



# evolution wireless G4

## ew 300 G4-HEADMIC1-RC | Bodypack Headmic Set



Best choice for your business, top of the class in education. The G4 300 Series uses the power of an increased switching bandwidth of up to 88 MHz. New frequency ranges allow to operate multi-channel setups with dozens of channels while securing reliable operation - despite digital dividend.

The powerful professional HEADMIC1 is the pro's choice for lively lectures and speeches. Its high speech intelligibility makes the headset microphone – besides its good look – absolutely reliable. Remote mute switch available for the bodypack transmitter.

### FEATURES

- Easy to use, fast setup time
- Integrated network port allows control, monitoring and setup via Sennheiser Control Cockpit and WSM Software
- Broad range of products and existing accessories (such as microphones) allows usage in any kind of environment
- Up to 88 MHz bandwidth, up to 32 channels
- Increased RF output power (10/30/50 mW)
- Transmission Range: up to 100 meters / 330 feet
- Compatible with wireless speaker system LSP 500 PRO
- RC (remote control) switch available for the bodypack transmitter

### DELIVERY INCLUDES

- EM 300-500 G4 true diversity receiver
- SK 300 G4
- SL Headmic 1
- GA 3 rackmount set
- power supply
- 2 AA batteries
- 2 rod antennas
- quick guide
- safety guide
- manufacturer declaration sheet

### ACCESSORIES

<b>BA 2015</b>	rechargeable battery	Art. no. 009950
<b>L 2015</b>	charger	Art. no. 009828
<b>RMS 1</b>	Remote mute switch	Art. no. 503164



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### SPECIFICATIONS

#### EM 300-500 G4

RF characteristics	
Modulation	Wideband FM
Frequency ranges	Aw+: 470 - 558 MHz AS: 520 - 558 MHz Gw1: 558 - 608 MHz Gw: 558 - 626 MHz GBw: 606 - 678 MHz Bw: 526 - 698 MHz Cw: 718 - 790 MHz Dw: 790 - 865 MHz JB: 806 - 810 MHz K+: 925 - 937.5 MHz
Receiving frequencies	Max. 3520 receiving frequencies, adjustable in 25 kHz steps  20 frequency banks, each with up to 32 factory-pre-set channels, no intermodulation  6 frequency banks with up to 32 programmable channels
Switching bandwidth	up to 88 MHz
Nominal/peak deviation	±24 kHz / ±48 kHz
Receiver principle	True diversity
Sensitivity (with HDX, peak deviation)	< 2.5 µV for 52 dB <sub>A</sub> <small>eff S/N</small>
Adjacent channel selection	Typically ≥ 75 dB
Intermodulation attenuation	Typically ≥ 70 dB
Blocking	≥ 75 dB

Squelch	5 to 25 dBµV in steps of 2 dB
Pilot tone squelch	Can be switched off
Antenna inputs	2 BNC sockets

#### AF characteristics

Compander system	Sennheiser HDX
EQ presets (switchable, act on line and monitor outputs)	Preset 1: Flat Preset 2: Low Cut (-3 dB at 180 Hz) Preset 3: Low Cut/High Boost (-3 dB at 180 Hz, +6 dB at 10 kHz) Preset 4: High Boost (+6 dB at 10 kHz)
Signal-to-noise ratio (1 mV, peak deviation)	≥ 115 dB <sub>A</sub>
Total harmonic distortion (THD)	≤ 0.9 %
AF output voltage (at peak deviation, 1 kHz AF)	6.3 mm jack socket (unbalanced): +12 dBu XLR socket (balanced): +18 dBu
Setting range "AF Out"	48 dB (3 dB steps)
<b>Overall device</b>	
Temperature range	-10 °C to +55 °C
Power supply	12 V DC
Current consumption	350 mA
Dimensions	Approx. 202 x 212 x 43 mm
Weight	Approx. 980 g

### CONNECTIONS





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#### SK 300 G4

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Transmission frequencies	Max. 3520 frequencies, adjustable in 25 kHz steps  20 frequency banks, each with up to 32 factory-pre- set channels, no intermo- dulation  6 frequency banks with up to 32 programmable channels
Switching bandwidth	up to 88 MHz
Nominal/peak deviation	$\pm 24$ kHz / $\pm 48$ kHz
Frequency stability	$\leq \pm 15$ ppm
RF output power at 50 $\Omega$	switchable: Low: typ. 10 mW Standard: typ. 30 mW High: typ. 50 mW
Pilot tone squelch	Can be switched off

