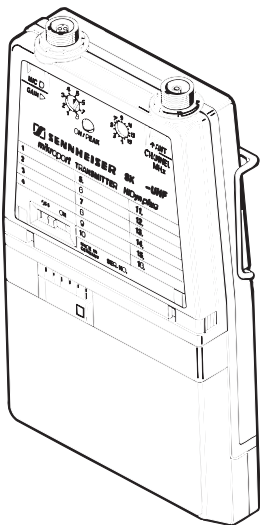


# SK 50 SK 250

Bedienungsanleitung  
 Instructions for use  
 Notice d'emploi  
 Istruzioni per l'uso  
 Instrucciones para el uso  
 Gebruiksaanwijzing  
 Bruksanvisning



|                                        |           |
|----------------------------------------|-----------|
| <b>Gebrauchsanleitung .....</b>        | <b>3</b>  |
| <b>Instructions for use.....</b>       | <b>17</b> |
| <b>Instructions pour l'usage .....</b> | <b>31</b> |
| <b>Istruzioni per l'uso .....</b>      | <b>45</b> |
| <b>Mode de empleo .....</b>            | <b>59</b> |
| <b>Gebruiksaanwijzing .....</b>        | <b>73</b> |
| <b>Bruksanvisning.....</b>             | <b>87</b> |

**INSTRUCTIONS FOR USE  
MIKROPORT BODY-PACK TRANSMITTER**

**SK 50  
SK 250**

# CONTENTS

|      |                                                                            |    |
|------|----------------------------------------------------------------------------|----|
| 1.   | BRIEF DESCRIPTION                                                          | 19 |
| 2.   | CONTROLS AND CONNECTIONS                                                   | 20 |
| 3.   | MICROPHONE SELECTION                                                       | 21 |
| 4.   | USING FOR THE FIRST TIME                                                   | 21 |
| 4.1. | B 50 / B 250 QUICK-CHANGE ENERGY PACK                                      | 21 |
| 4.2. | BA 50 / BA 250 QUICK-CHANGE ENERGY PACK                                    | 23 |
| 4.3. | POSSIBLE COMBINATIONS OF TRANSMITTERS<br>WITH THE QUICK-CHANGE ENERGY PACK | 24 |
| 5.   | CHANNEL SELECTION                                                          | 24 |
| 6.   | SWITCHING ON                                                               | 24 |
| 7.   | SENSITIVITY SETTING                                                        | 25 |
| 8.   | ATTACHMENT OF THE BODY-PACK TRANSMITTER                                    | 25 |
| 9.   | LICENSING REGULATIONS                                                      | 26 |
| 10.  | TECHNICAL DATA SK 50 UHF / SK 250 UHF                                      | 27 |
| 11.  | TECHNICAL DATA SK 50 VHF                                                   | 28 |
| 12.  | TECHNICAL DATA SK 250 VHF                                                  | 29 |

# 1. BRIEF DESCRIPTION

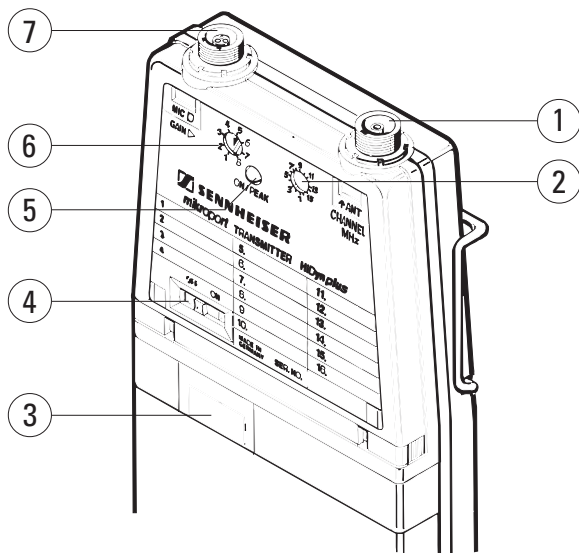
| MODELS         | FREQUENCY RANGE | SWITCHING BAND WIDTH | CHANNELS |
|----------------|-----------------|----------------------|----------|
| SK 50 UHF      | 450 bis 960 MHz | 24 MHz               | 16       |
| SK 250 UHF     | 450 bis 960 MHz | 24 MHz               | 16       |
| SK 50 VHF (1)  | 138 bis 160 MHz | 22 MHz               | 16       |
| SK 50 VHF (2)  | 153 bis 181 MHz | 28 MHz               | 16       |
| SK 50 VHF (3)  | 174 bis 202 MHz | 28 MHz               | 16       |
| SK 50 VHF (4)  | 195 bis 223 MHz | 28 MHz               | 16       |
| SK 50 VHF (5)  | 223 bis 260 MHz | 37 MHz               | 16       |
| SK 250 VHF (1) | 138 bis 170 MHz | 38 MHz               | 16       |
| SK 250 VHF (2) | 170 bis 225 MHz | 55 MHz               | 16       |
| SK 250 VHF (3) | 210 bis 260 MHz | 50 MHz               | 16       |

