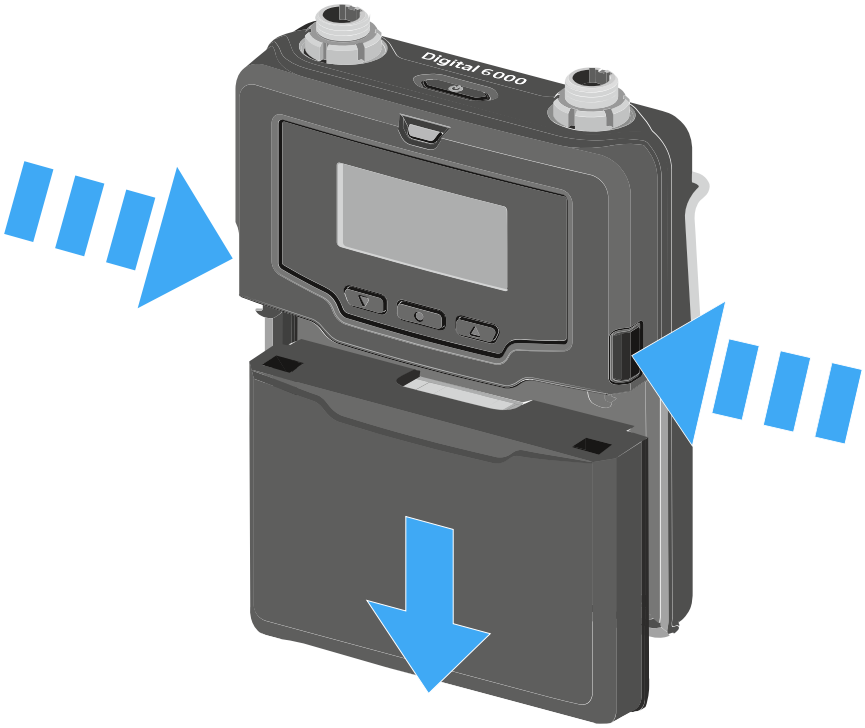


To insert the BA 61 rechargeable battery into the SK 6000 bodypack transmitter:

- Insert the BA 61 rechargeable battery into the SK 6000 bodypack transmitter as shown in the figure until it audibly clicks into place.

To remove the BA 61 rechargeable battery from the SK 6000 bodypack transmitter:

- Press the two catches as shown in the figure and pull the BA 61 rechargeable battery out of the SK 6000 bodypack transmitter.



Inserting and removing the B 61 battery compartment

i We recommend using the BA 61 rechargeable battery instead of the B 61 battery compartment. You can find more information about this subject under Rechargeable batteries and battery compartments.

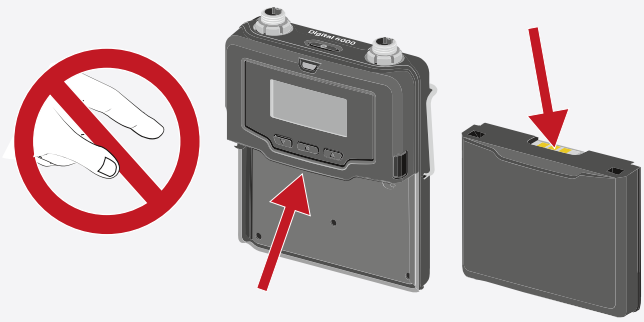
NOTICE

Damage to the bodypack transmitter and/or rechargeable battery/battery compartment

If you touch the following contacts, they may become dirty or bent.

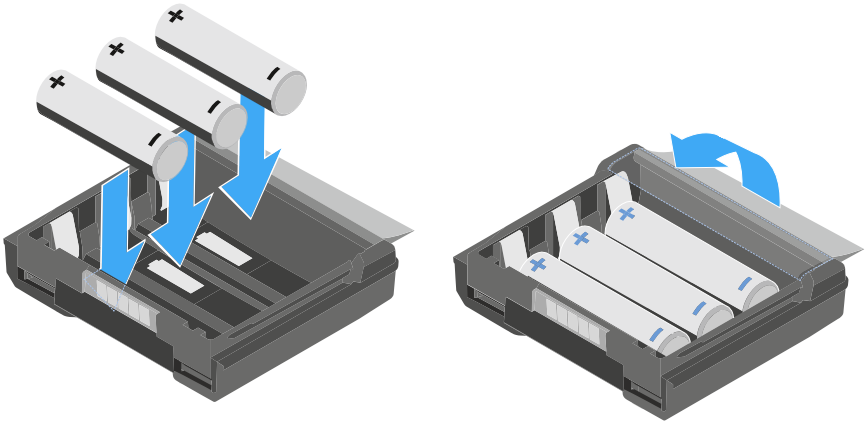
- Supply voltage contacts and bodypack transmitter contacts
- BA 61 rechargeable battery charging and data contacts
- B 61 battery compartment contacts

▶ Do not touch the BA 61 rechargeable battery contacts or the B 61 battery compartment contacts.



Before using the battery compartment, you must insert the batteries as shown in the figure.

- Please observe correct polarity when inserting the batteries.
- Use only high-quality AA batteries (e.g. lithium or alkaline manganese batteries) or high-quality NiMH rechargeable batteries in the B 61 battery compartment.

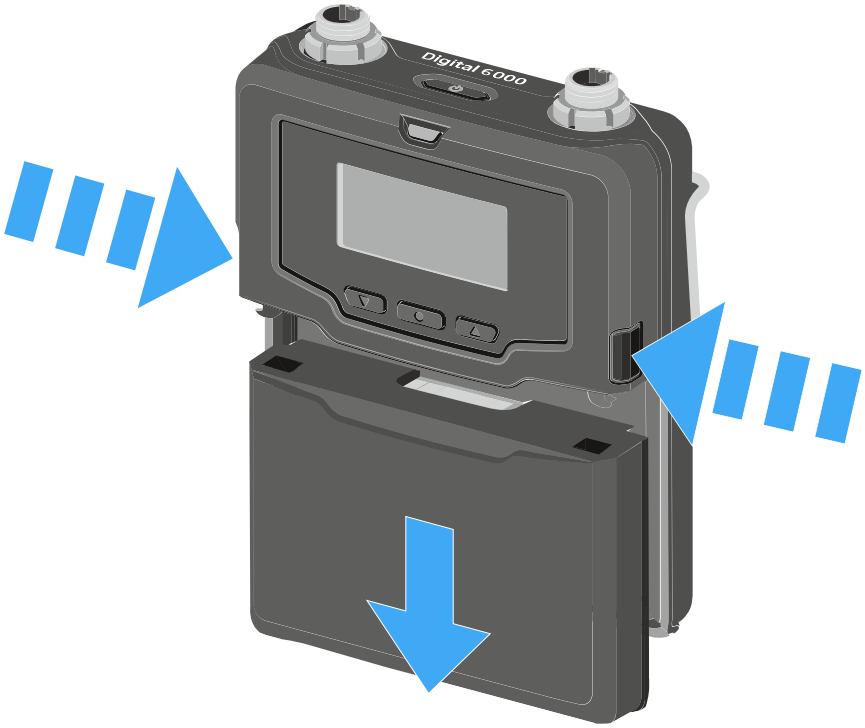


To insert the B 61 battery compartment into the SK 6000 bodypack transmitter:

- Insert the B 61 battery compartment into the SK 6000 bodypack transmitter as shown in the figure until it audibly clicks into place.

To remove the B 61 battery compartment from the SK 6000 bodypack transmitter:

- Press the two catches as shown in the figure and pull the B 61 battery compartment out of the SK 6000 bodypack transmitter.



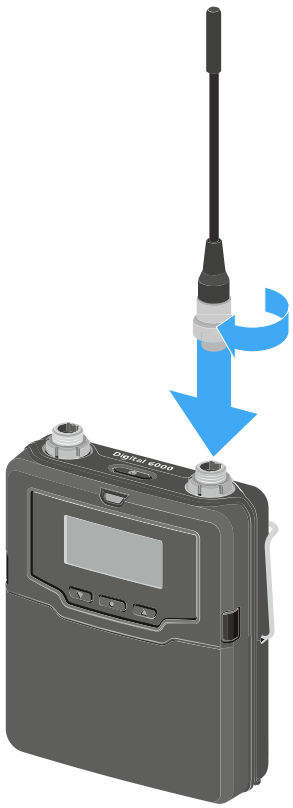
Mounting the antenna

To mount the supplied antenna:

- Connect the antenna to the SK 6000 bodypack transmitter antenna socket as shown in the figure.

> i The antenna can be connected to the antenna socket very gently in only one direction. Do not use force to connect the antenna to the bodypack transmitter antenna socket.

- Tightly screw the antenna coupling ring onto the SK 6000 bodypack transmitter antenna socket.



Connecting a microphone

We recommend using the following Lavalier microphones and headset microphones with the SK 6000 and SK 6212 bodypack transmitters.

Lavalier microphones:

- **MKE 1 (Black 3-Pin)** | Lavalier microphone with omni-directional pattern, article no. 502167
- **MKE 2 (Black 3-Pin)** | Lavalier microphone with omni-directional pattern, article no. 004736
- **MKE 40 (Black 3-Pin)** | Lavalier microphone with cardioid pattern, article no. 003579
- **MKE Essential (Black 3-Pin)** | Lavalier microphone with omni-directional pattern, article no. 508251
- **MKE Essential (Beige 3-Pin)** | Lavalier microphone with omni-directional pattern, article no. 508252

Headset microphones:

- **HSP 2 (Black 3-Pin)** | Headset microphone with omni-directional pattern, article no. 009862
- **HSP 4 (Black 3-Pin)** | Headset microphone with cardioid pattern, article no. 009864
- **Headmic 1 (Black 3-Pin)** | Headset microphone with omni-directional pattern, article no. 506905
- **HSP Essential (Black 3-Pin)**| Headset microphone with omni-directional pattern, article no. 508247
- **HSP Essential (Beige 3-Pin)**| Headset microphone with omni-directional pattern, article no. 508248

To connect a microphone to the bodypack transmitter:

- Use a 3-pin audio connector to connect the microphone cable to the SK 6000 bodypack transmitter audio socket as shown in the figure.
- Tightly screw the microphone cable coupling ring onto the audio socket thread of the SK 6000 bodypack transmitter.

i For more information about using the particular microphone, see the corresponding instruction manual for the microphone. You can find this in the download section of the Sennheiser website under sennheiser.com/download.

Connecting an instrument or line source

You can connect instruments or audio sources with a line level to the SK 6000 bodypack transmitter.

To do so, you require the Sennheiser CI 1-4 cable (6.3 mm (1/4") jack plug to 3-pin audio connector)

To connect an instrument or line source to bodypack transmitter:

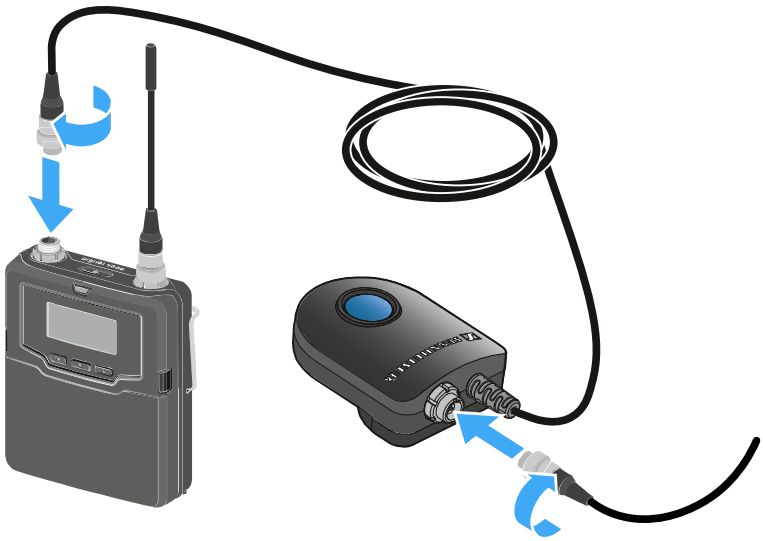
- Connect the 3-pin audio connector of the CI 1-4 cable to the SK 6000 bodypack transmitter audio socket as shown in the figure.
- Tightly screw on the audio cable coupling ring on the audio socket thread of the SK 6000 bodypack transmitter.

Connecting a command adapter

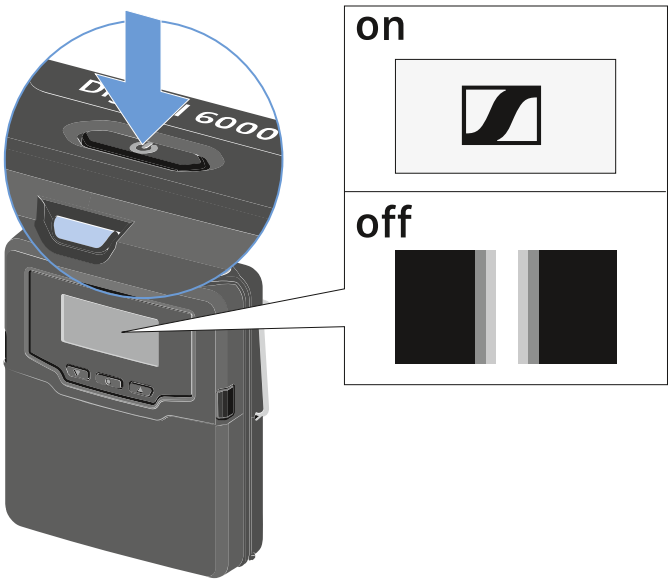
You can use a Command adapter to switch the audio channel on the EM 6000 receiver via remote control (for example, to provide directional instructions).

To connect a command adapter to the bodypack transmitter:

- Connect the 3-pin audio connector of the command adapter to the SK 6000 bodypack transmitter audio socket as shown in the figure.
- Connect the 3-pin audio connector of the Sennheiser microphone or Sennheiser CI 1-4 line/instrument cable to the command adapter audio socket.



Switching the SK 6000 on and off



To switch on the SK 6000:

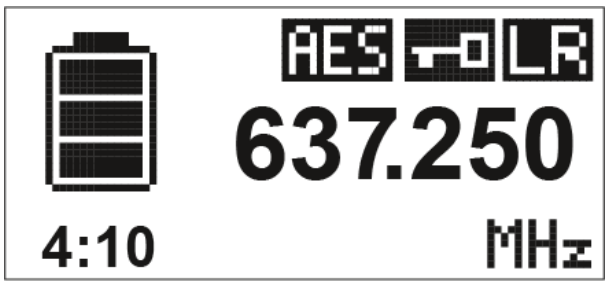
- Hold down the **ON/OFF** button until the Sennheiser logo appears on the display.

To switch off the SK 6000:

- Hold down the **ON/OFF** button until the display goes off.

Displays on the SK 6000 bodypack transmitter display panel

You can view the following information on the transmitter display.



Remaining battery life

Shows the remaining battery life and the transmitter operating time.

The time is displayed only if the BA 61 rechargeable battery is used.

For normal batteries, only the charge level of the batteries is displayed without time information.

> i For more information about rechargeable batteries and batteries, see Rechargeable batteries and battery compartments.

Frequency

Shows the set frequency.

Alternatively, the name of the radio link can also be displayed here.

See Operating the menu of the SK 6000 bodypack transmitter

Encryption

The radio link between the receiver and transmitter is secured with AES 256 encryption.

The encryption can be set only on the receiver, not on the transmitter.

See Encrypting the radio link

Lock-off function

The lock-off is activated on the transmitter.

See Operating the menu of the SK 6000 bodypack transmitter

Transmission mode (LR/LD)

The standard transmission mode of the transmitters in the Digital 6000 series is **Long Range** mode (**LR**). As a result, the transmitters in the Digital 6000 series are compatible with EM 9046 and EK 6042 if they are operated in **Long Range** mode.

If required, **Link Density** mode (**LD**) can be activated in the menu of the EM 6000 (see System -> Transmission Mode menu item) in order to accommodate even more channels in the available frequency spectrum.

> i For more detailed information about **Link Density** mode, see Link Density Mode.

Operating the menu of the SK 6000 bodypack transmitter

Navigating through the menu and making changes.

> i Product overview

To open the menu:

- Press the **SET** button.
  - The operating menu is shown on the transmitter display panel.
- Press the **UP** or **DOWN** buttons to navigate through the individual menu items.
- Press the **SET** button to open the selected menu item.

After you open a menu item, you can make changes as follows:

- Press the **UP** or **DOWN** buttons to set the displayed value.
- Press the **SET** button to save the setting.
- Press the **ESC (ON/OFF)** button to leave the menu item without saving the setting.

Tune menu item

In this menu item, you can adjust a frequency in 25 kHz steps.

