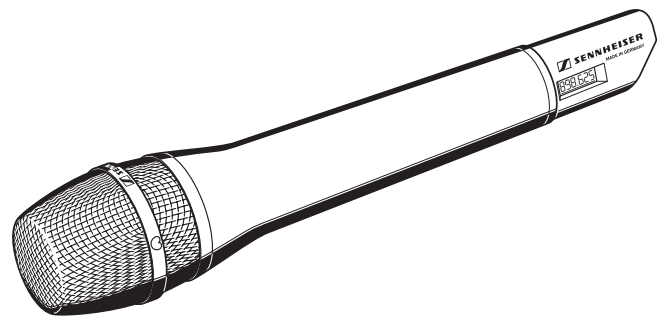


INSTRUCTIONS FOR USE

# SKM 3072-U SKM 3072-U-x



## Thank you for choosing Sennheiser!

We have designed this product to give you reliable operation over many years.

Please take a few moments to read these instructions carefully, as we want you to enjoy your new Sennheiser product quickly and to the full.



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## 1 Brief description

The SKM 3072-U is a hand-held transmitter with super-cardioid condenser microphone head and is suitable for both vocal and speech transmission. Up to 32 switchable transmission frequencies in the UHF band ensure optimum transmission.

## 2 Features

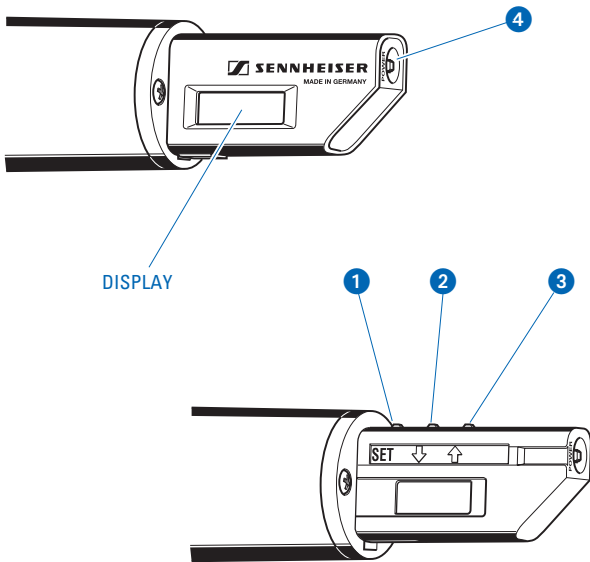
- ▶ Up to 32 switchable transmission frequencies, PLL-controlled
- ▶ “**HiDyn plus™**” noise reduction system with 110 dB(A) signal-to-noise ratio
- ▶ Input sensitivity adjustable in 4 steps
- ▶ Special “lock mode” function to prevent accidental switching off
- ▶ LC display for frequency/channel, sensitivity, “Low Batt” and lock mode
- ▶ Integrated antenna
- ▶ Interchangeable microphone heads ensure suitability for various applications. Available microphone heads:

ME 3005 e	condenser microphone head with super-cardioid pick-up pattern, suitable for vocals / “close-miking” Included in the supply schedule of SKM 3072-U.
ME 3005	condenser microphone head with super-cardioid pick-up pattern suitable for speech applications and greater talking distances. Included in the supply schedule of SKM 3072-U-x.

## 3 Sennheiser: Additional information

Your local Sennheiser distributor will be happy to provide you with information on the extensive range of Sennheiser products. He has a variety of printed material on Sennheiser products.

For up-to-date information on Sennheiser products, you can also visit the Sennheiser Web site at “<http://www.sennheiser.com>”.



## 4 Operating controls

- 1 SET button
- 2 ▽ button
- 3 ▲ button
- 4 POWER button

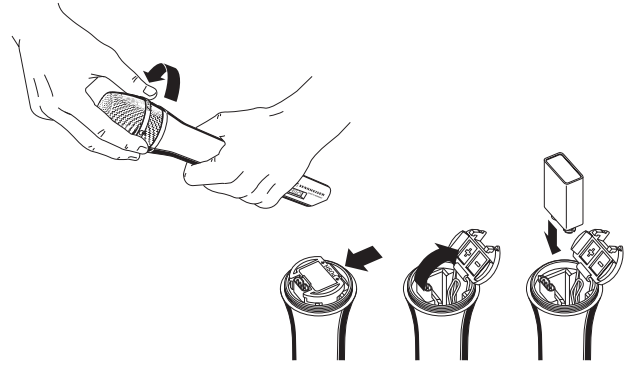
In the standard display (after switch-on), the display provides information on