In combination with a connected microphone, the transmitter can be used as a cordless microphone. Its flat shape and small dimensions make this design especially well - suited for particular applications in which an inconspicuous appearance is required, as is the case with film and television productions, for example. To reduce interference and to improve the signal-noise ratio, SK 50 and SK 250 transmitters are equipped with the "**HiDyn plus**" noise reduction system. In combination with a receiver which is also equipped with this system (e.g. EM 1046), a connection can be established, which is characterised by excellent operational reliability and supreme transmission quality.

## FEATURES:

- Metal injection-moulded casing with quick-change energy pack
- State-of-the-art PLL technology, 16 switchable channel
- Sennheiser "**HiDyn plus**" compander
- Signal-to-noise ratio > 108 dB (A)
- Integratral voltage converter for constant output power through to complete discharge of the battery or rechargeable battery
- Operating time display with blinking warning
- Battery status transmission to the receiver
- Operating and peak deviation indicator

## 2. CONTROLS AND CONNECTIONS



- 1 ANTENNA SOCKET
- 2 CHANNEL SELECTION SWITCH
- 3 OPERATING TIME DISPLAY
- 4 ON / OFF SWITCH
- 5 OPERATING / PEAK DEVIATION INDICATOR
- 6 SENSITIVITY SELECTOR SWITCH FOR MICROPHONE INPUT
- 7 MICROPHONE INPUT

### 3. MICROPHONE SELECTON

The MKE 2-4, MKE 102-4 (omnidirectional polar pattern) and MKE 40-4 (cardioid polar pattern) Lavalier clip-on microphones are available. They are equipped with a special Lemo plug. The plug is disconnected by unscrewing the threaded collar.

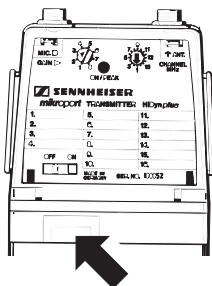
The voltage necessary to operate these microphones is available at the microphone input of the transmitter. Dynamic microphones and other low-impedance sources can be connected through an external coupling condenser of approx. 10  $\mu$ F (+pole on contact 2).

### 4. USING FOR THE FIRST TIME

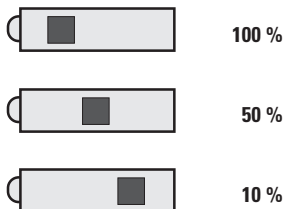
#### 4.1. B 50 / B 250 QUICK-CHANGE ENERGY PACK

Insert the batteries as described on page 22, Fig. 2 and Fig. 3. After insertion of the batteries, the cover of the quick-change energy pack is to be snapped into place. The LED display on the front side of the energy pack (Fig. 1) serves as a battery control display.

FIG. 1



#### BATTERY CONTROL DISPLAY



**STARTS TO BLINK IF THE REMAINING  
OPERATING TIME FALLS BELOW 30 MIN.**

FIG. 2

**QUICK-CHANGE ENERGY PACK  
B 50**

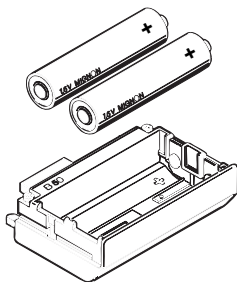
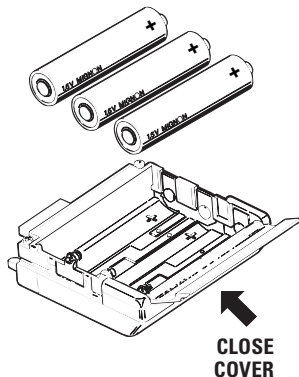