#### AF characteristics

Compander system	Sennheiser HDX
AF frequency response	Mic: 80 - 18,000 Hz Line: 25 - 18,000 Hz
Signal-to-noise ratio (1 mV, peak deviation)	$\geq 115$ dBA
Total harmonic distortion (THD)	$\leq 0.9$ %
Max. microphone/line input voltage	3 V <sub>eff</sub>
Microphone/line input impedance	40 k $\Omega$ , unbalanced / 1 M $\Omega$
Input capacitance	Switchable
Setting range for input sensitivity	60 dB, adjustable in 3 dB steps

#### Overall device

Temperature range	-10 °C to +55 °C
Power supply	2 AA batteries, 1.5 V or BA 2015 accupack
Nominal voltage	3 V battery / 2.4 V rechargeable battery
Current consumption	at nominal voltage: typ. 180 mA with transmitter switched off: $\leq 25$ $\mu$ A
Operating time	Typically 8 h
Dimensions	Approx. 82 x 64 x 24 mm
Weight (incl. batteries)	approx. 160 g

### SPECIFICATIONS

#### SL Headmic 1

Frequency response	20 to 20,000 Hz $\pm 3$ dB
Pick-up pattern	omni-directional
Nominal impedance @ 1 kHz	1 k $\Omega$
Min. terminating impedance	4.7 k $\Omega$
Sensitivity	5 mV/Pa $\pm 3$ dB
Diameter of mic capsule	3.3 mm
Max. sound pressure level	143 dB
Equivalent noise level	27 dB(A)
Supply current	approx. 240 $\mu$ A

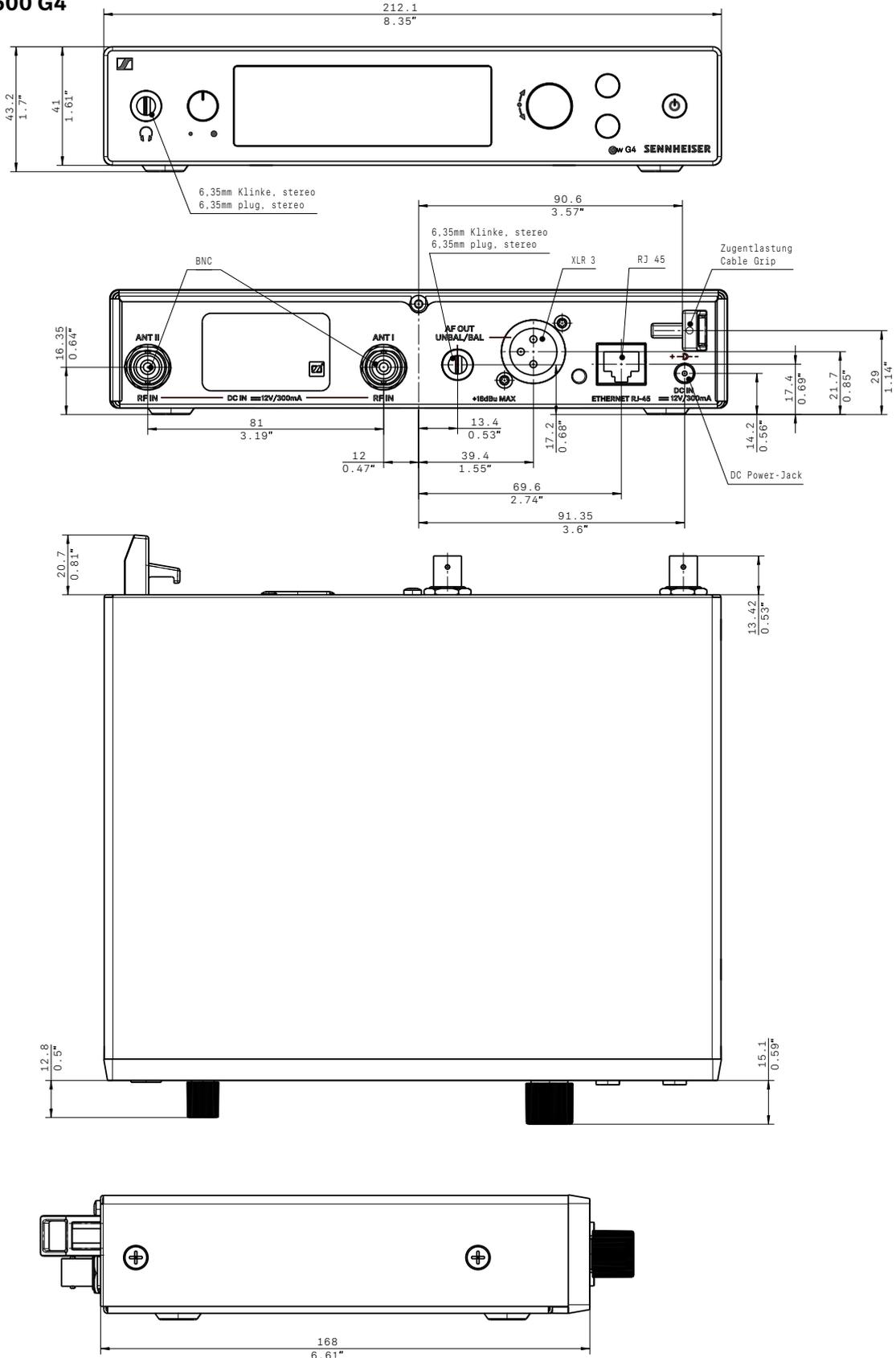
Power supply	4.5 to 15 V
Temperature range	Operation: -10 °C to 50 °C (14 °F to 122 °F) Storage: -20 °C to 70 °C (-4 °F to 158 °F)
Relative air humidity	max. 95 %
Cable length	1.6 m
Diameter of boom arm	1.1 mm
Connector	3.5 mm jack plug or Sennheiser special connec- tor (-4 variant)
Weight (without cable)	approx. 7 g