- ▶ battery status
- ▶ transmission frequency or channel number

In the setting mode, the display provides information on

- ▶ sensitivity of the microphone input
- ▶ “lock mode” function

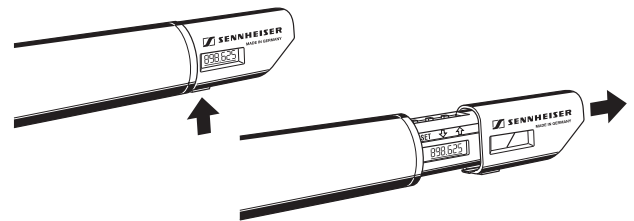
### INSERTING THE BATTERY



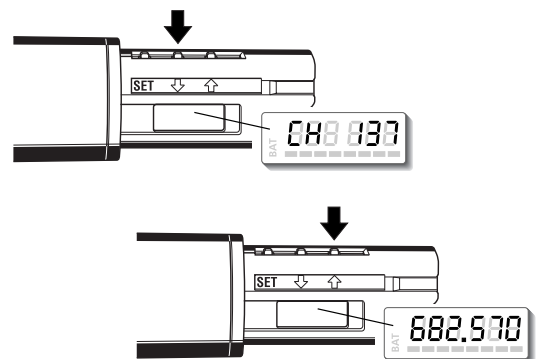
### SWITCHING ON/OFF THE SKM 3072-U



### REMOVING THE PROTECTION / IDENTIFICATION CAP

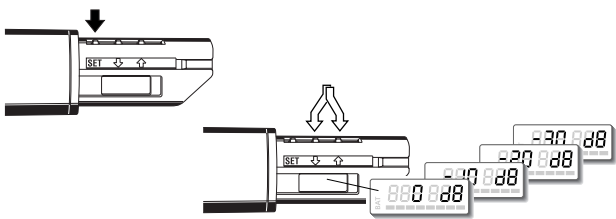


### SELECTING THE DISPLAY MODE “TRANSMISSION FREQUENCY” OR “CHANNEL”

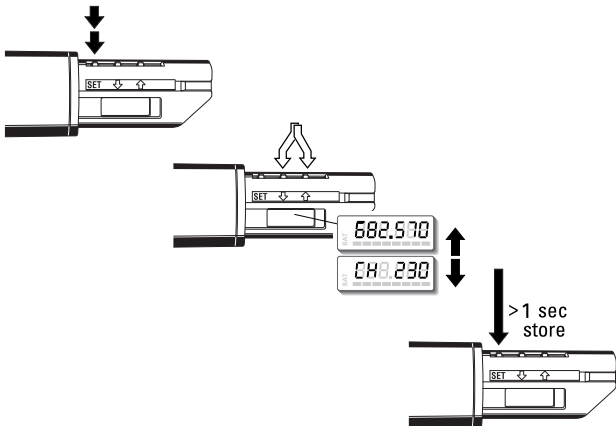


5 Short instructions (for photocopying) Please photocopy or detach

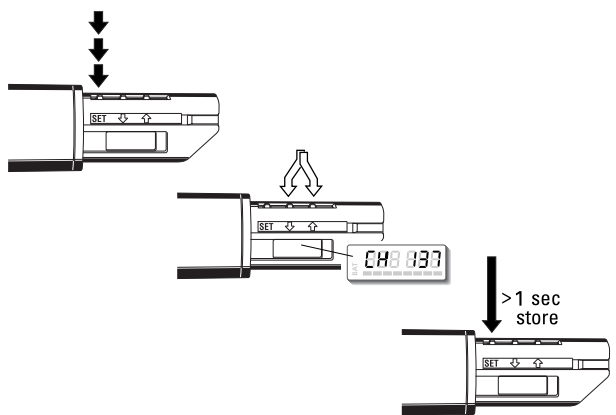
### ADJUSTING THE SENSITIVITY



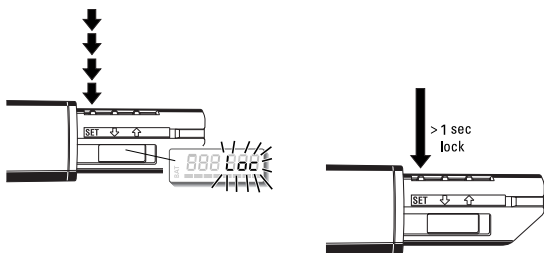
### SELECTING A TRANSMISSION FREQUENCY/CHANNEL



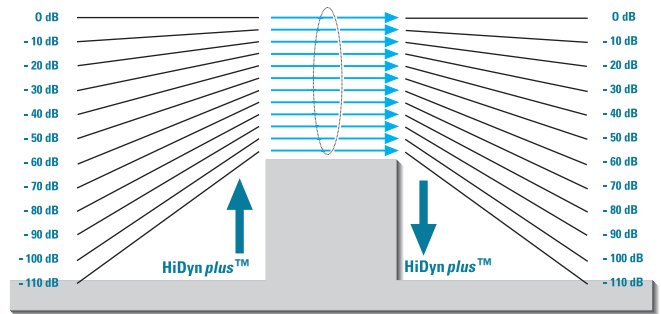
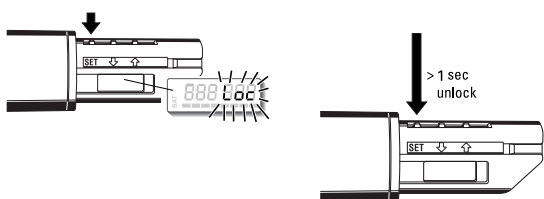
### ASSIGNING A CHANNEL NUMBER



### ACTIVATING THE "LOCK MODE" FUNCTION



### DEACTIVATING THE "LOCK MODE" FUNCTION



## 6 Noise reduction with **HiDyn plus™**

Progress you can hear:

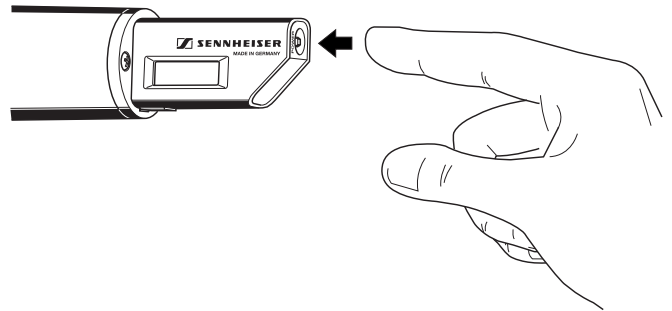
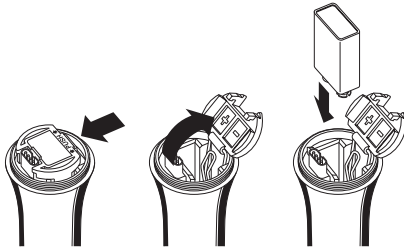
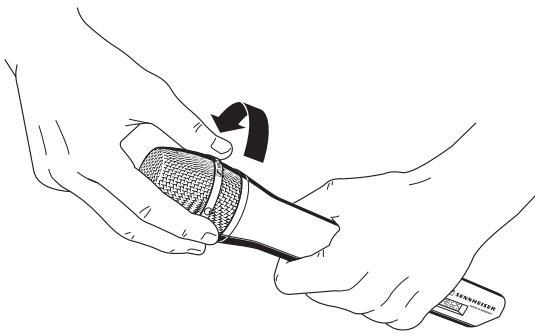
This transmitter is equipped with **HiDyn plus™**, the Sennheiser noise reduction system that reduces RF interference. It increases the signal-to-noise ratio in wireless audio transmission to up to 110 dB. The 96 dB dynamic range of a CD is thus considerably surpassed.

**HiDyn plus™** is a wideband compander system which compresses the AF level on the transmitter side in a ratio of 2:1 (related to dB), and expands it in exactly the same way on the receiver side. The optimisation of the dynamic range and the supporting effect of the control amplifier in the transmitter effectively reduce modulation problems.

**HiDyn plus™** has been specially developed for use in high quality radiomicrophone systems.

#### Note:

Only receivers which are also equipped with **HiDyn plus™** can work correctly in combination with the SKM 3072-U hand-held transmitter. If this is not the case, the dynamic range is drastically reduced and the transmission sounds high and shrill. **HiDyn plus™** cannot be switched off on the SKM 3072-U hand-held transmitter.



## 7 Changing the microphone head

The SKM 3072-U's interchangeable microphone head ensures suitability for various applications. Two different microphone heads are available:

- ▶ ME 3005 e: condenser microphone head with super-cardioid pick-up pattern (included in the supply schedule) suitable for vocals / "close-miking"
- ▶ ME 3005 : condenser microphone head with super-cardioid pick-up pattern suitable for speech applications and greater talking distances

To change the microphone head, unscrew the existing microphone head and remove it, then put the new microphone head on the SKM 3072-U and screw it tight.