FIG. 3

**QUICK-CHANGE ENERGY PACK  
B 250**



**NOTE:**

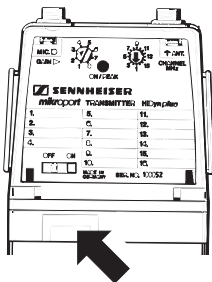
**ALKALINE-MANGANESE BATTERIES OF THE "MIGNON" LRC AA TYPE  
ARE TO BE USED EXCLUSIVELY. PERFECT FUNCTIONING OF THE  
TRANSMITTER IS GUARANTEED ONLY WITH THIS TYPE OF BATTERY.**



## 4.2. BA 50 / BA 250 QUICK-CHANGE ENERGY PACK

The LCD display on the front side of the energy pack (Fig. 4) serves as a battery control display.

FIG. 4



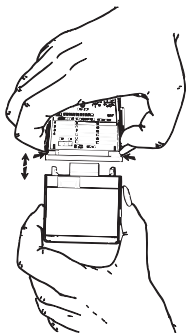
### RECHARGEABLE BATTERY DISPLAY



STARTS TO BLINK IF THE REMAINING OPERATING TIME FALLS BELOW 30 MIN.

In addition to the visual display on the quick-change energy pack, the transmitter communicates the status of the batteries or the rechargeable batteries to the EM 1046 for presentation on the receiver display.

FIG. 5



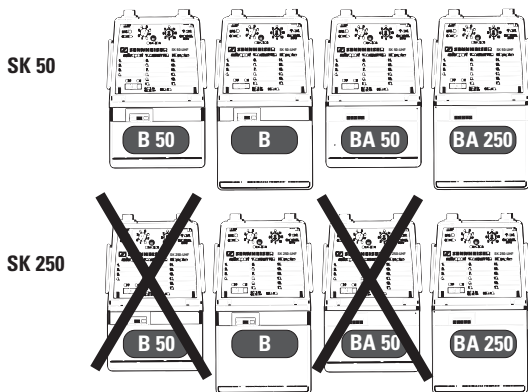
### RELEASING THE QUICK-CHANGE ENERGIE PACK

Squeeze the catch with the thumb and index finger, and separate the transmitter from the quick-change energy pack.

To attach the quick-change energy pack, simply let the quick-change energy pack snap into the transmitter.

### 4.3. POSSIBLE COMBINATIONS OF TRANSMITTERS WITH THE QUICK-CHANGE ENERGY PACK

FIG. 6



The SK 250 / B 50 and SK 250 / BA 50 combinations are not possible because the power of the battery / rechargeable battery pack is not adequate for this transmitter.

## 5. CHANNEL SELECTION

To select the appropriate channel or the appropriate frequency in accordance with the type plate, move the channel selection switch 2 to the desired position.

## 6. SWITCHING ON

After attaching the quick-change energy pack, the transmitters is switched on by moving the operating switch 4 into the "ON" position. The red operating indicator 5 lights up. Should the operating indicator not light up, check the quick-change energy pack.

## **7. SENSITIVITY SELECTOR SWITCH**

The sensitivity selector switch 6 can be used to adapt the gain of the microphone input in 8 steps to the level of the sound expected. This setting is to be made in combination with a receiver which has a peak indicator available, such as the EM 1046. The sensitivity is set correctly when the "peak" indicator 5 lights up brightly during level peaks. The microphone is to be held or mounted in its position for later use when setting. The corresponding display on the EM 1046 receiver indicates a maximum deviation of approx. 125 %.