When you save the setting, the set frequency is automatically assigned to the user-defined frequency preset **U**, the handheld transmitter switches from the frequency preset set up to now to the frequency preset **U**, and sends a radio signal to the set frequency.

> i Observe the general requirements and restrictions for using frequencies at the following address:
> sennheiser.com/sifa

Preset menu item

This menu item displays the frequency preset U together with its corresponding frequency.

You cannot configure any settings here.

Name menu item

In this menu item, you can set a freely selectable name for the transmitter.

The name can be up to eight characters long.

> **i** If you enter a name for the radio link in the **Name** menu item on the receiver and synchronize the receiver with a transmitter, the name entered in the transmitter is overwritten with the name entered in the receiver.

Gain menu item

In this menu item, you can adjust the input gain in 3 dB steps.

Alternatively, you can also adjust the input gain in the receiver and synchronize it with the transmitter. See Sync Settings menu item.

> **i** The range in which the input can be adjusted varies depending on the microphone or line-cable used.

Low Cut menu item

In this menu item, you can adjust the value for the low cut filter.

Setting: 30 Hz, 60 Hz, 80 Hz, 100 Hz, 120 Hz

Alternatively, you can also adjust the low cut filter in the receiver and synchronize it with the transmitter. See Sync Settings menu item.

Display menu item

In this menu item, you can choose whether the home screen on the transmitter display shows the set frequency, the frequency preset, or the name of the transmitter or radio link.

Alternatively, you can also adjust the home screen display in the receiver and synchronize it with the transmitter. See Sync Settings menu item.

Lock menu item

In this menu item, you can activate or deactivate the lock-off for the transmitter.

Alternatively, you can also adjust the lock-off in the receiver and synchronize it with the transmitter. See Sync Settings menu item.

To enable the lock-off:

- Open the **Lock** menu item and set the value to **On**.
- Save your entry by pressing the **SET** button.
  - The automatic lock-off function will remain activated.

To temporarily deactivate the lock function:

- Press the **ON/OFF/ESC** button.
  - The message **LOCKED** is shown on the display.
- Press the **UP** or **DOWN** button.
  - The message **UNLOCK** is shown on the display.
- Press the **SET** button.
  - The lock-off function is now temporarily disabled.

  You can change settings as needed in the menu. The lock-off function is reactivated after 10 seconds of inactivity.

To disable the lock-off:

- Open the **Lock** menu item and set the value to **Off**.
- Save your entry by pressing the **SET** button.
  - The automatic lock-off function will remain disabled.

Test Tone menu item

In this menu item, you can activate a 1 kHz test tone that the transmitter transmits instead of the input signal.

Use this function to level out the system and during the walk test.

LED Mode menu item

In this menu item, you can set the behavior of the blue LED in the ON/OFF/ESC button.

ON: The blue LED remains continuously lit.

LCKOFF: The blue LED switches off once the lock-off function is enabled.

Reset menu item

In this menu item, you can reset the transmitter settings to the factory settings.

Information menu item

In this menu item, you can display the installed firmware version and the overall frequency range for the transmitter.

Operating the SK 6000 with a command adapter

You can use the command adapter to switch the audio channel on the EM 6000 receiver via remote control.

You can press the COMMAND button to control the audio signal routing of the XLR-3 sockets and the Dante socket on the EM 6000.

You can set the function of the Command button in the EM 6000 menu (see Command Mode menu item).

Updating the transmitter firmware

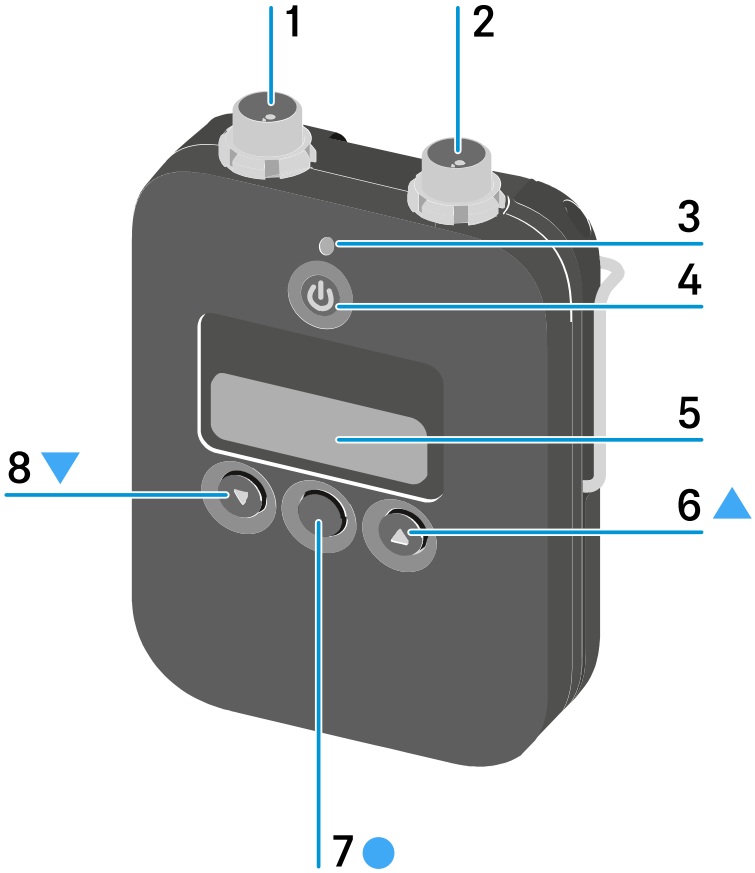
The transmitter firmware is updated via the receiver.

- Update the transmitter firmware via the TX Update function in the **System** menu item on the receiver.
  - See System -> TX Update menu item.

SK 6212 bodypack transmitter

These sections contain information about installing, starting up and operating the SK 6212 bodypack transmitter.

Product overview



1 3-pin audio connector

See Connecting a microphone to the SK 6212 bodypack transmitter

See Connecting an instrument or line source to the SK 6212 bodypack transmitter

2 Antenna socket

See Mounting the antenna

3 Power LED

See Switching the SK 6212 on and off

See Power LED menu item

4 ON/OFF (ESC) button

Switch the transmitter on or off

See Switching the SK 6212 on and off

Escape function in the menu

See Operating the menu of the SK 6212 bodypack transmitter

5 Display panel

See Displays on the SK 6212 bodypack transmitter display panel

6 UP button

Navigate through the transmitter operating menu

Change values in the operating menu

See Operating the menu of the SK 6212 bodypack transmitter

7 SET button

Open a menu item

Save a setting in the menu

See Operating the menu of the SK 6212 bodypack transmitter

8 DOWN button

Navigate through the transmitter operating menu

Change values in the operating menu

See Operating the menu of the SK 6212 bodypack transmitter

Inserting and removing the BA 62 rechargeable battery

NOTICE

Damage to the bodypack transmitter and/or rechargeable battery/battery compartment

If you touch the following contacts, they may become dirty or bent.

- Supply voltage contacts and bodypack transmitter contacts
- BA 62 rechargeable battery charging and data contacts

▶ Do not touch the contacts on the BA 62 rechargeable battery or the SK 6212 bodypack transmitter.

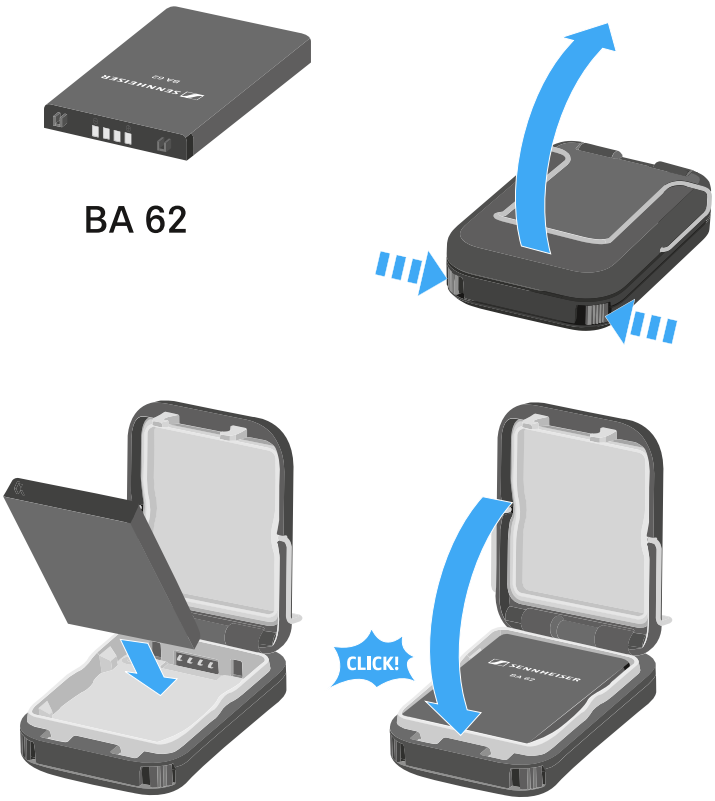
▶ Charge the BA 62 rechargeable battery before using it for the first time. For information about charging, see Charging the rechargeable batteries in the L 6000 charger.

✓ It is possible that new rechargeable batteries cannot be fully charged to 100 % in the first few charging cycles.

The remaining operating time may still be unclear after the first few charging cycles. This will improve over time after more charging cycles because the rechargeable battery calibrates itself.

To insert the BA 62 rechargeable battery into the SK 6212 bodypack transmitter:

- Open the battery compartment on the SK 6212 bodypack transmitter as shown in the figure.
- Insert the BA 62 rechargeable battery into the SK 6212 bodypack transmitter as shown in the figure.
- Close the battery compartment cover until it clicks into place.



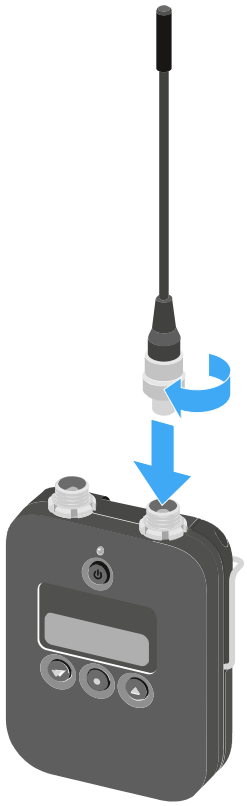
To remove the BA 62 rechargeable battery from the SK 6212 bodypack transmitter:

- Open the battery compartment on the SK 6212 bodypack transmitter as shown in the figure.
- Remove the BA 62 rechargeable battery from the SK 6212 bodypack transmitter.

Mounting the antenna

To mount the supplied antenna:

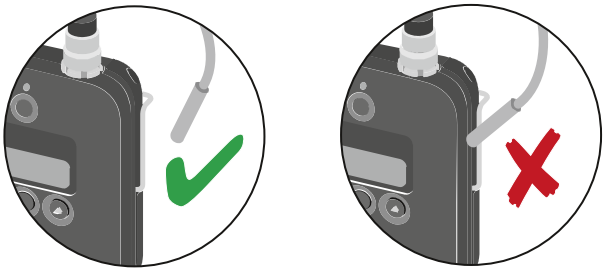
- Connect the antenna to the SK 6212 bodypack transmitter antenna socket as shown in the figure.
- Tightly screw the antenna coupling ring onto the SK 6212 bodypack transmitter antenna socket.



i The antenna can be connected to the antenna socket very gently in only one direction. Do not use force to connect the antenna to the bodypack transmitter antenna socket.

The antenna bends very easily.

- Make sure that the antenna does not touch the housing of the bodypack transmitter.



i Stiff antennas are also available as accessories as an alternative to the flexible antennas. See Antennas and accessories.

Connecting a microphone to the SK 6212 bodypack transmitter

We recommend using the following Lavalier microphones and headset microphones with the SK 6000 and SK 6212 bodypack transmitters.

Lavalier microphones:

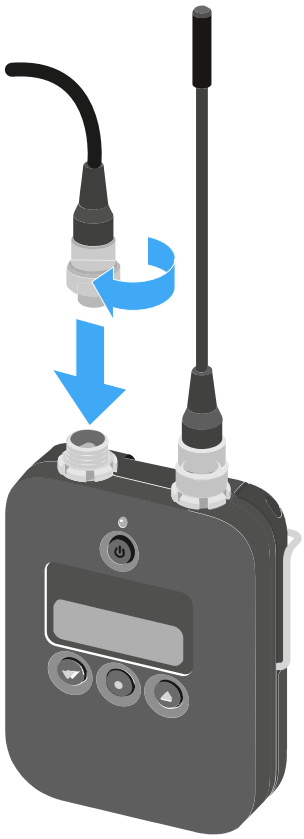
- **MKE 1 (Black 3-Pin)** | Lavalier microphone with omni-directional pattern, article no. 502167
- **MKE 2 (Black 3-Pin)** | Lavalier microphone with omni-directional pattern, article no. 004736
- **MKE 40 (Black 3-Pin)** | Lavalier microphone with cardioid pattern, article no. 003579
- **MKE Essential (Black 3-Pin)** | Lavalier microphone with omni-directional pattern, article no. 508251
- **MKE Essential (Beige 3-Pin)** | Lavalier microphone with omni-directional pattern, article no. 508252

Headset microphones:

- **HSP 2 (Black 3-Pin)** | Headset microphone with omni-directional pattern, article no. 009862
- **HSP 4 (Black 3-Pin)** | Headset microphone with cardioid pattern, article no. 009864
- **Headmic 1 (Black 3-Pin)** | Headset microphone with omni-directional pattern, article no. 506905
- **HSP Essential (Black 3-Pin)**| Headset microphone with omni-directional pattern, article no. 508247
- **HSP Essential (Beige 3-Pin)**| Headset microphone with omni-directional pattern, article no. 508248

To connect a microphone to the bodypack transmitter:

- Use a 3-pin audio connector to connect the microphone cable to the SK 6212 bodypack transmitter audio socket as shown in the figure.
- Tightly screw the microphone cable coupling ring onto the audio socket thread of the SK 6212 bodypack transmitter.



i For more information about using the particular microphone, see the corresponding instruction manual for the microphone. You can find this in the download section of the Sennheiser website under sennheiser.com/download.

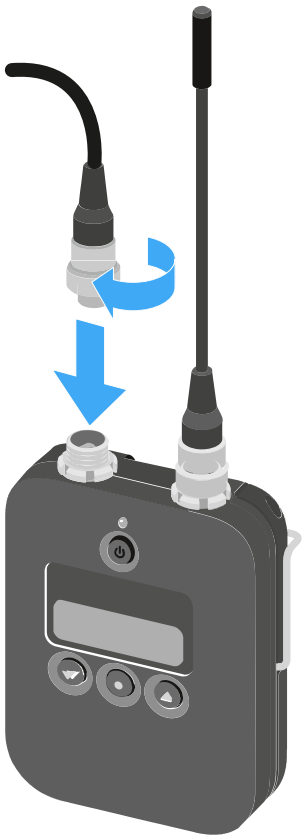
Connecting an instrument or line source to the SK 6212 bodypack transmitter

You can connect instruments or audio sources with a line level to the SK 6212 bodypack transmitter.

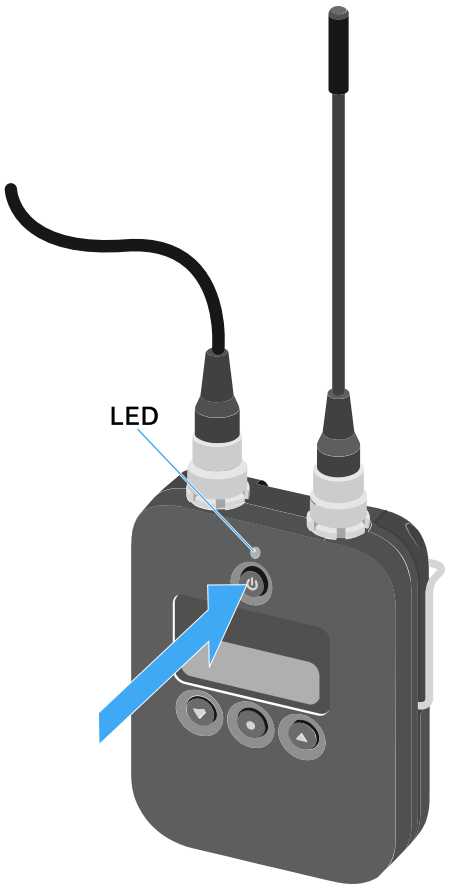
To do so, you require the Sennheiser **CI R-4A-NRS** cable (6.3 mm (1/4") jack plug to 3-pin audio connector).