## 8 Inserting the battery / rechargeable accupack

- ▶ To insert the battery, unscrew the microphone head and remove it. The battery compartment is underneath the microphone head.
- ▶ Unlock and open the lid of the battery compartment.
- ▶ Insert the 9 V PP3 battery (IEC 6 LR 61) with the contacts pointing downwards. Observe the correct polarity when inserting the battery! In case you insert the battery the wrong way round, it will not connect so that the transmitter will not be damaged.
- ▶ Close the lid of the battery compartment and lock it.
- ▶ Put the microphone head on the SKM 3072-U and screw it tight.

## 9 Putting the transmitter into operation

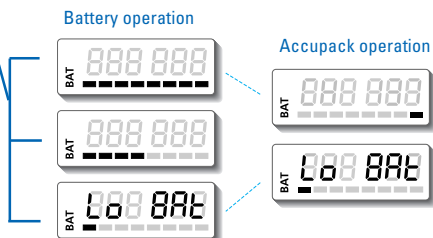
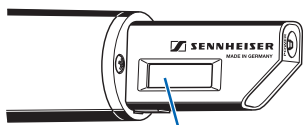
### Switching on the SKM 3072-U

- Switch the SKM 3072-U on by briefly pressing the **POWER** button. The microprocessor performs a self test which can be followed on the display.
- After about 2 seconds, the PLL has locked and the SKM 3072-U hand-held transmitter is ready for operation on the preselected frequency.

The display now indicates the preset frequency or channel number (➔ chapter 13). The available battery status is also indicated (➔ chapter 10).

### Switching off the SKM 3072-U

- Switch the SKM 3072-U off by pressing the **POWER** button for more than a second.
- "OFF" briefly appears on the display and then the display goes off.



## 10 Display of battery / rechargeable accupack status

The display indicates the (remaining) capacity of the battery / rechargeable accupack in use. The display differs for battery or accupack operation.

### Battery operation:

- ▶ If all eight LCD segments are showing, the full battery capacity is available.
- ▶ If four LCD segments are showing, about half of the battery capacity is still available.
- ▶ If the battery is going flat, only the last LCD segment is showing and the “LoBat” warning flashes in alternation with the display of the transmission frequency / channel number. You should replace the battery within the next ten minutes.

### Accupack operation

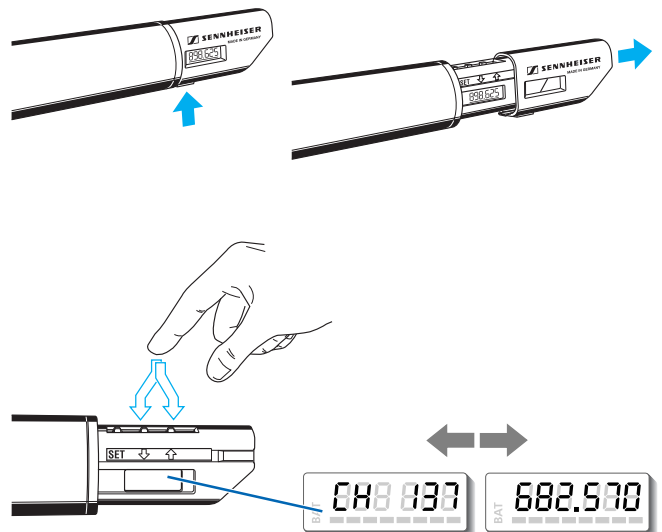
(display only if the Sennheiser BA 1032 accupack is used):

- ▶ If only the LCD segment on the right is showing, the accupack can be used.
- ▶ If the accupack is going flat, only the last LCD segment on the left is showing and the “LoBat” warning flashes in alternation with the display of the transmission frequency / channel number. You should replace the accupack within the next ten minutes.
- ▶ Intermediate capacities are not displayed. When a new accupack is inserted the right-hand LCD segment will indicate full capacity. As the accupack discharges this segment will remain on showing that the accupack is usable, when the accupack approaches full discharge the display will switch to showing the left-hand LCD segment as a warning (as described above).

Accupacks from other manufacturers cannot be “identified” by the electronics and their capacity is therefore not displayed correctly.

## 11 Sennheiser transmitters report their battery status to the receiver

Together with the RF signal, the SKM 3072-U transmits inaudible information on its remaining battery or accupack capacity to the receiver. This information can be evaluated with the Sennheiser EM 3031/EM 3032/EM 3532 or EM 1046 receivers.



## 12 Unlocking and removing the protection/ identification cap

Press the corrugated area below the microphone body to unlock the protection/identification cap and push the cap backwards until you meet resistance. The operating controls are now accessible.