In practice, the following guide values have proven themselves for the adjustment of the sensitivity setting:

|                |   |                                                     |
|----------------|---|-----------------------------------------------------|
| Position 2,3   | = | Loud voices, songs, theatre                         |
| Position 3,4,5 | = | Normal voices, talkshows, interviews                |
| Position 6,7   | = | Soft voices                                         |
| Position 8     | = | Use only for connection with a dynamic microphone ! |

## **8. ATTACHMENT OF THE BODY-PACK TRANSMITTER**

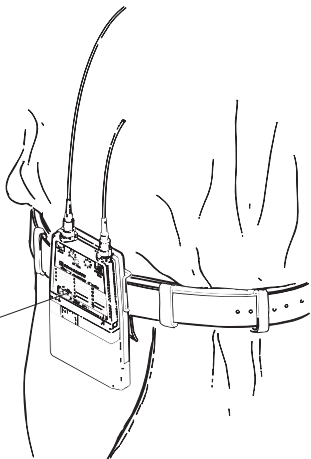
Its small dimensions and flat form make it possible to carry the transmitter easily in a jacket pocket or trousers pocket. The device is to be protected against falling out by a tight gripping clip with which the transmitter can also be attached to the waistband or to a belt (Page 26, Fig. 7). To attach the transmitter with the connections facing downwards, simply reverse the clips.

The nylon transmitter pouch with Velcro closure (accessory) provides effective protection against moisture for actors who perspire heavily.

**FIG, 7**

**Note:**

**The transmitter can also be attached so that the cable and antenna point downwards.**



## **9. LICENSING REGULATIONS**

The type plate contains the channel data and the transmit frequency data as well as the BZT approval, which you require for your application for the licence from the Post Office. It is located on the underside of the device.

## 10. TECHNICAL DATA

Transmit frequencies  
Frequency range  
Switching band width  
Frequency stability  
Spurious and emissions  
Modulation  
Nominal / peak deviation  
Compander  
Input sensitivity for peak deviation

Audio frequency range  
Dynamics  
THD

Connections

Dimensions with power pack

Weight with power pack

## SK 50 UHF / SK 250 UHF

16  
450 - 960 MHz  
24 MHz  
 $\pm 5$  ppm  
 $< 4$  nW  
FM  
 $\pm 40$  kHz /  $\pm 56$  kHz  
Sennheiser **HiDyn plus**

13.2 mV - 1.55 V  
8-position switch  
70 Hz - 20 kHz  
110 dB(A) eff.  
 $< 0.3$  % (nominal peak / 1 kHz)

AF: Lemo special (3-pin)  
RF: Lemo special Koax

94 x 60 x 17 mm with B 50 / BA 50  
116 x 60 x 17 mm with B 250 / BA 250  
approx. 197 g with B 50 / BA 50  
approx. 230 g with B 250 / BA 250

### SK 50 UHF

50 mW / -3 dB

B 50:  $> 4.5$  h

B 250:  $> 9$  h

BA 50:  $> 3$  h

BA 250:  $> 5$  h

### SK 250 UHF

250 mW / -1 dB

cannot be used

B 250:  $> 3$  h

cannot be used

BA 250:  $> 2.5$  h

Delivery includes for SK 50 UHF

- 1 SK 50 UHF body-pack transmitter
- 1 marking set
- 1 antenna (aligned)
- 1 instructions for use

Delivery includes for SK 250 UHF

- 1 SK 250 UHF body-pack transmitter
- 1 marking set
- 1 antenna (aligned)
- 1 instructions for use

Errors and omissions excepted. Subject to alterations and corrections.

## 11. TECHNICAL DATA

Transmit frequencies

Frequency range

Switching band width

Frequency stability

Spurious and emissions

Modulation

Nominal / peak deviation

Compander

Input sensitivity for peak deviation

Audio frequency range

Dynamics

THD

Connections

Dimensions with power pack

Weight with power pack

RF output power

Operating time with primary cells

Operating time with rechargeable battery

Delivery includes

## SK 50 VHF

16

SK 50 VHF (1) 138 ... 160 MHz

SK 50 VHF (2) 153 ... 181 MHz

SK 50 VHF (3) 174 ... 202 MHz

SK 50 VHF (4) 195 ... 223 MHz

SK 50 VHF (5) 223 ... 260 MHz

SK 50 VHF (1) 22 MHz

SK 50 VHF (2) 28 MHz

SK 50 VHF (3) 28 MHz

SK 50 VHF (4) 28 MHz

SK 50 VHF (5) 37 MHz

± 10 ppm

< 4 nW

FM

± 40 kHz / ± 56 kHz

Sennheiser **HiDyn plus**

13 mV - 1.55 V

8-position switch

70 Hz - 20 kHz

110 dB(A) eff.