To connect an instrument or line source to bodypack transmitter:

- Connect the 3-pin audio connector of the **CI R-4A-NRS** cable to the SK 6212 bodypack transmitter audio socket as shown in the figure.
- Tightly screw on the audio cable coupling ring on the audio socket thread of the SK 6212 bodypack transmitter.



Switching the SK 6212 on and off



To switch on the SK 6212:

- Hold down the **ON/OFF** button until the Sennheiser logo appears on the display.
  - The LED above the **ON/OFF** button lights up green.

To switch the SK 6212 bodypack transmitter on while deactivating the RF signal:

- Press and hold the **ON/OFF** button until the LED above the **ON/OFF** lights up red.
  - The message RF MUTE appears on the display.

To reactivate the RF signal:

- Press the **ON/OFF** button.
  - The RF signal is activated.

  The LED above the **ON/OFF** button lights up green.

To switch off the SK 6212:

- Hold down the **ON/OFF** button until the display goes off.

Home screen

After you switch on the transmitter, the display panel initially displays the Sennheiser logo.

After a short time, the home screen is then displayed.

The home screen has three different views in total that display different status information.

- Press the **UP** and **DOWN** buttons to switch between the home screens.

> **i** To save energy, the display switches off when it is inactive. Press any button to reactivate it.

> **i** You can find details about the information displayed on the home screen under Displays on the SK 6212 bodypack transmitter display panel.

Home screen 1: Frequency

The set frequency is shown on the home screen.

Home screen 2: Name

The name of the radio link is shown on the home screen.

You can edit the name in the bodypack transmitter's menu (see Operating the menu of the SK 6212 bodypack transmitter).

Home screen 3: Audio

The current audio level is shown on the home screen.

Displays on the SK 6212 bodypack transmitter display panel

You can view the following information on the transmitter display.

Remaining battery life

Shows the remaining battery life and the transmitter operating time.

Frequency

Shows the set frequency.

Alternatively, the name of the radio link can also be displayed here. See Home screen.

Encryption

The radio link between the receiver and transmitter is secured with AES 256 encryption.

The encryption can be set only on the receiver, not on the transmitter.

See Encrypting the radio link.

Lock mode

The lock-off is activated on the transmitter.

See Operating the menu of the SK 6212 bodypack transmitter.

Transmission power/transmission mode

The standard transmission mode of the transmitters in the Digital 6000 series is **Long Range** mode (**LR**).

If required, **Link Density** mode (**LD**) can be activated in the menu of the EM 6000 (see System -> Transmission Mode menu item) in order to accommodate even more channels in the available frequency spectrum.

> i For more detailed information about **Link Density** mode, see Link Density Mode.

LR mode can be set in two transmission power levels: **Standard** (15 mW) and **Low** (3.5 mW). See Operating the menu of the SK 6212 bodypack transmitter.

- If nothing is shown in the display at this point, it means that LR mode is active with the standard setting.
- If **L** is displayed, **LR mode** is active with the **low** setting.
- If **LD** is displayed, **LD mode** is active.

Operating the menu of the SK 6212 bodypack transmitter

Navigating through the menu and making changes.

> i Product overview

To open the menu:

- Press the **SET** button.
  - ✓ The operating menu is shown on the transmitter display panel.
- Press the **UP** or **DOWN** buttons to navigate through the individual menu items.
- Press the **SET** button to open the selected menu item.

After you open a menu item, you can make changes as follows:

- Press the **UP** or **DOWN** buttons to set the displayed value.
- Press the **SET** button to save the setting.
- Press the **ESC (ON/OFF)** button to leave the menu item without saving the setting.

Frequency menu item

In this menu item, you can adjust a frequency in 25 kHz steps.

> i Observe the general requirements and restrictions for using frequencies at the following address:
> sennheiser.com/sifa

Name menu item

In this menu item, you can set a freely selectable name for the transmitter.

The name can be up to eight characters long.

> **i** If you enter a name for the radio link in the **Name** menu item on the receiver and synchronize the receiver with a transmitter, the name entered in the transmitter is overwritten with the name entered in the receiver.

Gain menu item

In this menu item, you can adjust the input gain in 3 dB steps.

Alternatively, you can also adjust the input gain in the receiver and synchronize it with the transmitter. See Sync Settings menu item.

Low Cut menu item

In this menu item, you can adjust the value for the low cut filter.

Setting: 30 Hz, 60 Hz, 80 Hz, 100 Hz, 120 Hz

Alternatively, you can also adjust the low cut filter in the receiver and synchronize it with the transmitter. See Sync Settings menu item.

Display menu item

In this menu item, you can choose whether the default home screen on the transmitter display shows the set frequency or the name of the transmitter or radio link.

Alternatively, you can also adjust the home screen display in the receiver and synchronize it with the transmitter. See Sync Settings menu item.

Lock menu item

In this menu item, you can activate or deactivate the lock-off for the transmitter.

Alternatively, you can also adjust the lock-off in the receiver and synchronize it with the transmitter. See Sync Settings menu item.

To enable the lock-off:

- Open the **Lock** menu item and set the value to **On**.
- Save your entry by pressing the **SET** button.
  - The automatic lock-off function will remain activated.

  The display switches off.

To temporarily deactivate the lock function:

- Press the **ON/OFF/ESC** button.
  - The display is reactivated.
- Press the **ON/OFF/ESC** button again.
  - The message **LOCKED** is shown on the display.
- Press the **UP** or **DOWN** button.
  - The message **UNLOCK** is shown on the display.
- Press the **SET** button.
  - The lock-off function is now temporarily disabled.

  You can change settings as needed in the menu. The lock-off function is reactivated after 10 seconds of inactivity.

To completely deactivate the lock-off function:

- Open the **Lock** menu item and set the value to **Off**.
- Save your entry by pressing the **SET** button.
  - The automatic lock-off function will remain disabled.

Test Tone menu item

In this menu item, you can activate a 1 kHz test tone that the transmitter transmits instead of the input signal.

Use this function to level out the system and during the walk test.

Power LED menu item

In this menu item, you can set the behavior of the LED above the SK 6212's display and the ON/OFF button.

On: The LED remains continuously lit.

Lock off: The LED switches off once the lock-off function is enabled.

RF Power menu item

In this menu item, you can set the transmission power of LR mode in two steps:

Standard: 15 mW transmission power

Low: 3.5 mW transmission power

> i Observe the general requirements and restrictions for using frequencies at the following address:
> sennheiser.com/sifa

Reset menu item

In this menu item, you can reset the transmitter settings to the factory settings.

Information menu item

In this menu item, you can display the installed firmware version and the overall frequency range for the transmitter.

Updating the transmitter firmware

The transmitter firmware is updated via the receiver.

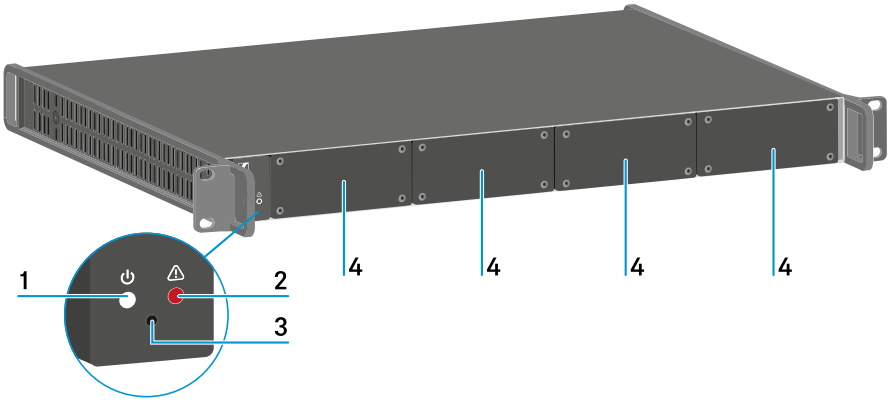
- Update the transmitter firmware via the TX Update function in the **System** menu item on the receiver.
  - See System -> TX Update menu item.

Modular L 6000 charger

These sections contain information about installing, starting up and operating the modular L 6000 charger and the corresponding charging modules.

Product overview

Front



1 Power status LED

See Meaning of the LEDs

2 Warning status LED

See Meaning of the LEDs

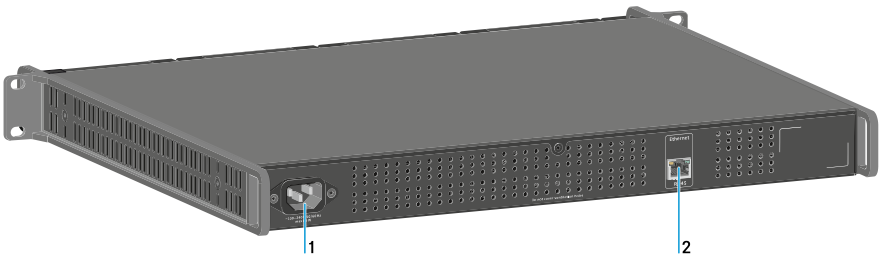
3 Reset

See Resetting settings (factory reset)

4 Dummy caps

See Installing a charging module in the L 6000 charger

Back



1 Power socket

See Connecting/disconnecting the L 6000 to/from the power supply system

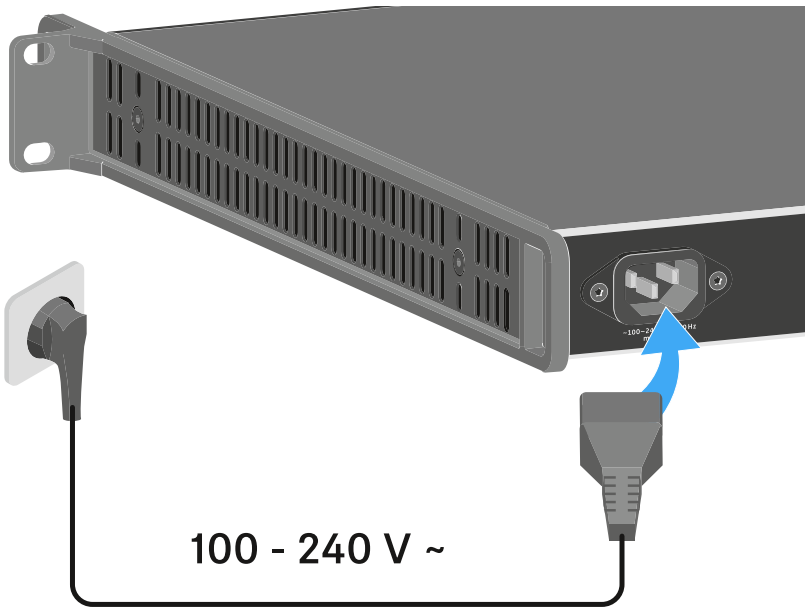
2 **Ethernet** socket

See Connecting the L 6000 to a network

Connecting/disconnecting the L 6000 to/from the power supply system

To connect the L 6000 to the power supply system:

- Connect the mains cable IEC connector to the power socket on the rear side of the L 6000.
- Connect the mains cable plug into a suitable wall socket.



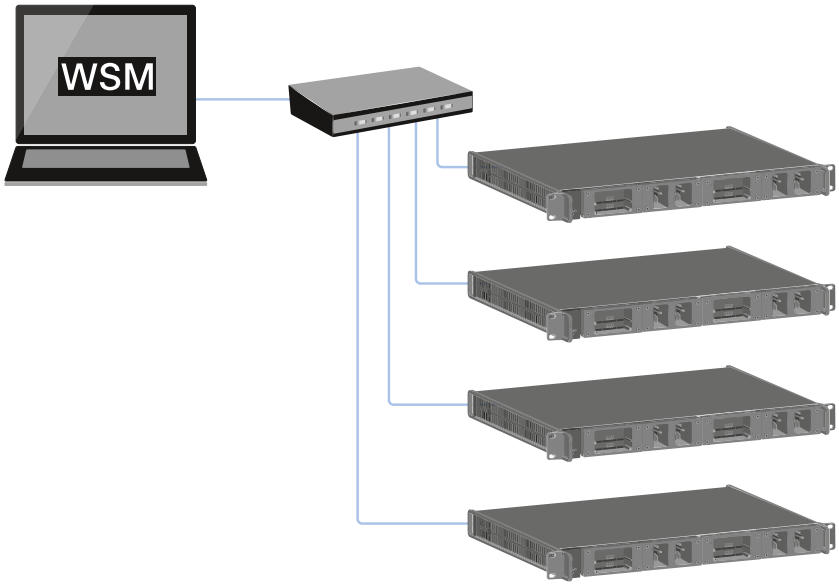
To completely disconnect the L 6000 from the power supply system:

- Unplug the mains cable plug from the wall socket.
- Unplug the mains cable IEC connector from the power socket on the rear side of the L 6000.

Connecting the L 6000 to a network

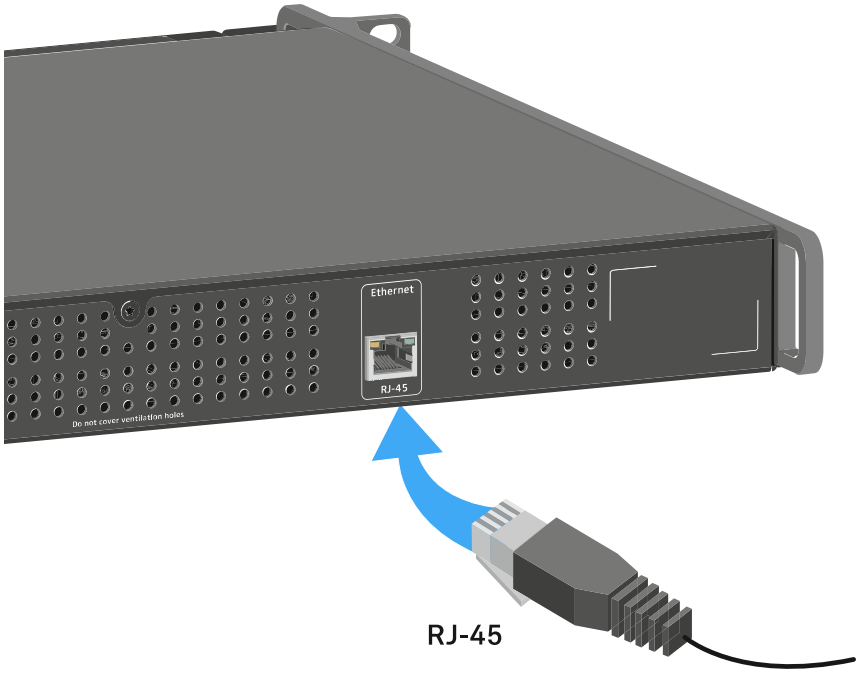
You can monitor and control one or more L 6000s via a network connection using the **Sennheiser Wireless Systems Manager** (WSM) software.

The network does not have to be a homogeneous network including only chargers. You can integrate the L 6000 into your existing network infrastructure with any other types of devices.



To connect the L 6000 to a network:

- Connect a network cable with an RJ-45 connector (Cat5 at minimum) to the **Ethernet** socket on the rear side of the L 6000.

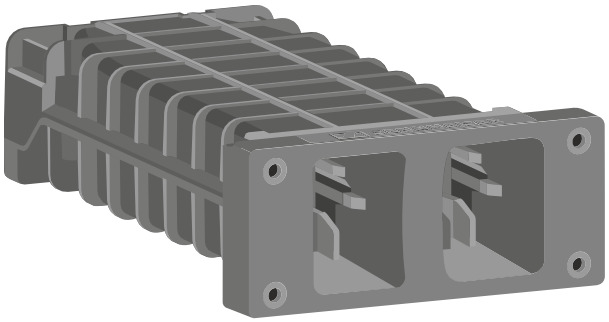


i For more information about controlling devices via the **Sennheiser Wireless Systems Manager** (WSM) software, refer to the instruction manual for the software. You can download the software here:
sennheiser.com/wsm

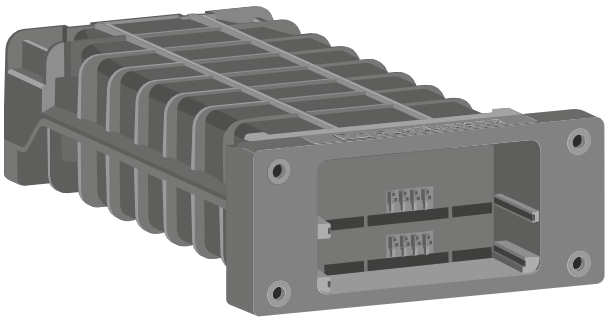
Installing a charging module in the L 6000 charger

The following charging modules are available for the L 6000 charger.