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## DIMENSIONS

### EM 300-500 G4

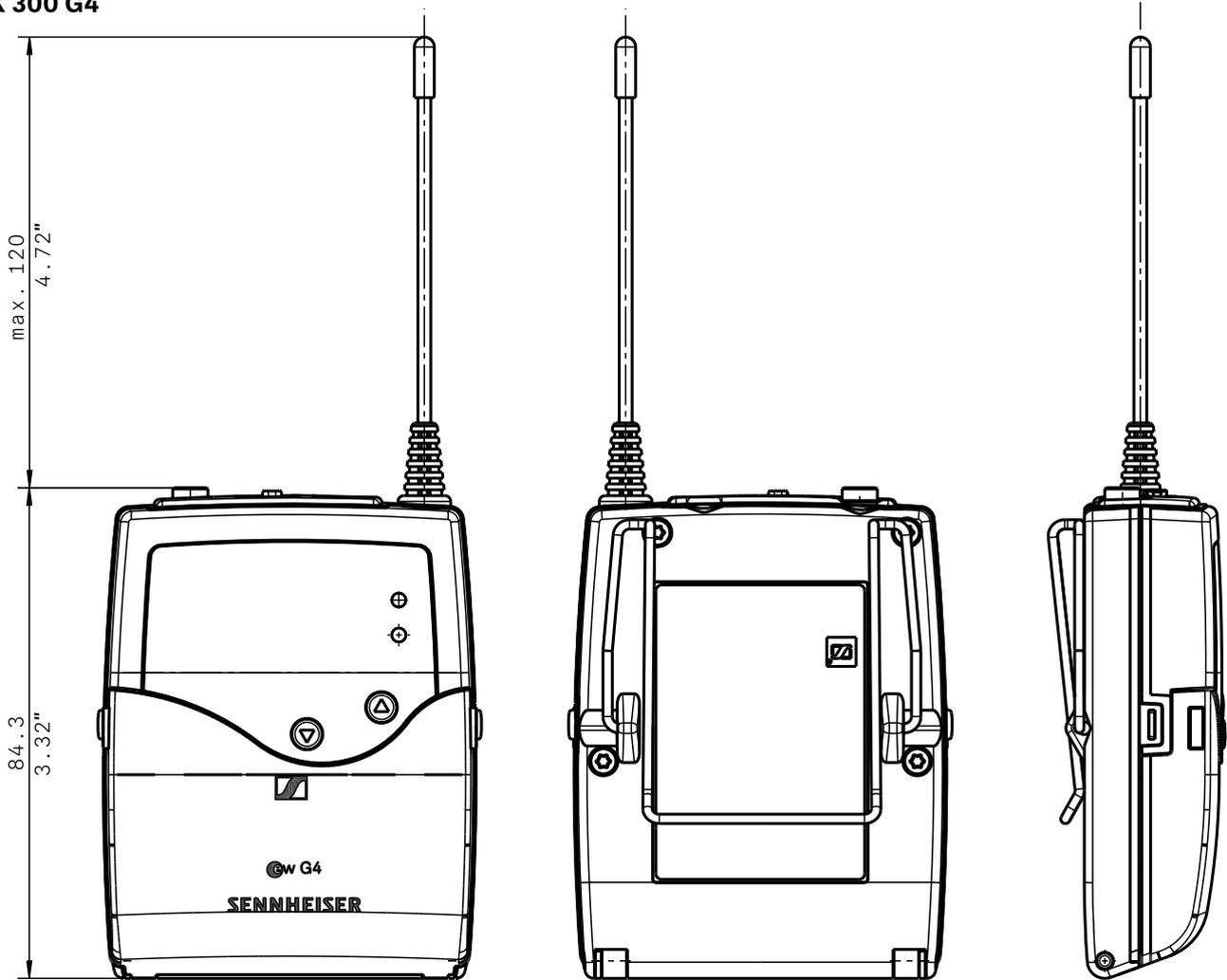




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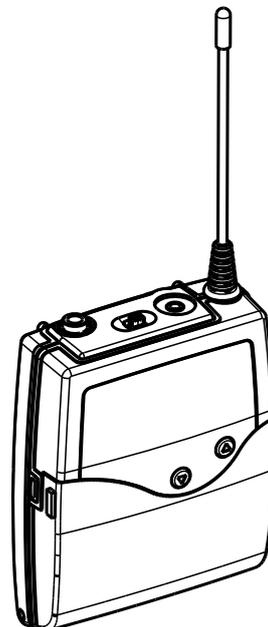
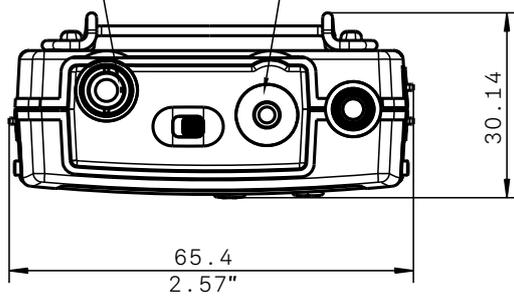
## DIMENSIONS