The protection cap can be exchanged. To do so, push the cap further backwards over the resistance. If several SKM 3072-U hand-held transmitters are used simultaneously, the protection cap – which is supplied in various colours – also serves as an identification mark.

## 13 Display of transmission frequency or channel number

After you have switched on your SKM 3072-U, the microprocessor performs a self test which can be followed on the display. After about two seconds, the PLL has locked on the preselected transmission frequency and the standard display – the preselected transmission frequency or the channel number – is shown.

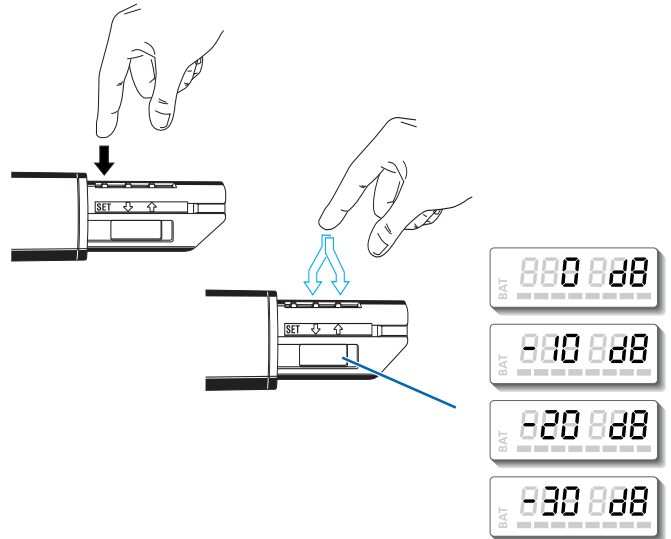
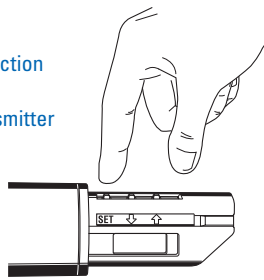
With the  $\nabla/\Delta$  buttons you can now choose the content of the display i.e. whether the transmission frequency or the channel number is displayed. Your selection is stored and remains stored even if the transmitter is switched off and on again.

- ▶  $\Delta$  button: The display of the transmission frequency is quite important for the technician as he can check in which channel grid the transmission is taking place, if the channels are interfering with each other and so on.
- ▶  $\nabla$  button: The channel number – which is the same for both transmitter and receiver – is easier to monitor for the user on stage.

With only three buttons, you can adjust any function

on the receiver

on the transmitter



## 14 Basic functions of the Sennheiser operating menu

A special feature of the Sennheiser 3000 series is the similar operation of transmitters and receivers. In stressful situations, for example on stage or during a live show or presentation, it is important that the transmitter is easy to operate and that adjustments to the transmitter settings can be made quickly and “without looking”. Therefore, the necessary operating steps for each device must be similar.

### 1 Press the SET button to get into the setting mode.

By briefly pressing the SET button, the display begins to flash and you enter the top menu level. By briefly pressing SET again, the display switches to the next menu and so on.

### 2 Press the ∇/△ buttons to adjust the settings of the selected menu.

Depending on the menu selected, you can adjust the following settings by pressing the t/s buttons:

on the receiver

receiving frequency  
receiving channel

on the transmitter

sensitivity of the microphone input  
transmission  
frequencytransmission channel  
“lock mode” function

### 3 Press the SET button to store the setting.

Settings which are “relevant to the transmission reliability” or have an impact on the complete radiomicrophone system have to be stored before they become effective. To store a setting, press the SET button for more than a second. “Sto” briefly appears on the display, indicating that your setting has been stored. The display then switches back to the standard display.

If you do not press the ∇/△ buttons or the SET button for more than 14 seconds, the setting mode is automatically left and the microprocessor switches back to the standard display.

## 15 Adjusting the sensitivity

When briefly pressing the SET button, the display indicates the preselected sensitivity. The possible settings for the ME 3005 e microphone head are the following:

- 0 dB for singers with soft voices
- 10 dB for singers with normal voices using the microphone at a greater talking distance
- 20 dB for singers with loud voices
- 30 dB for rock singers / “close-miking”

The possible settings for the ME 3005 microphone head are the following:

- 0 dB for speakers with soft voices
- 10 dB for speakers with normal voices using the microphone at a greater talking distance
- 20 dB for speakers with loud voices
- 30 dB for “close-miking” (e.g. presentations)