< 0.3 % (nominal peak / 1 kHz)

AF: Lemo special (3-pin)

RF: Lemo special Koax

94 x 60 x 17 mm with B 50 / BA 50

116 x 60 x 17 mm with B 250 / BA 250

approx. 197 g with B 50 / BA 50

approx. 230 g with B 250 / BA 250

50 mW / -2 dB

B 50: > 6 h

B 250: > 13 h

BA 50: > 4 h

BA 250: > 6.5 h

1 SK 50 VHF body-pack transmitter

1 marking set

1 antenna (aligned)

1 instructions for use

## 11. TECHNICAL DATA

## SK 250 VHF

|                                          |                                                                                                             |
|------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| Transmit frequencies                     | 16                                                                                                          |
| Frequency range                          | SK 250 VHF (1) 138 ... 170 MHz<br>SK 250 VHF (2) 170 ... 225 MHz<br>SK 250 VHF (3) 210 ... 260 MHz          |
| Switching band width                     | SK 250 VHF (1) 38 MHz<br>SK 250 VHF (2) 55 MHz<br>SK 250 VHF (3) 50 MHz                                     |
| Frequency stability                      | $\pm 10$ ppm                                                                                                |
| Spurious and emissions                   | $< 4$ nW                                                                                                    |
| Modulation                               | FM                                                                                                          |
| Nominal / peak deviation                 | $\pm 40$ kHz / $\pm 56$ kHz                                                                                 |
| Compander                                | Sennheiser <b>HiDyn plus</b>                                                                                |
| Input sensitivity for peak deviation     | 13 mV - 1.55 V<br>8-position switch<br>70 Hz - 20 kHz<br>110 dB(A) eff.<br>$< 0.3$ % (nominal peak / 1 kHz) |
| Audio frequency range                    | AF: Lemo special (3-pin)                                                                                    |
| Dynamics                                 | RF: Lemo special Koax                                                                                       |
| THD                                      | 116 x 60 x 17 mm with B 250 / BA 250                                                                        |
| Connections                              | approx. 230 g with B 250 / BA 250                                                                           |
| Dimensions with power pack               | 250 mW / -1 dB                                                                                              |
| Weight with power pack                   | B 50: cannot be used<br>B 250: $> 2.5$ h                                                                    |
| RF output power                          | BA 50: cannot be used<br>BA 250: $> 2.5$ h                                                                  |
| Operating time with primary cells        |                                                                                                             |
| Operating time with rechargeable battery |                                                                                                             |
| Delivery includes                        | 1 SK 250 VHF body-pack transmitter<br>1 marking set<br>1 antenna (aligned)<br>1 instructions for use        |

Errors and omissions excepted. Subject to alterations and corrections.



## KONFORMITÄTSERKLÄRUNG

Sennheiser electronic GmbH & Co. KG, Am Labor 1, D-30900 Wedemark erklären, daß dieses Gerät den einschlägigen Anforderungen der EG-Richtlinie 89/336/EWG entspricht.

Zur sachgemäßen Umsetzung der in den EG-Richtlinien genannten Anforderungen wurden folgende Normen herangezogen:

ETS 300 445

ETS 300 422

### **Bemerkung:**

**Vor Inbetriebnahme sind die jeweiligen länderspezifischen Vorschriften zu beachten!**

## CERTIFICATE OF CONFORMITY

Sennheiser electronic GmbH & Co. KG, Am Labor 1, D-30900 Wedemark declare that this device conforms to the basic requirements of EEC Directive 89/336/EEC.

To effect correct application of the requirements stated in the EEC Directives, the following standards were consulted:

ETS 300 445

ETS 300 422

### **Important:**

**Before putting the device into operation, please observe the respective country-specific regulations!**

## DÉCLARATION DE CONFORMITÉ

Sennheiser electronic GmbH & Co. KG, Am Labor 1, D-30900 Wedemark déclarons que cet appareil est conforme aux prescriptions fondamentales dans la Directive de la CEE 89/336/CEE.