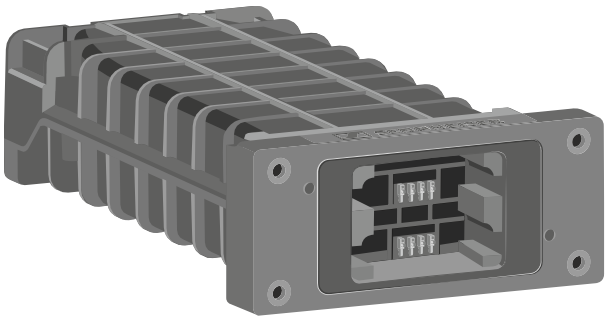
- **LM 6060** -> for charging the **BA 60** rechargeable battery



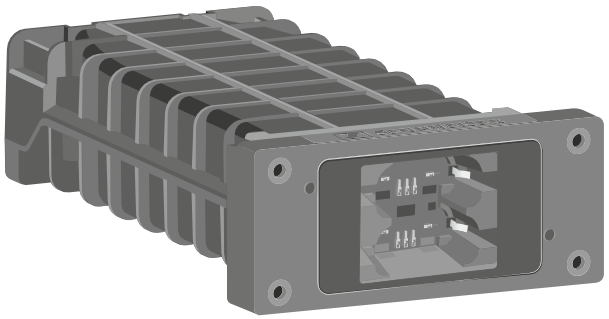
- **LM 6061** -> for charging the **BA 61** rechargeable battery



- **LM 6062** -> for charging the **BA 62** rechargeable battery



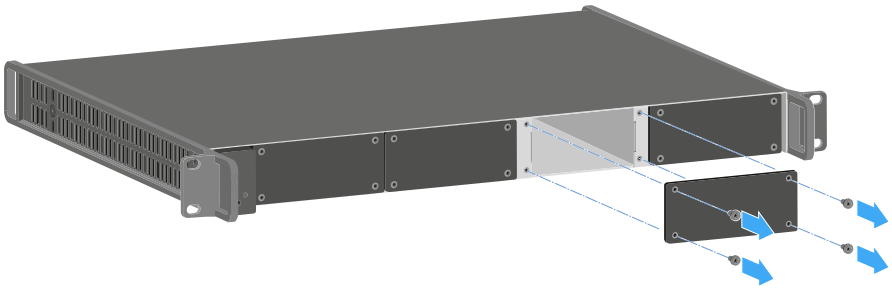
- **LM 6070** -> for charging the **BA 70** rechargeable battery



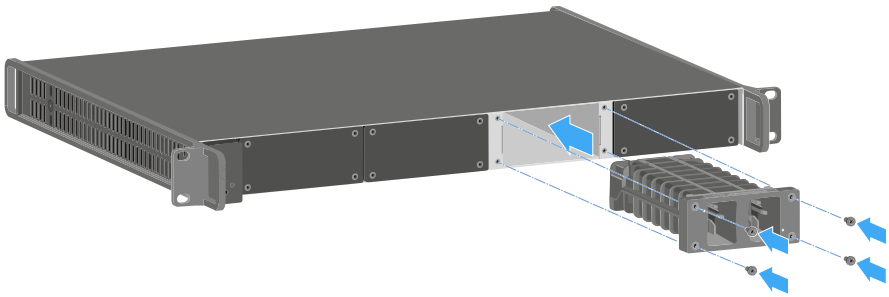
You can combine the LM 6060, LM 6061, LM 6062 and LM 6070 in any way in the L 6000 charger.

To install a charging module in the L 6000 charger:

- Completely disconnect the L 6000 charger from the power supply system. See Connecting/disconnecting the L 6000 to/from the power supply system.
- Unscrew one of the dummy caps on the L 6000.
  To do so, you require a Torx 10 screwdriver.



- Fully slide the charging module into the open charging slot as shown in the figure.
  - The charging module can be inserted into the L 6000 housing only in one direction. The Sennheiser lettering on the charging module must face upward.



- Tightly screw on the charging module.

Always use the latest firmware for the L 6000 charger (version 2.0 or later) to ensure you have access to the full range of functions. You can download the latest firmware from the following address:

sennheiser.com/l-6000

> i For more detailed information about charging the BA 60, BA 61 and BA 62 and BA 70 rechargeable batteries, see Charging the rechargeable batteries in the L 6000 charger.

Installing the L 6000 in a rack

You can install the L 6000 charger in any conventional 19" rack.

The rack mounting angles are already attached to the device.

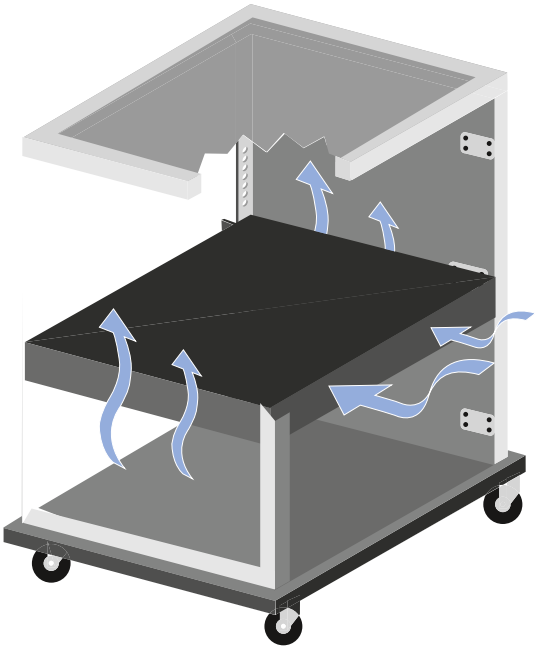
Always observe the following information during rack mounting.

NOTICE

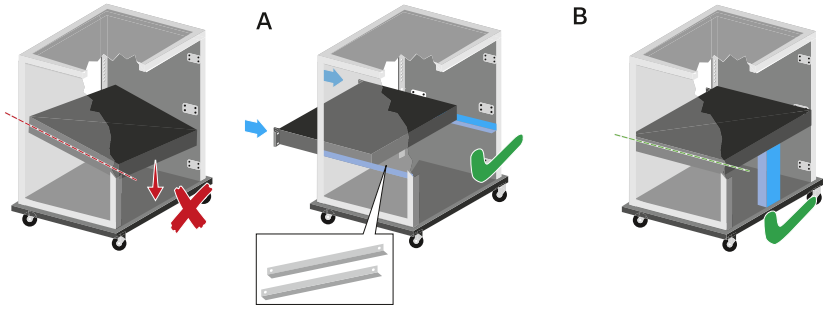
Material damages caused by devices overheating

When there is insufficient ventilation, the devices mounted in the rack may overheat.

- Ensure that there is sufficient ventilation in the rack, particularly if several devices are installed.
- If necessary, install a fan in the rack.



- Support the EM 6000 after installation in the rack. Due to the weight and depth of the device, there is a risk that it may break off in the rack and become damaged as a result.



Version A:

- Use special rack mounting rails.
- The design of the rack used must be suitable for the installation of these mounting rails.

Version B:

- Use a suitable object to support the device on the rear side.
- Ensure that this object cannot become loose.

Switching the L 6000 on and off

The L 6000 does not have a separate on/off switch.

Once the power supply is established, the device is switched on.

▶ See Connecting/disconnecting the L 6000 to/from the power supply system.

Charging the rechargeable batteries in the L 6000 charger

To charge the BA 60, BA 61, BA 62 and BA 70 rechargeable batteries with the L 6000 charger, you need the LM 6060, LM 6061, LM 6062 or LM 6070 charging modules.

Before charging, you have to install the charging modules in the L 6000 charger. For installation information, see Installing a charging module in the L 6000 charger.

i **Note on the charger firmware**
Always use the latest firmware for the L 6000 charger (version 2.0 or later) to ensure you have access to the full range of functions. You can download the latest firmware from the following address:

sennheiser.com/l-6000

i **Note on the BA 62 rechargeable battery for the SK 6212 bodypack transmitter**
It is possible that new rechargeable batteries cannot be fully charged to 100 % in the first few charging cycles.

The remaining operating time may still be unclear after the first few charging cycles. This will improve over time after more charging cycles because the rechargeable battery calibrates itself.

NOTICE

Damage to the charging contacts in the charging slot

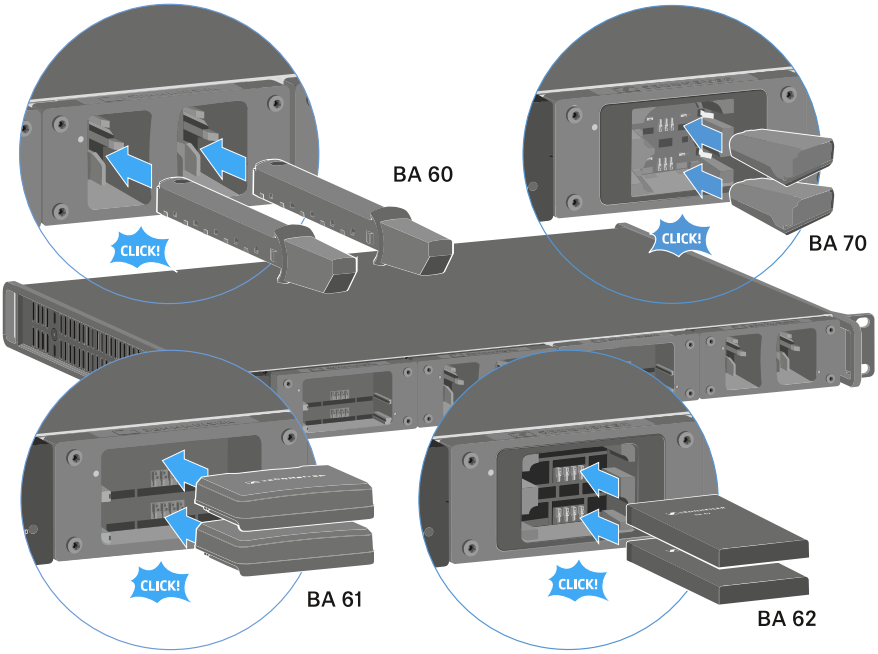
If you touch the contacts in the charging slot, they may become dirty or bent.

- When replacing and removing the rechargeable batteries, ensure that you do not touch the charging contacts in the charging slots.

To charge the rechargeable batteries:

- Insert the rechargeable battery into the charging module as shown in the figure until it audibly clicks into place.

  The rechargeable batteries can be inserted into the charging modules only in one direction. You can see the charge level of the rechargeable batteries from the LEDs on the charging modules (see Meaning of the LEDs).



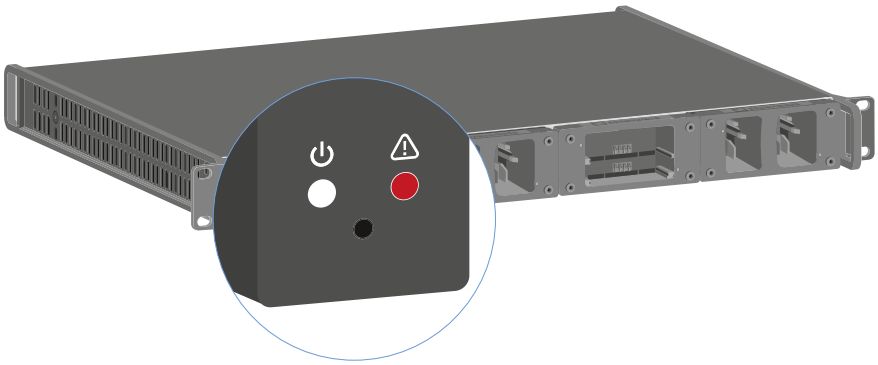
i At ambient temperatures of 45° C (113° F) and above, the rechargeable batteries can no longer be fully charged. They can only be charged to a maximum of 70 %.

Meaning of the LEDs

You can read the following information from the LEDs on the L 6000 charger and the LM 6060, LM 6061, LM 6062 and LM 6070 charging modules:

L 6000 status LEDs

The L 6000 charger has two status LEDs on the front of the device to the left.



White LED **flashing** >> device is starting or firmware is being updated

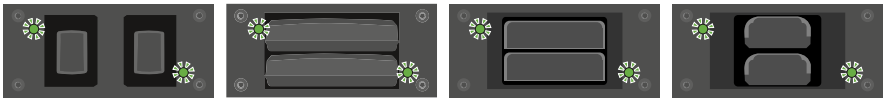
White LED **illuminated** >> device is ready for operation

Red LED **flashing** >> fan is damaged

Red LED **illuminated** >> device is too hot or too cold and the charging process was stopped

LM 6060 | LM 6061 | LM 6062 | LM 6070 status LEDs

The LM 6060, LM 6061, LM 6062 and LM 6070 modules each have two charging slots. Next to each charging slot, there is a status LED that displays the following status information:



Flashing red >> the charging slot or rechargeable battery is too hot or too cold and the charging process was stopped.

Lights up red >> the rechargeable battery is defective.

Flashing yellow >> the rechargeable battery is being regenerated.

Lights up yellow >> the rechargeable battery is being charged. Charge level **0% to 80%**

Flashing green >> the rechargeable battery is being charged. Charge level **81% to 96%**

Lights up green >> the rechargeable battery is fully charged. Charge level **100%**

LM 6060, LM 6061, LM 6062 and LM 6070 status LEDs in storage mode

If you are operating the L 6000 charger in **storage mode** via **WSM**, the meaning of the status indicators changes. You can find more information under Preparing rechargeable batteries for storage (storage mode).

Preparing rechargeable batteries for storage (storage mode)

If you are not using the rechargeable batteries for a longer period of time and therefore want to store them, the rechargeable batteries should have a charge of approx. 70%.

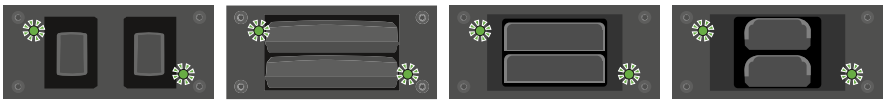
You can set this level using the **storage mode** from the Sennheiser Wireless Systems Manager (WSM) software.

- To do so, connect the L 6000 charger to a network (see Connecting the L 6000 to a network) and establish the connection with the WSM software.

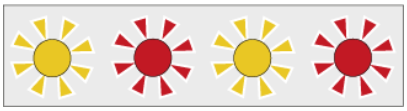
> i For more information about controlling devices via the **Sennheiser Wireless Systems Manager** (WSM) software, refer to the instruction manual for the software. You can download the software here: sennheiser.com/wsm

Meaning of the status LEDs in storage mode

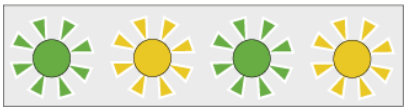
In **storage mode**, the status LEDs next to the individual charging slots show the following status information:



Flashing green/red >> rechargeable battery not inserted.



Flashing yellow/red >> the rechargeable battery is being charged or discharged to 70%.

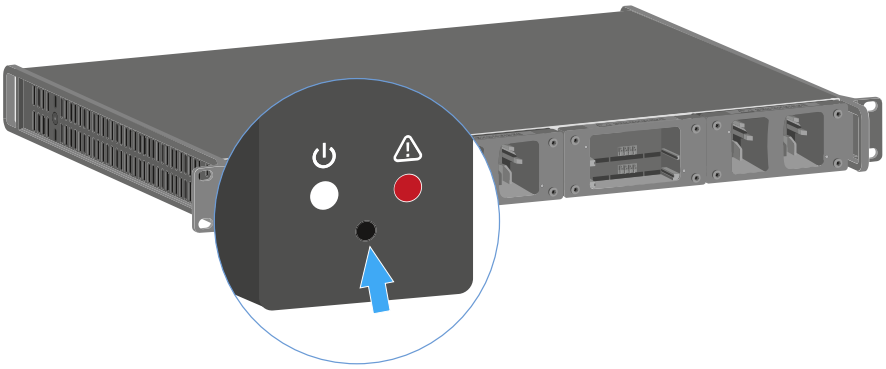


Flashing green/yellow >> the rechargeable battery has reached the storage charge level of 70%.

Resetting settings (factory reset)

To reset the L 6000 charger settings to the factory settings:

- Use a pointed object to press the Reset button on the front of the L 6000 charger.
  - The settings are reset to the factory settings.



Updating the firmware

You can update the firmware for the L 6000 charger using the Sennheiser **Wireless Systems Manager** (WSM) software.

- To do so, connect the L 6000 charger to a network (see Connecting the L 6000 to a network) and establish the connection with the WSM software.

> i For more information about controlling devices via the **Sennheiser Wireless Systems Manager** (WSM) software, refer to the instruction manual for the software. You can download the software here:
> sennheiser.com/wsm

> i You can find the **latest firmware** on the Digital 6000 product page or in the Sennheiser website's download area:
> sennheiser.com/digital-6000
>
> sennheiser.com/download

Operating the L 6000 via a network

You can use the Sennheiser **Wireless Systems Manager** software to operate the charger via a network connection.