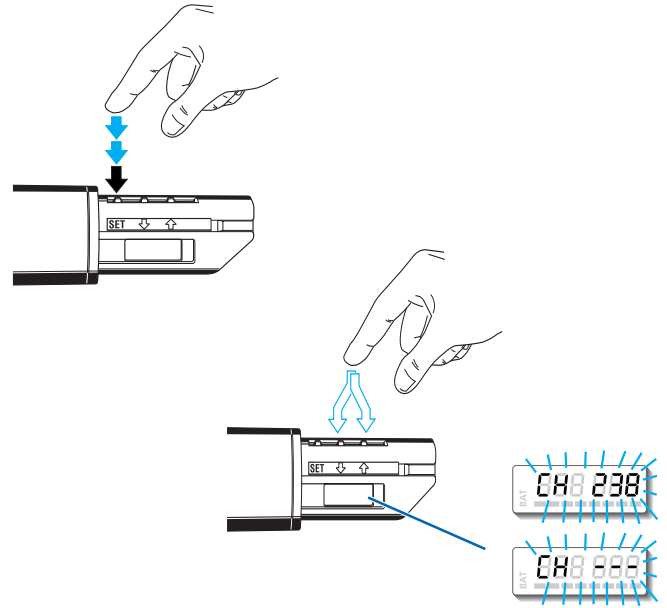
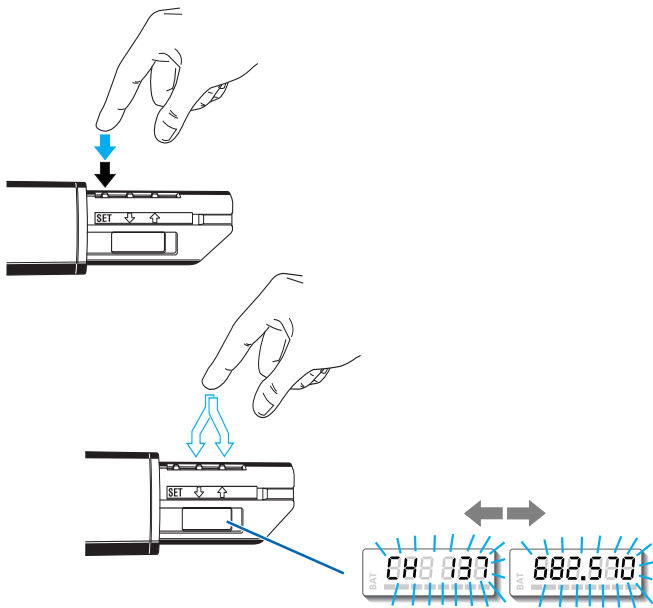
With the ∇/△ buttons you can now select a different sensitivity. If you do not press the ∇/△ buttons or the SET button for more than 14 seconds, the setting mode is automatically left and the microprocessor switches back to the standard display.

**Note:**

**In order that you can instantly test the new sensitivity, the setting becomes effective immediately without having to be stored.**

**Tip:**

Try out each sensitivity several times. For soundchecks please bear in mind that the volume may appear to be higher during rehearsal in an empty room than later during the show. Experience also shows that the user will normally speak louder in front of the audience.



## 16 Selection of possible transmission frequencies

Your SKM 3072-U hand-held transmitter can be operated on one of up to 32 different frequencies. These frequencies and their sequence are pre-programmed by the factory and must only be changed by your Sennheiser distributor who has the required specialist equipment.

- ▶ Press the **SET** button to get into the setting mode. If you press **SET** again, the display indicates the transmission frequency in alternation with the channel number.
- ▶ With the  $\nabla/\Delta$  buttons you can now change the transmission frequency.
- ▶ If the transmission frequencies have been assigned channel numbers, the channel numbers are indicated in alternation with the transmission frequencies. If no channel numbers are assigned, “CH---” appears on the display. => Entering and assigning a channel number (▶ chapter 17)
- ▶ Press the **SET** button for more than a second to store your setting. “Sto” briefly appears on the display, indicating that the new setting has been stored. The display then switches back to the standard display.

### Note:

Only after your setting has been stored – i.e after you have pressed the **SET** button for more than a second – does the PLL switch to the new transmission frequency, the display then ceases to flash.

You can discontinue your preselection by **briefly** (!) pressing the **SET** button.

If you do not press any of the three programming buttons for more than 14 seconds, the transmitter returns to the frequency to which it was last set and the display switches back to the standard display.