Pour mettre en pratique dans la règle de l'art les prescriptions des Directives de la CEE, il a été tenu compte des normes suivantes:

ETS 300 445

ETS 300 422

### **Important:**

**Avant d'utiliser l'appareil, veuillez observer les dispositions légales en vigueur dans votre pays.**



## **CERTIFICATO DI CONFORMITÀ**

Sennheiser electronic GmbH & Co. KG, Am Labor 1, D-30900 Wedemark  
dichiariamo che questo apparecchio risponde alla normativa 89/336/EEG.  
Per un'appropriateo riscontro nell'ambito della normativa CEE sono state  
consultate le seguenti normative:

ETS 300 445

ETS 300 422

**Nota:**

**Prima della messa in funzione seguite le prescrizioni vigenti nel paese nel quale viene utilizzato!**

## **DECLARACIÓN DE CONFORMIDAD**

Sennheiser electronic GmbH & Co. KG, Am Labor 1, D-30900 Wedemark  
declaramos que este aparato cumple los requerimientos básicos de la  
normativa de la CEE 89/336/CEE.

Con el fin de realizar de forma adecuada los requerimientos referidos en las  
normativas de la CEE fueron consultadas las siguientes normativas:

ETS 300 445

ETS 300 422

**Observación:**

**!Anterior a la puesta en funcionamiento deberán observarse las correspondientes ordenanzas nacionales!**

## **CONFORMITEITSVERKLARING**

Sennheiser electronic GmbH & Co. KG, Am Labor 1, D-30900 Wedemark  
verklaren, dat dit toestel overeenkomt met de basiseisen van de EG-richtlijn  
89/336/EEG.

Om de eisen, die in de EG-richtlijnen vermeld zijn, in juiste vorm om te zetten,  
zijn van volgende normen gebruik gemaakt:

ETS 300 445

ETS 300 422

**Opmerking:**

**Voor inbedrijfstelling dient u de afzonderlijke landspecifieke voorschriften in acht te nemen!**

# CETECOM ICT Services GmbH

## EC Identification number 0682

authorized by the German Government



with decree Vg 28/2000, issued in the Official Journal 6/2000  
of the Regulatorgesetzliche in Telecommunications and Post  
to act as Notified Body in accordance with the R&TTE Directive 1999/5/EC of 08. March 1999.

### CERTIFICATE EXPERT OPINION

Registration-No.: E8115304-EO  
Certificate Holder: Senheiser electronic GmbH & Co. KG

Am Labor 1  
30900 Wedemark

Product Designation: SK 50 VHF

Product Description: Microport Transmitter

Product Manufacturer: Senheiser electronic GmbH & Co. KG  
Am Labor 1  
30900 Wedemark

| Essential requirements                 | Specifications / Standards | Submitted documents | Result  |
|----------------------------------------|----------------------------|---------------------|---------|
| Radio spectrum<br>(R&TTE, Article 3.2) | I-ETS 300 422, Dec. 1995   | Test Report(s)      | conform |

Marking: The product shall be signed with CE, our notified body number and the CEAS identifier (Airt sign) as shown right hand.

The scope of this evaluation relates to the submitted documents only.

The certificate is only valid in conjunction with the following number of annexes:

Number of annexes: 1

Start/End date: 12.10.00  
Place: Date of issue

*Edgar Bus*  
Notified body

CETECOM ICT Services GmbH, Unterrheinstraße 4-10, D-46117 Saarbrücken, Germany  
<http://www.cetecom.de>

# CETECOM ICT Services GmbH

## EC Identification number 0682

authorized by the German Government



with decree Vg 28/2000, issued in the Official Journal 6/2000  
of the Regulatorgesetzliche in Telecommunications and Post  
to act as Notified Body in accordance with the R&TTE Directive 1999/5/EC of 08. March 1999.

### CERTIFICATE EXPERT OPINION

Registration-No.: E811533M-EO  
Certificate Holder: Senheiser electronic GmbH & Co. KG

Am Labor 1  
30900 Wedemark

Product Designation: SK 50 UHF

Product Description: Microport Transmitter

Product Manufacturer: Senheiser electronic GmbH & Co. KG  
Am Labor 1  
30900 Wedemark

| Essential requirements                 | Specifications / Standards | Submitted documents | Result  |
|----------------------------------------|----------------------------|---------------------|---------|
| Radio spectrum<br>(R&TTE, Article 3.2) | I-ETS 300 422, Dec. 1995   | Test Report(s)      | conform |

Marking: The product shall be signed with CE, our notified body number and the CEAS identifier (Airt sign) as shown right hand.