### SK 300 G4



3,5mm Klinke  
3,5mm plug

2,5mm Klinke  
2,5mm plug



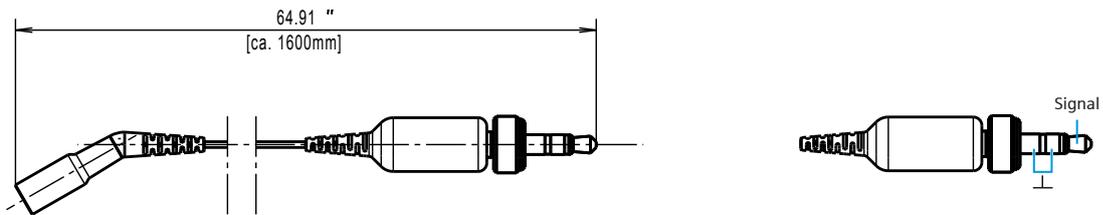


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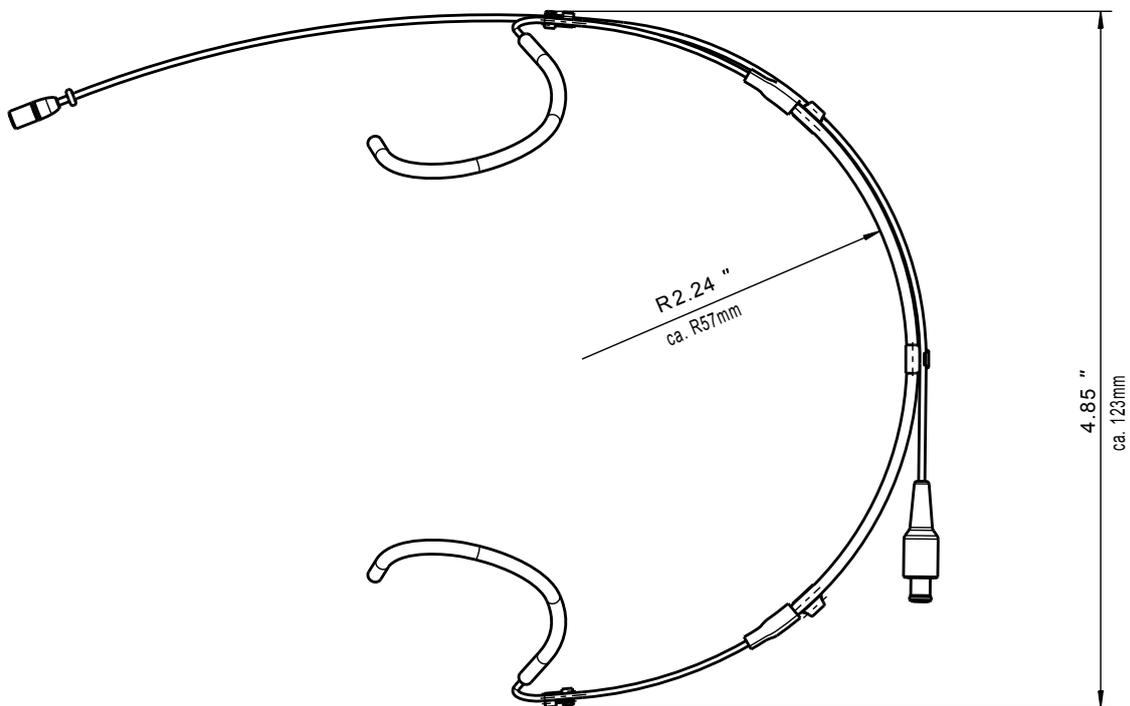
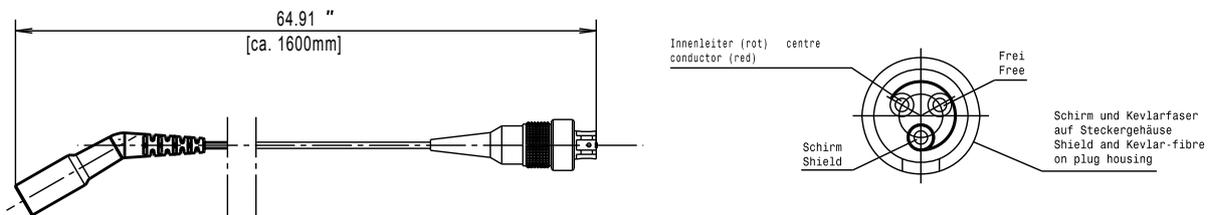
## DIMENSIONS

### SL Headmic 1

Kabel mit 3,5 mm Klinckenstecker / cable with 3.5 mm jack plug



Kabel mit 3-poligem Spezialstecker / cable with 3-pin special connector





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## PRODUCT VARIANTS

<b>ew 300 G4-HEADMIC1-RC-Aw+</b>	470 - 558 MHz	Art. no. 509666
<b>ew 300 G4-HEADMIC1-RC-AS</b>	520 - 558 MHz	Art. no. 509701
<b>ew 300 G4-HEADMIC1-RC-Gw1</b>	558 - 608 MHz	Art. no. 509672
<b>ew 300 G4-HEADMIC1-RC-Gw</b>	558 - 626 MHz	Art. no. 509703
<b>ew 300 G4-HEADMIC1-RC-GBw</b>	606 - 678 MHz	Art. no. 509948
<b>ew 300 G4-HEADMIC1-RC-Bw</b>	626 - 698 MHz	Art. no. 509704
<b>ew 300 G4-HEADMIC1-RC-Cw</b>	718 - 790 MHz	Art. no. 509705
<b>ew 300 G4-HEADMIC1-RC-Dw</b>	790 - 865 MHz	Art. no. 509706
<b>ew 300 G4-HEADMIC1-RC-JB</b>	806 - 810 MHz	Art. no. 509702
<b>ew 300 G4-HEADMIC1-RC-K+</b>	925 - 937.5 MHz	Art. no. 509947

## ARCHITECT'S SPECIFICATION

A wireless RF transmission system designed for presentation use and other applications where maximum speech intelligibility is required.

The system shall consist of a stationary receiver, a bodypack transmitter and a condenser headset microphone.