## 17 Entering and assigning a channel number

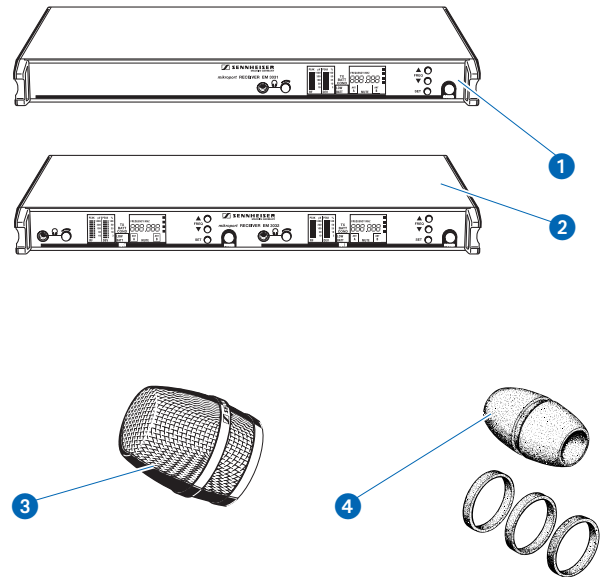
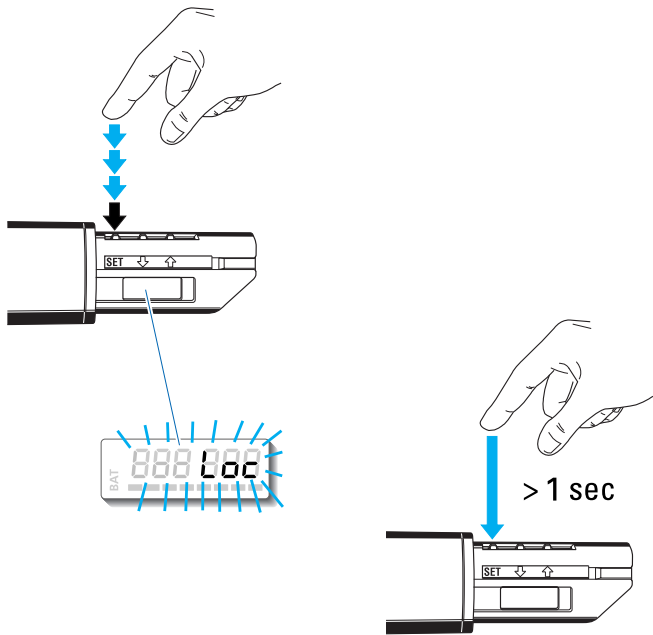
You can assign channel numbers to the pre-programmed frequencies (▶ chapter 16). These channel numbers (from 001 to 255) can be entered directly on the SKM 3072-U hand-held transmitter.

- ▶ Press the **SET** button to get into the setting mode.
- ▶ If you press **SET twice**, either “CH---” or the channel number which has been assigned to the currently selected transmission frequency begins to flash on the display.
- ▶ With the  $\nabla/\Delta$  buttons you can now select the desired channel number. Holding down a button initiates fast search, continually cycling from the beginning.
- ▶ Press the **SET** button for more than a second to store your setting. “Set” briefly appears on the display, indicating that the new setting has been stored. The display then switches back to the standard display.

### Note:

If you do not press any of the three programming buttons for more than 14 seconds, the transmitter returns to the frequency to which it was last set and the display switches back to the standard display. The channel number which was last selected is also kept.





## 18 Locking the POWER button / "Lock mode" function

You can lock the **POWER** button of your SKM 3072-U to prevent accidental switching off by a user inexperienced in handling the transmitter.

### Locking the POWER button

- ▶ Press the **SET** button to get into the setting mode.
- ▶ If you press **SET** three times, "Loc" begins to flash on the display.
- ▶ Press the **SET** button for more than a second to store your setting. "Sto" briefly appears on the display, indicating that the new setting has been stored. The display then switches back to the standard display.

The **POWER** button is now locked. If **POWER** is accidentally pressed, the display briefly indicates "Loc" and then switches back to the standard display. With the  $\nabla/\Delta$  buttons, however, you can still choose the content of the display i.e. whether the transmission frequency or the channel number is displayed.

### Unlocking the POWER button

- ▶ When briefly pressing **SET**, "Loc" begins to flash on the display.
- ▶ Now press the **SET** button for more than a second.

The display switches back to the standard display and the buttons can now be operated as usual.

## 19 Suitable Sennheiser receivers

Your SKM 3072-U hand-held transmitter optimally matches any of the Sennheiser 3000 series receivers.

- |   |         |                               |
|---|---------|-------------------------------|
| 1 | EM 3031 | Cat. no. 04000                |
| 2 | EM 3032 | Cat. no. 04200                |
|   | EM 3532 | Cat. no. 04400 (not pictured) |

The SKM 3072-U can also be used with any receiver of the 1000 and 5000 series, receivers of the 1000 series, however, cannot receive the battery status information.