The scope of this evaluation relates to the submitted documents only.

The certificate is only valid in conjunction with the following number of annexes:

Number of annexes: 1

Start/End date: 12.10.00  
Place: Date of issue

*Edgar Bus*  
Notified body

CETECOM ICT Services GmbH, Unterrheinstraße 4-10, D-46117 Saarbrücken, Germany  
<http://www.cetecom.de>



# CETECOM ICT Services GmbH EC Identification number 0682

authorized by the German Government



with decree Vg 262006, issued in the Official Journal 6/2006  
of the Bundesgesetzblatt für die Bundesrepublik Deutschland  
to act as Notified Body in accordance with the R&TTE Directive 1999/5/EC of 9th March 1999.

## CERTIFICATE EXPERT OPINION

Registration-No.: E81564M-EO  
Certificate Holder: Senaheiser electronic GmbH & Co. KG

Am Labor 1  
30900 Wiedemark

Product Designation: SK 250 VHF  
Product Description: Radio Microphone System

Product Manufacturer: Senaheiser electronic GmbH & Co. KG  
Am Labor 1  
30900 Wiedemark

| Essential requirements                 | Specifications / Standards | Submitted documents | Result  |
|----------------------------------------|----------------------------|---------------------|---------|
| Radio spectrum<br>(R&TTE, Article 3.2) | 1-ETS 300 422              | Test Report(s)      | conform |



Marking: The product shall be signed with CE, our notified body number and the Class II identifier (Alert sign) as shown right hand.

The scope of this evaluation relates to the submitted document only.

The certificate is only valid in conjunction with the following number of annexes.

Number of annexes: 1  
Satzzeichen: 30.10.00  
Place, Date of Issue  
*Edgar Döhl*  
Notified Body



CETECOM ICT Services GmbH, Unterdorheimer Straße 6-10, D-64117 Saarbrücken, Germany  
<http://www.cetecom.de>

# CETECOM ICT Services GmbH EC Identification number 0682

authorized by the German Government



with decree Vg 262006, issued in the Official Journal 6/2006  
of the Bundesgesetzblatt für die Bundesrepublik Deutschland  
to act as Notified Body in accordance with the R&TTE Directive 1999/5/EC of 9th March 1999.

## CERTIFICATE EXPERT OPINION

Registration-No.: E81556M-EO  
Certificate Holder: Senaheiser electronic GmbH & Co. KG

Am Labor 1  
30900 Wiedemark

Product Designation: SK 250 UHF  
Product Description: Microphone Transmitter

Product Manufacturer: Senaheiser electronic GmbH & Co. KG  
Am Labor 1  
30900 Wiedemark

| Essential requirements                 | Specifications / Standards | Submitted documents | Result  |
|----------------------------------------|----------------------------|---------------------|---------|
| Radio spectrum<br>(R&TTE, Article 3.2) | 1-ETS 300 422, Dec. 1995   | Test Report(s)      | conform |



Marking: The product shall be signed with CE, our notified body number and the Class II identifier (Alert sign) as shown right hand.

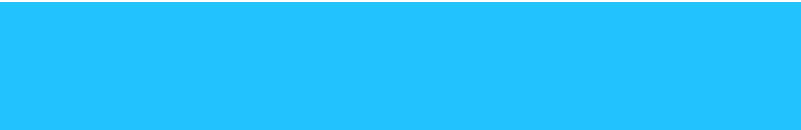
The scope of this evaluation relates to the submitted document only.

The certificate is only valid in conjunction with the following number of annexes.

Number of annexes: 1  
Satzzeichen: 12.10.00  
Place, Date of Issue  
*Edgar Döhl*  
Notified Body



CETECOM ICT Services GmbH, Unterdorheimer Straße 6-10, D-64117 Saarbrücken, Germany  
<http://www.cetecom.de>



Sennheiser electronic GmbH & Co. KG  
30900 Wedemark, Germany  
Phone +49 (5130) 600 0  
Fax +49 (5130) 600 300  
[www.sennheiser.com](http://www.sennheiser.com)