▶ To do so, connect the L 6000 charger to a network (see Connecting the L 6000 to a network) and establish the connection with the WSM software.

> **i** For more information about controlling devices via the **Sennheiser Wireless Systems Manager** (WSM) software, refer to the instruction manual for the software. You can download the software here: sennheiser.com/wsm

You can perform the following actions using WSM:

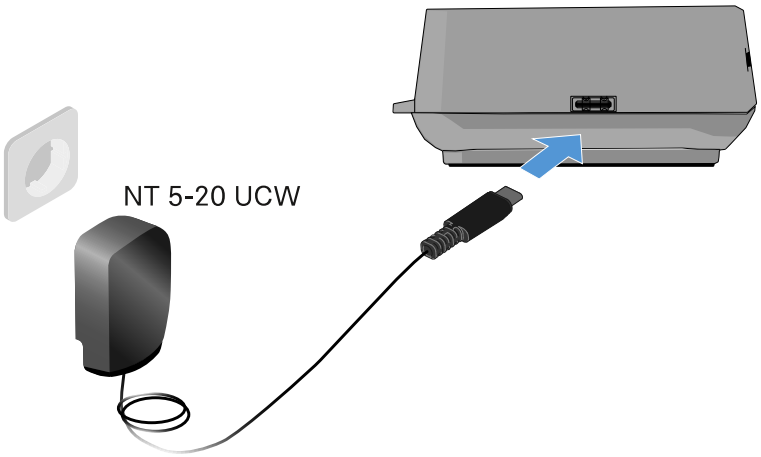
- Update the L 6000 charger firmware
- Prepare rechargeable batteries for storage (see Preparing rechargeable batteries for storage (storage mode)).

L 70 USB charger

Connecting/disconnecting the charger to/from the power supply system

To connect the charger to the power supply system:

- Use only the **NT 5-20 UCW** power supply unit from Sennheiser.
- Connect the USB-C plug on the charging cable to the USB-C port on the side of the charger.
- Plug the power supply unit with the correct country adapter into a suitable power outlet.



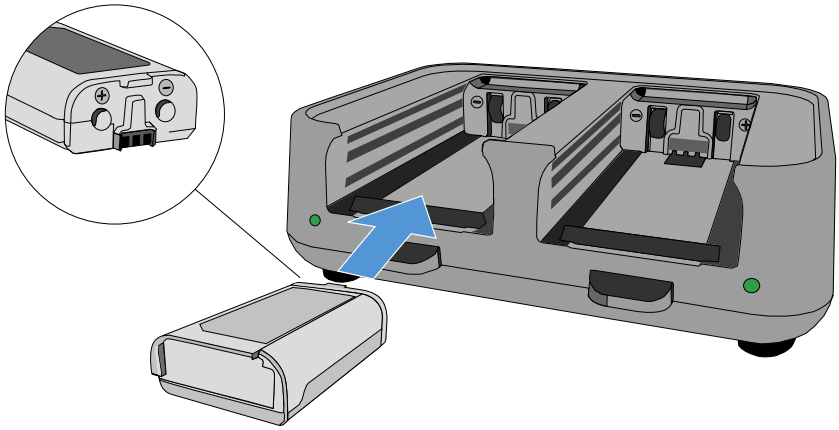
To disconnect the charger from the power supply system:

- Unplug the power supply unit from the wall socket.
- Remove the USB-C plug on the charging cable from the USB-C port on the side of the charger.

Charging the rechargeable battery

To charge the BA 70 rechargeable battery in the L 70 USB charger:

- Slide the rechargeable battery completely into the charging slot as shown in the figure.



✓ The rechargeable battery will begin charging.

The LED on the charging slot shows the battery's charge level:

LEDs	
	100 %
	> 60 %
	> 20 %
	> 0 %
	Error

Establishing a radio link

Note the following points when you establish a radio link between the transmitter and receiver.

Adjusting frequencies

To establish a radio link between the transmitter and receiver, the same frequency must be set in both devices.

You can do this in a number of different ways:

- Set a frequency in the receiving channel of the receiver (see Frequency menu item) and synchronize it with the transmitter (see Synchronizing devices).
- Automatically allocate the frequencies using the **Auto-Setup** function (see Scan & Auto-Setup menu item).
- Set the frequency on the receiving channel of the receiver and on the transmitter manually (EM 6000: Frequency menu item, SK 6000: Operating the menu of the SK 6000 bodypack transmitter, SK 6212: Operating the menu of the SK 6212 bodypack transmitter, SKM 6000: Operating the menu of the SKM 6000 handheld transmitter).

Encrypting the radio link

For maximum data security, you can activate AES 256 encryption for the radio link.

This function can be activated only on the receiver (see Encryption menu item) and then has to be synchronized to the transmitter (see Synchronizing devices).

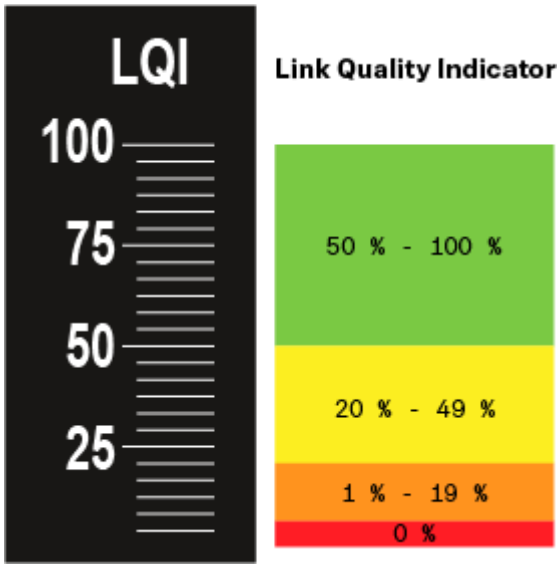
Meaning of the Link Quality Indicator

The **LQI** (Link Quality Indicator) on both EM 6000 displays shows the transmission quality for the channel in question.

On the one hand, the transmission quality depends on the field strength (**RF** indicator on the receiving channel display). However, on the other hand, it also depends on external sources of interference that cannot be identified on the **RF** indicator (for example, they may be on the same frequency or a very close neighboring frequency or may not affect the RF strength).

As a basic principle, an LQI value significantly higher than 50% should be achieved for a secure transmission.

The **LQI** display shows the following information:



Green range from 50% to 100%

- No transmission errors

The transmission quality is good enough to ensure an audio quality of 100%.

Yellow range from 20% to 49%

- Individual transmission errors: short-term error correction active
- Individual audio artifacts may be audible

There are initial transmission errors. In rare cases, there are initial audible audio artifacts. Error correction may be active in this case.

Orange range from 1% to 19%

- Frequent transmission errors: long-term error correction active
- Risk of audio drop-outs

The transmission errors increase, which means that the error correction duration also increases. There is a risk of audio drop-outs.

Red range 0%

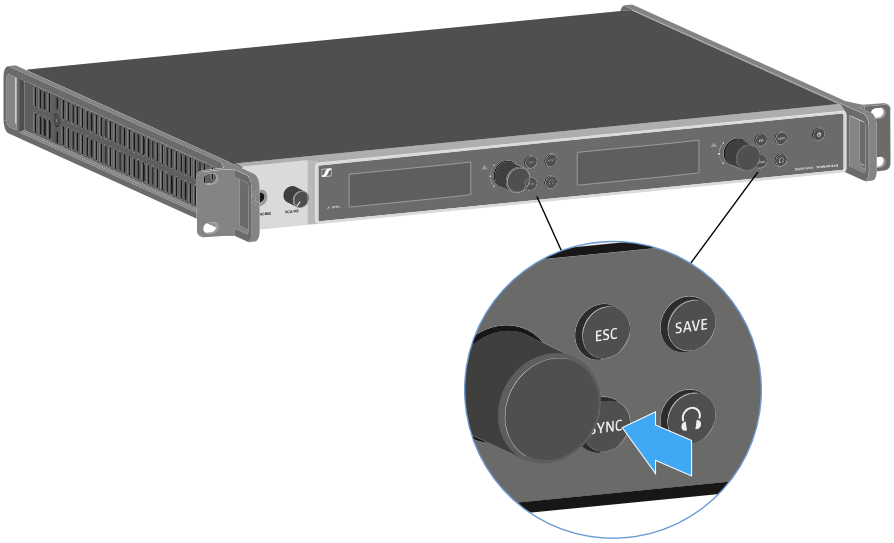
- No transmission

In this range, the transmission quality is so poor that audio drop-outs can no longer be avoided.

Synchronizing devices

To synchronize an EM 6000 receiving channel with a transmitter:

- Press the **SYNC** button for the desired receiving channel.



- Hold the transmitter in front of the EM 6000 infrared interface at a distance of between 3 and 30 cm (1 3/16" to 11 13/16").
- Ensure that you align the transmitter so that its infrared interface next to the display is pointing at the infrared interface of the EM 6000.

- Maintain the specified distance.

Cleaning and maintenance

Note the following information when cleaning and maintaining Digital 6000 series products.

NOTICE

Liquids can damage the electronics of the product

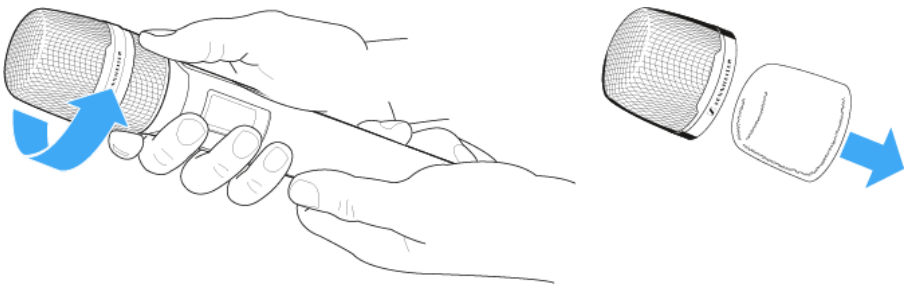
Liquids entering the product housing can cause a short-circuit and damage the electronics.

- Keep all liquids away from the products.
- Do not use any solvents or cleansing agents.
- Disconnect the mains-operated products from the power supply system and remove rechargeable batteries and batteries (if present) before you begin cleaning.
- Clean all products only with a soft, dry cloth.

- Note the special cleaning instructions below for the following products.

Cleaning the sound inlet basket of the microphone module

- Unscrew the top sound inlet basket from the microphone module by turning it counterclockwise.
- Remove the foam insert.



You can clean the sound inlet basket in two ways:

i

- Use a slightly damp cloth to clean the top sound inlet basket from the inside and outside.
- Use a brush and rinse with clean water.

- If necessary, clean the foam insert with a mild detergent or replace the foam insert.
- Dry the top sound inlet basket and foam insert.

- Reinsert the foam insert.
- Screw the sound inlet basket back onto the microphone module.

From time to time, you should also clean the microphone module contacts:

- Wipe the contacts of the microphone module with a soft, dry cloth.

Cleaning the SK 6000 bodypack transmitter contacts.

- Wipe the contacts with a dry cloth.

Cleaning the L 6000 charger

- Remove all rechargeable batteries from the charging slots.
- Disconnect the L 6000 charger from the power supply system before cleaning.
- Clean the product with a dry cloth.
- In addition, use a brush to remove dust from the charging slots.
- Clean the charging contacts from time to time with a cotton swab, for instance.

4. Knowledge base

Central hub for information, resources, and guides with further content on the product and/ or service.

Antennas

There are different types of antennas, which are used in different ways.

For information about this subject, see Recommendations for using antennas.

Frequency management and an equidistant frequency grid

The Digital 6000 series can work in an equidistant frequency grid because the transmitter and receiver are free from intermodulation.

For information about this subject, see Equidistant frequency grid.

Link Density Mode

In **Link Density** mode, the number or usable carrier frequencies in the available spectrum can be doubled.

For information about this subject, see Link Density Mode.

Word clock scenarios

The EM 6000 can output digital audio signals (AES/EBU or Dante®). When doing so, correct clocking must be ensured by using a word clock.

For information about this subject, see Word clock scenarios for digital audio (AES3 and Dante®).

Recommendations for using antennas

Rod antennas (included in the delivery)

The EM 6000 can be operated throughout the entire frequency spectrum with the UHF rod antennas included in the delivery.

For optimum range and reliability, we recommend using remote antennas because antennas directly on the device do not have the optimum distance from each other and cannot be aligned with the transmitters.

Remote antennas

We recommend using remote antennas instead of the rod antennas supplied. Remote antennas achieve better reception.

The antennas are connected to the receiver using coaxial cables and mounted on a conventional microphone stand. They should be positioned so that at least one antenna always has a free line of sight to the transmitters. The distance between the antennas should be approx. 1 to 2 m (3.3 to 6.5 ft) to ensure a good diversity response from the receiver.

> i For information about the antennas and accessories recommended by us, see Antennas and accessories.

Active vs passive antennas

Passive antennas do not require a power supply and do not have any electronics. Active antennas have a fitted amplifier and require a power supply.

If you are using active antennas:

- Activate the power supply for external antenna amplifiers in the EM 6000 system menu
- See System -> Booster Feed menu item and System menu item

If you are using passive antennas, you can use them as active antennas by using an external antenna amplifier.

General recommendation

Generally, passive antennas should be used. The EM 6000 is designed for this type of application.

Active antennas are used to balance the attenuation in the coaxial cable and supply the receivers with a sufficiently strong signal. However, this is not required with the usual cable lengths of up to approx. 10 m (32 ft).

When active antennas are used incorrectly, there is a risk of overloading the receiver. In addition, noise signals are always amplified as well as the wanted signal, which eliminates the benefit to the levels.

Types of remote antenna

Antennas with different types of pick-up pattern are available:

- **Omni-directional antennas** receive the signals from every horizontal direction equally and are not directed.
- **Directional antennas** amplify signals from a specific direction while the remaining signals are attenuated. If you want to receive only transmitters from a specific direction, for example, if the antennas are next to a stage, we recommend using this type of antenna because it can significantly improve the reception quality.

Losses due to cable properties and length

The antennas must be connected to the receivers using coaxial cables with BNC connectors.

The quality of this cable can vary greatly. The impedance must be 50 ohm and meet the RG58 standard at minimum. The cable must be mechanically undamaged and must not be kinked.

All coaxial cables have attenuation that increases with the length. Therefore, the length should not be greater than necessary and a length of 10 m (32 ft) should not be exceeded whenever possible.

- With longer cables, ensure the attenuation levels are good or use active antennas.

Equidistant frequency grid

The Digital 6000 series can work in an equidistant frequency grid because the transmitter and receiver are free from intermodulation.

In this case, all of the assigned frequencies are the same distance from each other.

- The minimum frequency spacing is then 400 kHz.
- The minimum distance from the transmitters to the antennas should be 4 m (13 ft).
- You can set up the equidistant frequency grid only if you are using exclusively Digital 6000 and Digital 9000 units in the production environment.

Setting up the equidistant frequency grid

You can set up the equidistant frequency grid in a number of different ways:

- You can set it up automatically using the **Auto Setup** function. **Frequency bank E**, which is provided for this purpose, is configured here. You can find more information about this subject under Scan & Auto-Setup menu item. To use this function, all of the EM 6000 devices must be connected to the same network.
- You can set it up via the Sennheiser **Wireless Systems Manager** (WSM) software. The **WSM** software is available to download free of charge online at sennheiser.com/wsm.
- You can set it up manually on all of the receiving channels in your production environment. Configure each receiving channel so that they have the same frequency spacing from each other (at least 400 kHz). With this variant, you can also scan the environment in banks B1 to B6 (see Scan & Auto-Setup menu item) and manually transfer the free frequencies that are then displayed to your systems.

After you set up the frequencies for the individual receiving channels, the frequencies then just have to be transferred to the corresponding transmitters via the **Sync** function.

For information about the **Sync** functions, see Synchronizing devices.

Link Density Mode

As of firmware version 3.0, the Digital 6000 series supports Link Density mode (LD mode).

LD mode doubles the number of usable carrier frequencies in the available spectrum, as the minimum distance for the equidistant frequency grid is reduced from 400 to 200 kHz.

This is achieved by reducing the transmission power and modulation bandwidth of the transmitter. This means that a much smaller frequency spacing between neighboring frequencies can be selected, and therefore more frequencies can be used in the same available spectrum without intermodulation.

> i For information about setting the transmission mode, see System -> Transmission Mode menu item.

> i For information about the equidistant frequency grid, see Equidistant frequency grid.

Use of Link Density mode is recommended if the following criteria are met:

- The required number of channels cannot be achieved using LR mode, as there may be only a small spectrum available.
- The distance from the transmitter to the antennas is not too long but also not so short that blocking effects could occur.
- The audio codec for LD mode is suitable for the required application.