The frequencies of your SKM 3072-U are pre-programmed by the factory. In case you want to change these frequencies, please contact your Sennheiser distributor who has the required specialist equipment.

## 20 Recommended accessories

- |   |   |                |
|---|---|----------------|
| 3 | ME 3005 microphone head, for presentations                                  | Cat. no. 04573 |
| 4 | MZW 4032 A windshield, anthracite   | Cat. no. 02978 |
| 4 | MZW 4032 windshield with colour-coded identification rings, various colours |                |

## 21 Error checklist

### ▶ Transmitter does not work:

Battery is flat, replace the battery! (➡ chapter 8), battery is not inserted or inserted the wrong way round. Transmitter is defective (=> send transmitter to a Sennheiser service department!).

### ▶ No transmission:

Receiver or transmitter are not switched on or transmission frequency does not agree with receiving frequency.

### ▶ Short hissing noise or short interruption:

Position of receiving antennae is unfavourable. Make sure that there is a "free line of sight" between the transmitter and the antennae.

### ▶ Microphone gain too low / microphone overmodulated :

Sensitivity adjusted too low / too high (=> adjust sensitivity! ➡ chapter 15).

### ▶ After switch-on, the display first indicates "3072-U" and then "LoBA", the transmitter switches off:

Remaining battery capacity is not sufficient for operation (=> replace battery! ➡ chapter 8).

### ▶ Transmitter switches off during operation:

After "LoBA" – alternating with the display for frequency/channel number – has been shown for a certain amount of time, the battery has become completely flat, the transmitter has switched off (=> replace battery! ➡ chapter 8).

### ▶ Transmitter cannot be switched off:

"Lock mode" function is activated. "Loc" is briefly indicated on the display (=> deactivate "lock mode" function! ➡ chapter 18).

### ▶ Transmitter cannot be switched to "CHxxx":

No channel number is entered, "CH---" is briefly indicated, transmitter switches back to frequency display (=> enter a channel number! ➡ chapter 17).

### ▶ Strong twittering:

Two transmitters operate on the same frequency, the preselected frequency is subject to interference (=> change the transmission and receiving frequency! ➡ chapter 16).

## 22 Safety instructions

- ▶ Never open electronic devices! This must only be done by authorised personnel and is all the more important for current-carrying units.
- ▶ As far as possible, use your SKM 3072-U in dry rooms only. When you are using the SKM 3072-U outside, it must be protected against direct moisture. In outdoor applications, always use a windshield.
- ▶ Use a damp cloth for cleaning your SKM 3072-U. Do not use any solvents.

## 23 Technical Data / Dimensions

RF output power	typ. 30 mW
Transmission frequencies	1- 32
Frequency range	470 - 960 MHz
Frequency preparation	PLL synthesizer
Max. switching bandwidth	32 MHz
Frequency deviation	≤ 10 kHz
Spurious emission	≤ 4 nW
Modulation/pre-emphasis	wideband FM/50 µs
Nominal/peak deviation (1kHz)	± 40 kHz/± 56 kHz
Noise reduction system	<b>HiDyn plus™</b>
AF frequency response	80 - 18,000 Hz
Signal-to-noise ratio	110 dB(A)
THD (1 kHz/nom. dev.)	≤ 0.3 %
Sensitivity	adjustable in 4 steps of 10 dB
Max. sound pressure level	154 dB SPL (ME 3005 E)
Power supply	9 V alkaline, IEC 6 LR 61 (or rechargeable accupack)
Power consumption at nominal voltage	approx. 50 mA
Operating time	
with alkaline battery	approx. 8 h
with rechargeable battery	approx. 2 h
Dimensions in mm	255 x 50
Weight incl. battery	approx. 350 g

Supply schedule SKM 3072-U	1 SKM 3072-U hand-held transmitter with ME 3005 e mic head
	1 9 V PP3 battery
	1 MZQ stand adaptor
	8 colour-coded protection caps
	1 storage case
	1 operating instructions

Supply schedule SKM 3072-U-x	1 SKM 3072-U hand-held transmitter with ME 3005 mic head
	1 9 V PP3 battery
	1 MZQ stand adaptor
	8 colour-coded protection caps
	1 storage case
	1 operating instructions

Änderungen vorbehalten  
Subject to alterations  
Sous réserve de modification  
Con riserva di modifiche  
Reservado el derecho a introducir modificaciones  
Wijzigingen voorbehouden



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