Word clock scenarios for digital audio (AES3 and Dante®)

The EM 6000 supports two clock rates: **48 kHz** and **96 kHz** (see System -> Wordclock menu item).

You can use either the **internal word clock** on the EM 6000 or connect an **external word clock** (see Connecting the word clock).

An external word clock can also be forwarded to a downstream device via the word clock output. This feature allows you to cascade up to 16 EM 6000 devices.

> **i** Note that only the word clock on the word clock input can be forwarded via the word clock output. The internal word clock is not forwarded via the word clock output.

Word clock with analog audio

A clock generator is always required. For purely analog audio, the internal word clock has to be used for clocking because a digital clock generator is not available. If an external word clock is connected but no usable signal is detected, the EM 6000 automatically switches to the internal word clock.

For the analog audio outputs on the EM 6000, the clock rate is unimportant because it always operates at the better clock rate of 96 kHz. The selection of the clock rate affects only the clocking for the AES3 stream and the Dante® interface (see Word clock with digital audio).

Word clock with digital audio

If multiple devices with digital audio signals are connected in a production environment, their clock signals must be synchronized via a word clock, otherwise audio errors occur. The word clock of one device becomes the master. All of the other devices become slaves and synchronize with the master.

AES3

The selection of the internal clock rate determines the clocking for the AES3 stream. In an AES3 application, the device connected to the EM 6000 via the digital audio output can be synchronized via the audio stream.

If there are multiple AES3 connections, the EM 6000 must be synchronized with all of the other devices externally via the word clock input and output.

Dante®

The **Audinate Brooklyn II** Dante® interface installed in the EM 6000 should be understood as a standalone digital audio device with its own word clock and also has to be clocked either internally or externally.

> i You require the **Dante Controller** software from **Audinate** for these settings. You can access it using the following link: audinate.com/products/software/dante-controller.

Defining the master and slave

The EM 6000 word clock input, the EM 6000 internal word clock, the word clock of the Audinate Brooklyn II Dante® interface, or the Dante® network can be defined as the master.

To define the internal word clock of the EM 6000 as the master:

- In the **Wordclock** menu in the EM 6000 **System** menu item, choose the option **Internal 48 kHz** or **Internal 96 kHz** (see System -> Wordclock menu item).
- In the **Audinate Dante Controller** software, activate the options **Enable Sync to External** and **Preferred Master**.

To define the BNC word clock input of the EM 6000 as the master:

- In the **Wordclock** menu in the EM 6000 **System** menu item, choose the option **External BNC** (see System -> Wordclock menu item).
- In the **Audinate Dante Controller** software, activate the options **Enable Sync to External** and **Preferred Master**.

To define the Dante® interface of the EM 6000 as the master:

- In the **Wordclock** menu in the EM 6000 **System** menu item, choose the option **External Dante** (see System -> Wordclock menu item).
- In the **Audinate Dante Controller** software, deactivate the option **Enable Sync to External**.
- In the **Audinate Dante Controller** software, activate the option **Preferred Master**.

To define the Dante® interface of the EM 6000 as the slave:

- In the **Wordclock** menu in the EM 6000 **System** menu item, choose the option **External Dante** (see System -> Wordclock menu item).
- In the **Audinate Dante Controller** software, deactivate the options **Enable Sync to External** and **Preferred Master**.

5. Specifications

All specifications at a glance.

The following sections contain information about the system specifications and the individual product specifications.

System

Frequency range

- 470 – 714 MHz

Transmission system

- Digital modulation
- LR mode (Long Range): Min. frequency spacing for equidistant grid: 400 kHz
- LD mode (Link Density): Min. frequency spacing for equidistant grid: 200 kHz

Audio codec

- LR mode: SeDAC (Sennheiser Digital Audio Codec)
- LD mode: SePAC (Sennheiser Performance Audio Codec)

Dynamic range

- 111 dB(A), typical

Latency

- Analog audio out: 3 ms (LR) / 3.2 ms (LD)
- Digital audio out (AES-EBU): 3 ms (LR) / 3.2 ms (LD)

Total harmonic distortion (THD)

- < 0.03 % (@ 1 kHz)

Encryption

- AES 256

Temperature

- Operation: -10 °C to +50 °C (14 °F to 122 °F)
- Storage: -25 °C to +70 °C (-13 °F to 158 °F)

Relative humidity

- Operation: Max. 85% at 40 °C (104 °F) (non-condensing)
- Storage: Max. 90% at 40 °C (104 °F) (non-condensing)

Dripping and splashing liquids

- The product must not be exposed to dripping and splashing (IP2X)

EM 6000 2-channel receiver

Receiving channels

- 2

Receiver principle

- Double superheterodyne

Diversity

- True bit diversity

Frequency range

- 470 – 714 MHz

Sensitivity

- -100 dBm, typical

Image rejection

- > 100 dB, typical

Audio frequency response

- LR mode: 30 Hz to 20 kHz (1.5 dB)
- LD mode: 30 Hz to 14 kHz (1.5 dB)

Analog audio outputs

- One XLR-3 and 6.3 mm (1/4") jack per channel (transformed-balanced),
- -10 dBu to +18 dBu in increments of 1 dB (2 kΩ)

Digital audio outputs

- AES3-2003, XLR-3: 48 kHz, 96 kHz, 24 bit
- Can be externally synchronized using WCLK loop-through with BNC sockets

Headphone output

- 6.3 mm jack, 2× 100 mW at 32 Ω

Antenna inputs

- 2× BNC (50 Ω)

Daisy chain outputs

- 2× BNC (50 Ω)
- 0 dB +/- 0.5 dB amplification relative to antenna inputs

Daisy-chained receivers (HF)

- Max. 8 EM 6000 units

Booster supply voltage

- 12 V DC, max. 200 mA each via antenna sockets, short circuit proof

Word clock input

- BNC, 75 Ω

Word clock output

- BNC, 75 Ω

Word clock sampling rates

- 48 kHz, 96 kHz

Network

- IEEE 802.3-2002 (10/100 Mbit/s), shielded RJ-45 connection

Power supply

- AC 100 – 240 V, 50/60 Hz

Power consumption

- Max. 35 W

Power plug

- 3-pin, protection class I as per IEC/EN 60320-1

Dimensions (H × W × D with mounting elements)

- 44 x 483 x 373 mm

Weight

- Approx. 5.2 kg

EM 6000 DANTE 2-channel receiver

Receiving channels

- 2

Receiver principle

- Double superheterodyne

Diversity

- True bit diversity

Frequency range

- 470 – 714 MHz

Sensitivity

- -100 dBm, typical

Image rejection

- > 100 dB, typical

Audio frequency response

- LR mode: 30 Hz to 20 kHz (1.5 dB)
- LD mode: 30 Hz to 14 kHz (1.5 dB)

Analog audio outputs

- One XLR-3 and 6.3 mm (1/4") jack per channel (transformed-balanced),
- -10 dBu to +18 dBu in increments of 1 dB (2 kΩ)

Digital audio outputs

- AES3-2003, XLR-3: 48 kHz, 96 kHz, 24 bit
- Dante®, RJ-45: 48 kHz, 96 kHz, 24 bit
- Can be externally synchronized using WCLK loop-through with BNC sockets

Headphone output

- 6.3 mm jack, 2× 100 mW at 32 Ω

Antenna inputs

- 2× BNC (50 Ω)

Daisy chain outputs

- 2× BNC (50 Ω)
- 0 dB +/- 0.5 dB amplification relative to antenna inputs

Daisy-chained receivers (HF)

- Max. 8 EM 6000 units

Booster supply voltage

- 12 V DC, max. 200 mA each via antenna sockets, short circuit proof

Word clock input

- BNC, 75 Ω

Word clock output

- BNC, 75 Ω

Word clock sampling rates

- 48 kHz, 96 kHz

Network

- IEEE 802.3-2002 (10/100 Mbit/s), shielded RJ-45 connection

Dante®

- IEEE 802.3 (1000 Mbit/s), 2× shielded RJ-45 connection

Power supply

- AC 100 – 240 V, 50/60 Hz

Power consumption

- Max. 35 W

Power plug

- 3-pin, protection class I as per IEC/EN 60320-1

Dimensions (H × W × D with mounting elements)

- 44 x 483 x 373 mm

Weight

- Approx. 5.2 kg

SKM 6000 handheld transmitter

Frequency range

- 470200 – 718000 MHz
- Different frequency variants: see SKM 6000 handheld transmitter

Switching bandwidth

- up to 88 MHz

Frequency stability

- < 5 ppm

Tunability

- 25 kHz steps

Lower frequency limit (-3 dB)

- Adjustable: 60 Hz, 80 Hz, 100 Hz, 120 Hz

RF output power

- LR mode: 25 mW rms
- LD mode: 1 mW rms

Audio frequency response

- LR mode: 30 Hz to 20 kHz (3 dB)
- LD mode: 30 Hz to 14 kHz (3 dB)

Audio preamplifier

- Can be set in 3 dB steps from 0 dB to +62 dB (for each capsule)

Operating time

- 5.5 h (with BA 60 rechargeable battery)

Dimensions (L × D)

- 270 × 40 mm (10 5/8" x 1 9/16")

Weight

- Approx. 350 g (with BA 60 accupack and ME 9005 microphone module)

SK 6000 bodypack transmitter

Frequency range

- 470200 – 718000 MHz
- Different frequency variants: see SK 6000 bodypack transmitter

Switching bandwidth

- up to 88 MHz

Frequency stability

- < 5 ppm

Tunability

- 25 kHz steps

Lower frequency limit (-3 dB)

- Adjustable: 60 Hz, 80 Hz, 100 Hz, 120 Hz

RF output power

- LR mode: 25 mW rms
- LD mode: 3.5 mW rms

Audio frequency response

- LR mode: 30 Hz to 20 kHz (3 dB)
- LD mode: 30 Hz to 14 kHz (3 dB)

Audio preamplifier

- Mic: adjustable in 3 dB steps from 0 dB to +42 dB
- Instruments/line: adjustable in increments of 3 dB from -6 dB to +42 dB

Mic/line input

- 3-pin audio socket

Instrument cable emulation

- Adjustable cable length with 3 steps

Antenna output

- Coaxial socket

Operating time

- 6.5 h (with BA 61 rechargeable battery)

Dimensions (H × W × D)

- 76 x 62 x 20 mm (with BA 61 rechargeable battery)

Weight

- Approx. 147 g (with BA 61 rechargeable battery and belt clip)

SK 6212 bodypack transmitter

Frequency range

- 470200 – 718000 MHz
- Different frequency variants: see SK 6212 bodypack transmitter

Switching bandwidth

- up to 88 MHz

Frequency stability

- < 5 ppm

Tunability

- 25 kHz steps

Lower frequency limit (-3 dB)

- Adjustable: 30 Hz, 60 Hz, 80 Hz, 100 Hz, 120 Hz

RF output power

- LR mode
    - Standard: 15 mW rms
    - Low: 3.5 mW rms
- LD mode: 3.5 mW rms

Audio frequency response

- LR mode: 30 Hz to 20 kHz (3 dB)
- LD mode: 30 Hz to 14 kHz (3 dB)

Audio preamplifier

- Mic: adjustable in 3 dB steps from -6 dB to +42 dB

Audio input

- 3-pin audio socket

Total harmonic distortion (THD)

- 0.002 % (typ.)

Signal-to-noise ratio

- Typically 113 dB(A)

Antenna output

- Coaxial socket

Operating time

- Typically 12 h at 25° C (with BA 62 rechargeable battery)

Dimensions (H × W × D)

- 63 x 47 x 20 mm

Weight

- Approx. 112 g (with BA 62 rechargeable battery and belt clip)

Modular L 6000 charger

Charging capacity

- Up to 8 rechargeable batteries (BA 60, BA 61, BA 62 and BA 70) across 4 exchangeable charging modules (LM 6060, LM 6061, LM 6062 and LM 6070)

Charging times at 20° C

- BA 60
  - 80%: approx. 1:15 h (approx. 4:45 h operating time)
  - Full: approx. 2:30 h
- BA 61
  - 80%: approx. 1:45 h (approx. 5:00 h operating time)
  - Full: approx. 3:15 h
- BA 62
  - 80%: approx. 1:15 h (approx. 9:30 h operating time)
  - Full: approx. 2:45 h
- BA 70
  - 80%: approx. 1:45 h
  - Full: approx. 3:30 h

Charging temperature range

- 0 to 50 °C (32 °F to 122 °F)

Charging status display

- Multi-colored

Network

- IEEE 802.3-2002 (10/100 Mbit/s), shielded RJ-45 connection

Power supply

- AC 100 – 240 V, 50/60 Hz

Maximum power consumption

- 85 W

Minimum power consumption

- 1 W

Power plug

- 3-pin, protection class I as per IEC/EN 60320-1

Dimensions (H x W x D with mounting elements)

- 44 x 483 x 373 mm (1.73" x 19.02" x 14.69")

Weight

- 5.1 kg (11.24 lbs)

LM 6060 | LM 6061 | LM 6062 | LM 6070 charging modules

Dimensions (H x W x L)

- 44 x 99 x 182 mm (1.73" x 3.9" x 7.17")

Weight

- 144 g (0.32 lbs)

Rechargeable battery type

- LM 6060: 2x BA 60
- LM 6061: 2x BA 61
- LM 6062: 2x BA 62
- LM 6070: 2x BA 70

L 70 USB charger

Charging capacity

2 Sennheiser BA 70 rechargeable battery packs

2x Sennheiser battery BA 62 with 2x L 70 adapter BA 62

Input voltage

Typically 5 V

Input current

max. 2 A

Charging voltage

nominally 4.35 V

Charging current

max. 860 mA per battery pack

Charging time

max. 3.5 h with NT 5-20 UCW power supply unit

Temperature range

- Charging: 0 °C to +55 °C
- Storage: -20 °C to +70 °C

Relative humidity

Max. 95% (non-condensing)

Dimensions

100 × 35 × 70 mm (1 3/4" x 3 7/8" x 7 3/16")

Weight

Approx. 86 g

BA 60 | BA 61 | BA 62 rechargeable batteries

Charging capacity

- BA 60: 1700 mAh
- BA 61: 2000 mAh
- BA 62: 1210 mAh

Output voltage

- BA 60: 3.6 V
- BA 61: 3.7 V
- BA 62: 3.8 V

6. Regulatory information

Information on manufacturer declarations, environmental and disposal notices, and terms of use.

Model: EM 6000, EM 6000 DANTE, L 6000, SK 6000, SKM 6000, SKM 6212

Conditions and restrictions for using frequencies

There may be special conditions and restrictions for using frequencies in your country.

Before putting the product into operation, find the information for your country at the following address: sennheiser.com/sifa.

Warranty

Sennheiser electronic SE & Co. KG gives a warranty of 24 months on these products.

For the current warranty conditions, please visit our website at sennheiser.com or contact your Sennheiser partner.

In the US please contact:

Sennheiser Electronic Corporation

1 Enterprise Drive, Old Lyme, CT 06371

www.sennheiser.com

Warranty for Australia and New Zealand only

Sennheiser Australia Pty Ltd provides a warranty of 24 months on these products. For the current warranty conditions, visit Sennheiser website: Australia: sennheiser.com, New Zealand: sennheiser.com

Sennheiser goods come with guarantees that cannot be excluded under Australian and New Zealand Consumer law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

This warranty is in addition to other rights or remedies under law. Nothing in this warranty excludes, limits or modifies any remedy available to be consumer which is granted by law.

To make a claim under this contract, raise a case via Sennheiser website. Australia: sennheiser.com/support, New Zealand: sennheiser.com/support

All expenses of claiming the warranty will be borne by the person making the claim.

Sennheiser international warranty is provided by: Sennheiser Australia Pty Ltd (ABN 68 165 388 312) Level 14, Tower A Zenith Building, 821 Pacific Highway, Chatswood NSW 2067, Australia

Notes on disposal

The symbol of the crossed-out dumpster on the product, the (rechargeable) battery (if applicable) and/or the packaging indicates that these products must not be disposed of with normal household waste, but must be disposed of separately at the end of their service life. For the packaging, follow the regulations in your country for separating waste. Improper disposal of packaging materials can be harmful to your health and the environment.

The separate collection of waste electrical and electronic equipment, (rechargeable) batteries (if applicable) and packaging is intended to promote reuse and recycling and to prevent negative impacts on public health and the environment, for example due to hazardous substances contained in these products. At the end of their service life, recycle electrical and electronic equipment and (rechargeable) batteries so that their materials can be reused and to prevent environmental pollution.

If (rechargeable) batteries can be removed without destroying them, you are obliged to dispose of them separately (see the product's operating instructions for information on how to remove the batteries safely). Be especially careful when handling (rechargeable) batteries containing lithium, as these pose special hazards, such as the risk of fire and/or health risks if button cells are swallowed. Reduce battery waste as much as possible by using longer-life batteries or rechargeable batteries.

Further information on the recycling of these products can be obtained from your municipal administration, from the municipal collection points, or from your Sennheiser partner. You may also be able to return electrical or electronic equipment to your distributor, if they are legally required to do so. By disposing of your batteries properly, you are helping to protect public health and the environment.

EM 6000 | EM 6000 DANTE

Europe

In compliance with the following requirements

- Regulation (EU) 2023/988 on general product safety
- WEEE Directive (2012/19/EU)
- Regulation (EU) 2023/1542 concerning batteries and waste batteries

Italy:

Raccolta carta 20 PAP

Raccolta plastica 04 LDPE

France:

FR

Carton d'emballage
+ Mousse en PE
+ Notice d'emploi en papier

EU Declaration of conformity

- RoHS Directive (2011/65/EU)

Hereby, Sennheiser electronic SE & Co. KG declares that the radio equipment type EM 6000, EM 6000 DANTE is in compliance with Directive 2014/53/EU.

The full text of the EU declaration of conformity is available at the following internet address: sennheiser.com/download.

United Kingdom

UK CA

In compliance with the following requirements

- WEEE Regulations (2013)
- Battery Regulations (2015)

UK Declaration of conformity

- Radio Equipment Regulations (2017)
- RoHS Regulations (2012)

Importer: Sennheiser UK Ltd.

Pacific House, Third Avenue, Globe Park, Marlow

Buckinghamshire SL7 1EY, United Kingdom

USA

Statements regarding FCC and ISED

This device complies with part 15 of the FCC rules and RSS-210 of Innovation, Science and Economic Development Canada (ISED). 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 equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/ TV technician for help.

Changes or modifications not expressly approved by Sennheiser electronic Corp. could void the user's authority to operate the equipment.

Contact information: Sennheiser Electronic Corporation, 1 Enterprise Drive, Old Lyme, CT 06371; sennheiser.com

CAN ICES-003 (B)/NMB-003(B):

This Class B digital device complies with the Canadian ICES-003.

RSS-210 Issue 10 Annex G.6

This device operates on a no-interference, no-protection basis. Should the user seek to obtain protection from other radio services operating in the same TV bands, a radio licence is required. For further details, consult Innovation, Science and Economic Development Canada' s Client Procedures Circular CPC-2-1-28, Voluntary Licensing of Licence-Exempt Wireless Microphones in the TV Bands.

Canada

CAN RSS-Gen/CNR-Gen

Statements regarding FCC and ISED

This device complies with part 15 of the FCC rules and RSS-210 of Innovation, Science and Economic Development Canada (ISED). 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 equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/ TV technician for help.

Changes or modifications not expressly approved by Sennheiser electronic Corp. could void the user's authority to operate the equipment.

Contact information: Sennheiser Electronic Corporation, 1 Enterprise Drive, Old Lyme, CT 06371; sennheiser.com

CAN ICES-003 (B)/NMB-003(B):

This Class B digital device complies with the Canadian ICES-003.

RSS-210 Issue 10 Annex G.6

This device operates on a no-interference, no-protection basis. Should the user seek to obtain protection from other radio services operating in the same TV bands, a radio licence is required. For further details, consult Innovation, Science and Economic Development Canada's Client Procedures Circular CPC-2-1-28, Voluntary Licensing of Licence-Exempt Wireless Microphones in the TV Bands.

Australia / New Zealand

Japan

日本の電波法に準拠

本機器は、日本の電波法に準拠しています。

本機器を改変しないでください（守らない場合、付与された指定番号が無効になります）。

Japanese Radio Law Compliance

This device is granted pursuant to the Japanese Radio Law (電波法).

This device should not be modified (otherwise the granted designation number will become invalid).

LDモード

LDモードを使用することはできません。

ゼンハイザージャパン（株）

South Korea

MSIP-REM-SE9-EM6000

Vietnam

Kể từ ngày 1 tháng 12 năm 2012, các sản phẩm được sản xuất bởi Sennheiser tuân thủ Thông tư 30/2011/TT-BCT quy định về giới hạn cho phép đối với một số chất độc hại trong các sản phẩm điện và điện tử.

China

使用微功率短距离无线电发射设备应当符合国家无线电管理有关规定

（一）符合“微功率短距离无线电发射设备目录和技术要求”的具体条款和使用场景，

采用的天线类型和性能，控制、调整及开关等使用方法：

具体条款

无线传声器

用于教育、文化部门的视听训练，电影院、音乐厅、会议室等公共

场所及残疾

人士的听觉辅助使用。在旅游区作为小型广播设备应用。

若使用频率与当地声音、电视广播电台频率相同时，不得在当地

使用；若对

当地声音、电视广播接收产生干扰时，应立即停止使用，待消除干

扰或调整

到无干扰频率后方可重新使用。

1・使用频率及发射功率：

(1) 使用频率：87-108MHz

发射功率限值：

45nW(e.r.p)，手机附带无线传声器；

3mW(e.r.p)，其他设备。

(2) 使用频率：75.4-76MHz, 84-87MHz, 189.9-223MHz

发射功率限值：10mW(e.r.p)

(3) 使用频率：470-510MHz, 630-698MHz

发射功率限值：50mW(e.r.p)

2・占用带宽：不大于200kHz

3・频率容限：100×10-6

使用场景：音乐舞台、演讲台、剧院、会议

天线的类型：单极天线

性能/控制：无线电范围100米

调整及开关产品的使用方法：通过接收器的用户界面

（二）不得擅自改变使用场景或使用条件、扩大发射频率范围、加大发射功率（包括额外加装射频功率放大器），不得擅自更改发射天线；

（三）不得对其他合法的无线电台（站）产生有害干扰，也不得提出免受有害干扰保护；

（四）应当承受辐射射频能量的工业、科学及医疗（ISM）应用设备的干扰或其他合法的无线电台（站）干扰；

（五）如对其他合法的无线电台（站）产生有害干扰时，应立即停止使用，并采取措施消除干扰后方可继续使用；

（六）在航空器内和依据法律法规、国家有关规定、标准划设的射电天文台、气象雷达

站、卫星地球站（含测控、测距、接收、导航站）等军民用无线电台（站）、机场等的

电磁环境保护区域内使用微功率设备，应当遵守电磁环境保护及相关行业主管部门的规定；

（七）禁止在以机场跑道中心点为圆心、半径5000 米的区域内使用各类模型遥控器；

（八）微功率设备使用时温度和电压的环境条件

-10°C-+ 55°C的工作温度，3个1.5V AA电池，并随附机架式接收器的电源。

China RoHS

部件名称 (Parts)	有害物质										
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr6+)	多溴联苯 (PBB)	多溴二苯醚 (PBDE)	邻苯二甲酸二(2-乙基己)酯 (DEHP)	邻苯二甲酸丁苄酯 (BBP)	邻苯二甲酸二丁酯 (DBP)	邻苯二甲酸二异丁酯 (DIBP)	产品环保年限 EFUP
金属部件 (Metal parts)	x	o	o	o	o	o	o	o	o	o	15
电路模块 (Circuit Modules)	x	o	o	o	o	o	o	o	o	o	15
电缆及电缆组件 (Cables & Cable Assemblies)	x	o	o	o	o	o	o	o	o	o	15
电路开关 - 如果包含 (Circuit Breakers - if available)	x	o	o	o	o	o	o	o	o	o	15
非电子附件/耗材 Non-electrical accessories / consumables	x	o	o	o	o	o	o	o	o	o	10
外部电力适配器 - 如果包含 (external power supply - if available)	x	o	o	o	o	o	o	o	o	o	10

本表格依据 SJ/T 11364 的规定编制。

o：表示该有害物质在该部件所有均质材料中的含量均在GB/T 26572 规定的限量要求以下。

x：表示该有害物质至少在该部件的某一均质材料中的含量超出GB/T 26572 规定的限量要求。

L 6000

Model: L 6000 | LM 6060 | LM 6061 | LM 6062 | LM 6070

Europe

In compliance with the following requirements

- Regulation (EU) 2023/988 on general product safety
- WEEE Directive (2012/19/EU)
- Regulation (EU) 2023/1542 concerning batteries and waste batteries

Italy:

Raccolta carta 20 PAP

Raccolta plastica 04 LDPE

France:

FR

Carton d'emballage
+ Mousse en PE
+ Notice d'emploi en papier

EU Declaration of conformity

- RoHS Directive (2011/65/EU)
- EMC Directive (2014/30/EU)
- Low Voltage Directive (2014/35/EU)

The full text of the EU declaration of conformity is available at the following internet address: sennheiser.com/download.

United Kingdom

In compliance with the following requirements

- WEEE Regulations (2013)
- Battery Regulations (2015)

UK Declaration of conformity

- RoHS Regulations (2012)
- EMC Regulations (2016)
- Electrical Equipment (Safety) Regulations (2016)

Importer: Sennheiser UK Ltd.

Pacific House, Third Avenue, Globe Park, Marlow

Buckinghamshire SL7 1EY, United Kingdom

USA

Statements regarding FCC and ISED

This device complies with part 15 of the FCC rules and RSS-210 of Innovation, Science and Economic Development Canada (ISED). 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 equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/ TV technician for help.

Changes or modifications not expressly approved by Sennheiser electronic Corp. could void the user’s authority to operate the equipment.

Contact information: Sennheiser Electronic Corporation, 1 Enterprise Drive, Old Lyme, CT 06371; sennheiser.com

CAN ICES-003 (B)/NMB-003(B):

This Class B digital device complies with the Canadian ICES-003.

RSS-210 Issue 10 Annex G.6

This device operates on a no-interference, no-protection basis. Should the user seek to obtain protection from other radio services operating in the same TV bands, a radio licence is required. For further details, consult Innovation, Science and Economic Development Canada' s Client Procedures Circular CPC-2-1-28, Voluntary Licensing of Licence-Exempt Wireless Microphones in the TV Bands.

Canada

Statements regarding FCC and ISED

This device complies with part 15 of the FCC rules and RSS-210 of Innovation, Science and Economic Development Canada (ISED). 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 equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/ TV technician for help.

Changes or modifications not expressly approved by Sennheiser electronic Corp. could void the user's authority to operate the equipment.

Contact information: Sennheiser Electronic Corporation, 1 Enterprise Drive, Old Lyme, CT 06371; sennheiser.com

CAN ICES-003 (B)/NMB-003(B):

This Class B digital device complies with the Canadian ICES-003.

RSS-210 Issue 10 Annex G.6

This device operates on a no-interference, no-protection basis. Should the user seek to obtain protection from other radio services operating in the same TV bands, a radio licence is required. For further details, consult Innovation, Science and Economic Development Canada's Client Procedures Circular CPC-2-1-28, Voluntary Licensing of Licence-Exempt Wireless Microphones in the TV Bands.

Australia / New Zealand

Japan

日本の電波法に準拠

本機器は、日本の電波法に準拠しています。

本機器を改変しないでください（守らない場合、付与された指定番号が無効になります）。

Japanese Radio Law Compliance

This device is granted pursuant to the Japanese Radio Law (電波法).

This device should not be modified (otherwise the granted designation number will become invalid).

LDモード

LDモードを使用することはできません。

ゼンハイザージャパン（株）

South Korea

R-REM-SE9-L6000

Vietnam

Kể từ ngày 1 tháng 12 năm 2012, các sản phẩm được sản xuất bởi Sennheiser tuân thủ Thông tư 30/2011/TT-BCT quy định về giới hạn cho phép đối với một số chất độc hại trong các sản phẩm điện và điện tử.

China

使用微功率短距离无线电发射设备应当符合国家无线电管理有关规定

（一）符合“微功率短距离无线电发射设备目录和技术要求”的具体条款和使用场景，

采用的天线类型和性能，控制、调整及开关等使用方法：

具体条款

无线传声器

用于教育、文化部门的视听训练，电影院、音乐厅、会议室等公共

场所及残疾

人士的听觉辅助使用。在旅游区作为小型广播设备应用。

若使用频率与当地声音、电视广播电台频率相同时，不得在当地

使用；若对

当地声音、电视广播接收产生干扰时，应立即停止使用，待消除干

扰或调整

到无干扰频率后方可重新使用。

1．使用频率及发射功率：

(1) 使用频率：87-108MHz

发射功率限值：

45nW(e.r.p)，手机附带无线传声器；

3mW(e.r.p)，其他设备。

(2) 使用频率：75.4-76MHz, 84-87MHz, 189.9-223MHz

发射功率限值：10mW(e.r.p)

(3) 使用频率：470-510MHz, 630-698MHz

发射功率限值：50mW(e.r.p)

2．占用带宽：不大于200kHz

3．频率容限：100×10-6

使用场景：音乐舞台、演讲台、剧院、会议

天线的类型：单极天线

性能/控制：无线电范围100米

调整及开关产品的使用方法：通过接收器的用户界面

（二）不得擅自改变使用场景或使用条件、扩大发射频率范围、加大发射功率（包括额外加装射频功率放大器），不得擅自更改发射天线；

（三）不得对其他合法的无线电台（站）产生有害干扰，也不得提出免受有害干扰保护；

（四）应当承受辐射射频能量的工业、科学及医疗（ISM）应用设备的干扰或其他合法的无线电台（站）干扰；

（五）如对其他合法的无线电台（站）产生有害干扰时，应立即停止使用，并采取措施消除干扰后方可继续使用；

（六）在航空器内和依据法律法规、国家有关规定、标准划设的射电天文台、气象雷达

站、卫星地球站（含测控、测距、接收、导航站）等军民用无线电台（站）、机场等的

电磁环境保护区域内使用微功率设备，应当遵守电磁环境保护及相关行业主管部门的规定；

（七）禁止在以机场跑道中心点为圆心、半径5000 米的区域内使用各类模型遥控器；

（八）微功率设备使用时温度和电压的环境条件

-10°C-+ 55°C的工作溫度，3个1.5V AA电池，并随附机架式接收器的电源。

China RoHS 15

部件名称 (Parts)	有害物质										
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr6+)	多溴联苯 (PBB)	多溴二苯醚 (PBDE)	邻苯二甲酸二(2-乙基己)酯 (DEHP)	邻苯二甲酸丁苄酯 (BBP)	邻苯二甲酸二丁酯 (DBP)	邻苯二甲酸二异丁酯 (DIBP)	产品环保年限 EFUP
金属部件 (Metal parts)	x	o	o	o	o	o	o	o	o	o	15
电路模块 (Circuit Modules)	x	o	o	o	o	o	o	o	o	o	15
电缆及电缆组件 (Cables & Cable Assemblies)	x	o	o	o	o	o	o	o	o	o	15
电路开关 - 如果包含 (Circuit Breakers - if available)	x	o	o	o	o	o	o	o	o	o	15
非电子附件/耗材 Non-electrical accessories / consumables	x	o	o	o	o	o	o	o	o	o	10
外部电力适配器 - 如果包含 (external power supply - if available)	x	o	o	o	o	o	o	o	o	o	10

本表格依据 SJ/T 11364 的规定编制。

o：表示该有害物质在该部件所有均质材料中的含量均在GB/T 26572 规定的限量要求以下。

x：表示该有害物质至少在该部件的某一均质材料中的含量超出GB/T 26572 规定的限量要求。

SK 6000 | SKM 6000

Europe

Range A1-A4 (470.200 - 558.000 MHz), Range A5-A8 (550.000 - 638.000 MHz), Range B1-B4 (630.000 - 718.000 MHz), Range A5-A8 US (550.000 - 607.800 MHz):

In compliance with the following requirements

- Regulation (EU) 2023/988 on general product safety
- WEEE Directive (2012/19/EU)
- Regulation (EU) 2023/1542 concerning batteries and waste batteries

Italy:

Raccolta carta 20 PAP

Raccolta plastica 04 LDPE

France:

FR

Carton d'emballage
+ Mousse en PE
+ Notice d‘emploi en papier

EU Declaration of conformity

- RoHS Directive (2011/65/EU)

Hereby, Sennheiser electronic SE & Co. KG declares that the radio equipment type SK 6000, SKM 6000 are in compliance with Directive 2014/53/EU.

The full text of the EU declaration of conformity is available at the following internet address: sennheiser.com/download.

United Kingdom

Range A1-A4 (470.200 - 558.000 MHz), Range A5-A8 (550.000 - 638.000 MHz), Range B1-B4 (630.000 - 718.000 MHz), Range A5-A8 US (550.000 - 607.800 MHz):

In compliance with the following requirements

- WEEE Regulations (2013)
- Battery Regulations (2015)

UK Declaration of conformity

- RoHS Regulations (2012)
- Radio Equipment Regulations (2017)

Importer: Sennheiser UK Ltd.

Pacific House, Third Avenue, Globe Park, Marlow

Buckinghamshire SL7 1EY, United Kingdom

USA

Statements regarding FCC and ISED

This device complies with part 15 of the FCC rules and RSS-210 of Innovation, Science and Economic Development Canada (ISED). 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 equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/ TV technician for help.

Changes or modifications not expressly approved by Sennheiser electronic Corp. could void the user’s authority to operate the equipment.

Contact information: Sennheiser Electronic Corporation, 1 Enterprise Drive, Old Lyme, CT 06371; sennheiser.com

CAN ICES-003 (B)/NMB-003(B):

This Class B digital device complies with the Canadian ICES-003.

RSS-210 Issue 9 Annex G.1

This device operates on a no-interference, no-protection basis. Should the user seek to obtain protection from other radio services operating in the same TV bands, a radio licence is required. For further details, consult Innovation, Science and Economic Development Canada' s Client Procedures Circular CPC-2-1-28, Voluntary Licensing of Licence-Exempt Wireless Microphones in the TV Bands.

Range A1-A4 (470.200 - 558.000 MHz)	SK 6000: FCC ID: DMOSK9000
	SKM 6000: FCC ID: DMOSKM9000
Range A5-A8 (550.000 - 607.800 MHz)	SK 6000: FCC ID: DMOSK9000
	SKM 6000: FCC ID: DMOSKM9000

Canada

Statements regarding FCC and ISED

This device complies with part 15 of the FCC rules and RSS-210 of Innovation, Science and Economic Development Canada (ISED). 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 equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/ TV technician for help.

Changes or modifications not expressly approved by Sennheiser electronic Corp. could void the user's authority to operate the equipment.

CAN ICES-003 (B)/NMB-003(B):

This Class B digital device complies with the Canadian ICES-003.

RSS-210 Issue 9 Annex G.1

This device operates on a no-interference, no-protection basis. Should the user seek to obtain protection from other radio services operating in the same TV bands, a radio licence is required. For further details, consult Innovation, Science and Economic Development Canada's Client Procedures Circular CPC-2-1-28, Voluntary Licensing of Licence-Exempt Wireless Microphones in the TV Bands.

Range A1-A4 (470.200 - 558.000 MHz)	SK 6000: IC: 2099A-SK9000
	SKM 6000: IC: 2099A-SKM9000
Range A5-A8 (550.000 - 607.800 MHz)	SK 6000: IC: DMOSK9000
	SKM 6000: IC: DMOSKM9000

Australia / New Zealand

Range A5-A8 (550.000 - 638.000 MHz)

Brazil

Range A1-A4 (470.200 - 558.000 MHz), Range A5-A8 US (550.000 - 607.800 MHz)

ANATEL
Agência Nacional de Telecomunicações

India

Range A1-A4 (470.200 - 558.000 MHz), Range A5-A8 (550.000 - 638.000 MHz), Range B1-B4 (630.000 - 718.000 MHz)

IS 616/IEC 60065

R-41196606
www.bis.gov.in

Japan

日本の電波法に準拠

本機器は、日本の電波法に準拠しています。

本機器を改変しないでください（守らない場合、付与された指定番号が無効になります）。

Japanese Radio Law Compliance

This device is granted pursuant to the Japanese Radio Law (電波法).

This device should not be modified (otherwise the granted designation number will become invalid).

ゼンハイザージャパン（株）

Range A1-A4 JP (470.150 - 558.000 MHz)	SK 6000 SKM 6000	R 202-LSE007 R 204-LSE074
Range A5-A8 JP (550.000 - 638.000 MHz)	SK 6000 SKM 6000	R 202-LSE078 R 204-LSE075
Range B1-B4 JP (630.000 - 713.850 MHz)	SK 6000 SKM 6000	R 202-LSE079 R 204-LSE076

South Korea

Range A1-A4 KR (470.100 - 558.000 MHz)	SK 6000: MSIP-CRM-SE9-SK9000-A1-A4
	SKM 6000: MSIP-CRM-SE9-SKM9000-A1-A4

Range A5-A8 KR (550.000 - 638.000 MHz)	SK 6000: MSIP-CRM-SE9-SK9000-A5-A8 SKM 6000: MSIP-CRM-SE9-SKM9000-A5-A8
Range B1-B4 KR (630.000 - 697.850 MHz)	SK 6000: MSIP-CRM-SE9-SK9000-B1-B4 SKM 6000: MSIP-CRM-SE9-SKM9000-B1-B4

Vietnam

Kể từ ngày 1 tháng 12 năm 2012, các sản phẩm được sản xuất bởi Sennheiser tuân thủ Thông tư 30/2011/TT-BCT quy định về giới hạn cho phép đối với một số chất độc hại trong các sản phẩm điện và điện tử.

China

使用微功率短距离无线电发射设备应当符合国家无线电管理有关规定

（一）符合“微功率短距离无线电发射设备目录和技术要求”的具体条款和使用场景，

采用的天线类型和性能，控制、调整及开关等使用方法：

具体条款

无线传声器

用于教育、文化部门的视听训练，电影院、音乐厅、会议室等公共

场所及残疾

人士的听觉辅助使用。在旅游区作为小型广播设备应用。

若使用频率与当地声音、电视广播电台频率相同时，不得在当地

使用；若对

当地声音、电视广播接收产生干扰时，应立即停止使用，待消除干

扰或调整

到无干扰频率后方可重新使用。

1・使用频率及发射功率：

(1) 使用频率：87-108MHz

发射功率限值：

45nW(e.r.p)，手机附带无线传声器；

3mW(e.r.p)，其他设备。

(2) 使用频率：75.4-76MHz, 84-87MHz, 189.9-223MHz

发射功率限值：10mW(e.r.p)

(3) 使用频率：470-510MHz, 630-698MHz

发射功率限值：50mW(e.r.p)

2・占用带宽：不大于200kHz

3・频率容限：100×10-6

使用场景：音乐舞台、演讲台、剧院、会议

天线的类型：单极天线

性能/控制：无线电范围100米

调整及开关产品的使用方法：通过接收器的用户界面

（二）不得擅自改变使用场景或使用条件、扩大发射频率范围、加大发射功率（包括额外加装射频功率放大器），不得擅自更改发射天线；

（三）不得对其他合法的无线电台（站）产生有害干扰，也不得提出免受有害干扰保护；

（四）应当承受辐射射频能量的工业、科学及医疗（ISM）应用设备的干扰或其他合法的无线电台（站）干扰；

（五）如对其他合法的无线电台（站）产生有害干扰时，应立即停止使用，并采取措施消除干扰后方可继续使用；

（六）在航空器内和依据法律法规、国家有关规定、标准划设的射电天文台、气象雷达

站、卫星地球站（含测控、测距、接收、导航站）等军民用无线电台（站）、机场等的

电磁环境保护区域内使用微功率设备，应当遵守电磁环境保护及相关行业主管部门的规定；

（七）禁止在以机场跑道中心点为圆心、半径5000 米的区域内使用各类模型遥控器；

（八）微功率设备使用时温度和电压的环境条件

-10°C-+ 55°C的工作溫度，3个1.5V AA电池，并随附机架式接收器的电源。

China RoHS 15

部件名称 (Parts)	有害物质										
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr6+)	多溴联苯 (PBB)	多溴二苯醚 (PBDE)	邻苯二甲酸二(2-乙基己)酯 (DEHP)	邻苯二甲酸丁苄酯 (BBP)	邻苯二甲酸二丁酯 (DBP)	邻苯二甲酸二异丁酯 (DIBP)	产品环保年限 EFUP
金属部件 (Metal parts)	x	o	o	o	o	o	o	o	o	o	15
电路模块 (Circuit Modules)	x	o	o	o	o	o	o	o	o	o	15
电缆及电缆组件 (Cables & Cable Assemblies)	x	o	o	o	o	o	o	o	o	o	15
电路开关 - 如果包含 (Circuit Breakers - if available)	x	o	o	o	o	o	o	o	o	o	15
非电子附件/耗材 Non-electrical accessories / consumables	x	o	o	o	o	o	o	o	o	o	10
外部电力适配器 - 如果包含 (external power supply - if available)	x	o	o	o	o	o	o	o	o	o	10

本表格依据 SJ/T 11364 的规定编制。

o：表示该有害物质在该部件所有均质材料中的含量均在GB/T 26572 规定的限量要求以下。

x：表示该有害物质至少在该部件的某一均质材料中的含量超出GB/T 26572 规定的限量要求。

SK 6212

Europe

In compliance with the following requirements

- Regulation (EU) 2023/988 on general product safety
- WEEE Directive (2012/19/EU)
- Regulation (EU) 2023/1542 concerning batteries and waste batteries

Italy:

Raccolta carta

20
PAP

France:

FR
Carton d'emballage
+ Notice d'emploi en papier

EU Declaration of conformity

- RoHS Directive (2011/65/EU)

Hereby, Sennheiser electronic SE & Co. KG declares that the radio equipment type SK 6212 is in compliance with Directive 2014/53/EU.

The full text of the EU declaration of conformity is available at the following internet address: sennheiser.com/download.

United Kingdom

In compliance with the following requirements

- WEEE Regulations (2013)
- Battery Regulations (2015)

UK Declaration of conformity

- RoHS Regulations (2012)
- Radio Equipment Regulations (2017)

Importer: Sennheiser UK Ltd.

Pacific House, Third Avenue, Globe Park, Marlow

Buckinghamshire SL7 1EY, United Kingdom

USA

Statements regarding FCC and ISED

This device complies with part 15 of the FCC rules and RSS-210 of Innovation, Science and Economic Development Canada (ISED). 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 equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/ TV technician for help.

Changes or modifications not expressly approved by Sennheiser electronic Corp. could void the user’s authority to operate the equipment.

CAN ICES-003 (B)/NMB-003(B):

This Class B digital device complies with the Canadian ICES-003.

Contact information: Sennheiser Electronic Corporation, 1 Enterprise Drive, Old Lyme, CT 06371; sennheiser.com

Radiofrequency radiation exposure Information

This equipment complies with FCC and IC radiation exposure limits set forth for an uncontrolled environment.

This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.

Range A1-A4 (470.200 - 558.000 MHz)	SK 6212: FCC ID: DMOX12
Range A5-A8 (550.000 - 607.800 MHz)	SK 6212: FCC ID: DMOX12

Canada

Statements regarding FCC and ISED

This device complies with part 15 of the FCC rules and RSS-210 of Innovation, Science and Economic Development Canada (ISED). 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 equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/ TV technician for help.

Changes or modifications not expressly approved by Sennheiser electronic Corp. could void the user’s authority to operate the equipment.

CAN ICES-003 (B)/NMB-003(B):

This Class B digital device complies with the Canadian ICES-003.

Radiofrequency radiation exposure Information

Cet équipement est conforme aux limites d‘exposition aux rayonnements IC établies pour un environnement non contrôlé.

This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.

Range A1-A4 (470.200 - 558.000 MHz)	SK 6212: IC: 2099A-X12
Range A5-A8 (550.000 - 607.800 MHz)	SK 6212: IC: 2099A-X12

Australia / New Zealand

Range A5-A8 (550.000 - 638.000 MHz), Range B1-B4 AU (630.000 - 693.800 MHz)

for New Zealand only: operation is limited as follows: 502 MHz - 606 MHz & 622 MHz - 698 MHz

Brazil

Range A1-A4 (470.200 - 558.000 MHz), Range A5-A8 US (550.000 - 607.800 MHz), Range B1-B4 AU: (630.000 - 693.800 MHz)

CMV SEBR COMERCIO E IMPORTACAO S/A 08525-18-07356

Philippines

Range A1-A4 (470.200 - 558.000 MHz), Range A5-A8 (550.000 - 638.000 MHz), Range B1-B4 (630.000 - 713.800 MHz)

ESD-1920218C

India

Range A1-A4 (470.200 - 558.000 MHz), Range A5-A8 (550.000 - 638.000 MHz), Range B1-B4 (630.000 - 713.800 MHz)

IS 616/IEC 60065

R-41196606
www.bis.gov.in

Japan

ゼンハイザージャパン（株）

Range A5-A8 JP (550.000 - 638.000 MHz)	R 202-SMG077
Range B1-B4 (630.000 - 713.800 MHz)	R 202-SMG078

日本の電波法に準拠

本機器は、日本の電波法に準拠しています。

本機器を改変しないでください（守らない場合、付与された指定番号が無効になります）。

Japanese Radio Law Compliance

This device is granted pursuant to the Japanese Radio Law (電波法).

This device should not be modified (otherwise the granted designation number will become invalid).

LDモード

LDモードを使用することはできません。

South Korea

Range A1-A4 KR (470.100 - 558.000 MHz)	R-C-SE9-X12-A1-A4
Range A5-A8 KR (550.000 - 638.000 MHz)	R-C-SE9-X12-A5-A8
Range B1-B4 AU (630.000 - 693.800 MHz)	R-C-SE9-X12-B1-B4

Vietnam

Kể từ ngày 1 tháng 12 năm 2012, các sản phẩm được sản xuất bởi Sennheiser tuân thủ Thông tư 30/2011/TT-BCT quy định về giới hạn cho phép đối với một số chất độc hại trong các sản phẩm điện và điện tử.

China

使用微功率短距离无线电发射设备应当符合国家无线电管理有关规定

（一）符合“微功率短距离无线电发射设备目录和技术要求”的具体条款和使用场景，

采用的天线类型和性能，控制、调整及开关等使用方法：

具体条款

无线传声器

用于教育、文化部门的视听训练，电影院、音乐厅、会议室等公共

场所及残疾

人士的听觉辅助使用。在旅游区作为小型广播设备应用。

若使用频率与当地声音、电视广播电台频率相同时，不得在当地

使用；若对

当地声音、电视广播接收产生干扰时，应立即停止使用，待消除干

扰或调整

到无干扰频率后方可重新使用。

1・使用频率及发射功率：

(1) 使用频率：87-108MHz

发射功率限值：

45nW(e.r.p)，手机附带无线传声器；

3mW(e.r.p)，其他设备。

(2) 使用频率：75.4-76MHz, 84-87MHz, 189.9-223MHz

发射功率限值：10mW(e.r.p)

(3) 使用频率：470-510MHz, 630-698MHz

发射功率限值：50mW(e.r.p)

2・占用带宽：不大于200kHz

3・频率容限：100×10-6

使用场景：音乐舞台、演讲台、剧院、会议

天线的类型：单极天线

性能/控制：无线电范围100米

调整及开关产品的使用方法：通过接收器的用户界面

（二）不得擅自改变使用场景或使用条件、扩大发射频率范围、加大发射功率（包括额外加装射频功率放大器），不得擅自更改发射天线；

（三）不得对其他合法的无线电台（站）产生有害干扰，也不得提出免受有害干扰保护；

（四）应当承受辐射射频能量的工业、科学及医疗（ISM）应用设备的干扰或其他合法的无线电台（站）干扰；

（五）如对其他合法的无线电台（站）产生有害干扰时，应立即停止使用，并采取措施消除干扰后方可继续使用；

（六）在航空器内和依据法律法规、国家有关规定、标准划设的射电天文台、气象雷达

站、卫星地球站（含测控、测距、接收、导航站）等军民用无线电台（站）、机场等的

电磁环境保护区域内使用微功率设备，应当遵守电磁环境保护及相关行业主管部门的规定；

（七）禁止在以机场跑道中心点为圆心、半径5000 米的区域内使用各类模型遥控器；

（八）微功率设备使用时温度和电压的环境条件

-10°C-+ 55°C的工作温度，3个1.5V AA电池，并随附机架式接收器的电源。

China RoHS 15

部件名称 (Parts)	有害物质										
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr6+)	多溴联苯 (PBB)	多溴二苯醚 (PBDE)	邻苯二甲酸二(2-乙基己)酯 (DEHP)	邻苯二甲酸丁苄酯 (BBP)	邻苯二甲酸二丁酯 (DBP)	邻苯二甲酸二异丁酯 (DIBP)	产品环保年限 EFUP
金属部件 (Metal parts)	x	o	o	o	o	o	o	o	o	o	15
电路模块 (Circuit Modules)	x	o	o	o	o	o	o	o	o	o	15
电缆及电缆组件 (Cables & Cable Assemblies)	x	o	o	o	o	o	o	o	o	o	15

本表格依据 SJ/T 11364 的规定编制。
o：表示该有害物质在该部件所有均质材料中的含量均在GB/T 26572 规定的限量要求以下。
x：表示该有害物质至少在该部件的某一均质材料中的含量超出GB/T 26572 规定的限量要求。

Sennheiser electronic SE & Co. KG | Am Labor 1 | 30900 Wedemark | Germany