The system shall operate within ten UHF frequency ranges, with a switching bandwidth of up to 88 MHz: 470 – 558 MHz, 520 – 558 MHz, 558 – 608 MHz, 558 – 626 MHz, 606 – 678 MHz, 626 – 698 MHz, 718 – 790 MHz, 790 – 865 MHz, 806 – 810 MHz, 925 – 937.5 MHz; receiving frequencies shall be 3520 per range and shall be tunable in 25 kHz steps. The system shall feature 20 fixed frequency banks with up to 32 compatible frequency presets and 6 user banks with up to 32 user programmable frequencies.

The receiver shall be menu-driven with a backlit OLED display showing the current frequency, frequency bank and channel number, metering of RF level, metering of AF level, lock status, pilot tone evaluation, muting function, and battery status of the associated transmitter. An auto-lock feature shall be provided to prevent settings from being accidentally altered. The receiver shall provide a sound check mode.

Some receiver parameters such as receiving frequency, receiver name and pilot tone setting shall be synchronizable with the associated transmitter via an integrated infrared interface.

The receiver shall feature a balanced XLR-3M audio output with a maximum output of +18 dBu along with an unbalanced ¼" (6.3 mm) audio output with a maximum output of +12 dBu. A headphone output with headphone volume control shall be provided and shall utilize a ¼" (6.3 mm) stereo jack socket. The receiver shall have an Ethernet port (RJ-45) for remote network-based monitoring and control using the Sennheiser Control Cockpit or the Sennheiser Wireless System Manager software. Two BNC-type input sockets shall be provided for connecting the antennas.

Nominal/peak deviation shall be  $\pm 24$  kHz/ $\pm 48$  kHz. Squelch threshold shall be defeatable (off) or adjustable from 5 - 25 dB $\mu$ V in steps of 2 dB.



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The receiver shall incorporate the Sennheiser HDX compander system and a defeatable pilot tone squelch. Sensitivity shall be  $< 2 \mu\text{V}$  for 52 dBA eff S/N with HDX engaged at peak deviation. Adjacent channel rejection shall be  $\geq 75$  dB (typical). Intermodulation attenuation shall be  $\geq 70$  dB (typical); blocking shall be  $\geq 75$  dB. Four selectable equalizer presets shall be provided: "Flat", "Low Cut" ( $-3$  dB at 180 Hz), "Low Cut/High Boost" ( $-3$  dB at 180 Hz/ $+5.5$  dB at 10 kHz) and "High Boost" ( $+5.5$  dB at 10 kHz). Signal-to-noise ratio at 1 mV and peak deviation shall be  $\geq 115$  dBA. Total harmonic distortion (THD) shall be  $\leq 0.9$  %. The audio output level shall be adjustable within a 48 dB range in steps of 3 dB.

The receiver shall operate on 12 V power supplied from the NT 2-3 CW mains unit (for 100 – 240 V AC, 50/60 Hz). Power consumption shall be 350 mA. The receiver shall have a rugged metal housing; dimensions shall be approximately 202 x 212 x 43 mm (7.95" x 8.35" x 1.69"). Weight shall be approximately 980 grams (2.16 lbs). Operating temperature shall range from  $-10$  °C to  $+55$  °C ( $+14$  °F to  $+131$  °F).

The receiver shall be the Sennheiser EM 300-500 G4.

The transmitter shall be menu-driven with a backlit LC display showing the current frequency, frequency bank and channel number, metering of AF level, transmission status, lock status, pilot tone transmission, muting function, and battery status. An auto-lock feature shall be provided to prevent settings from being accidentally altered.

The transmitter parameters shall either be configurable in the associated receiver's menu and synchronized with the transmitter via an integrated infrared interface or shall be programmable in the transmitter menu.

The transmitter shall be equipped with a mute switch, which shall be switchable between "AF on/off", "RF on/off" and "Disabled" via the receiver's user interface. A 2.5 mm jack socket shall be provided for connecting a Sennheiser RMS 1 external mute switch. The settings for the external mute switch shall be switchable between "AF on/off", "RF on/off", "Push to mute" and "Push to talk" via the user interface.

Nominal/peak deviation shall be  $\pm 24$  kHz/ $\pm 48$  kHz. Frequency stability shall be  $\leq \pm 15$  ppm. RF output power at 50  $\Omega$  shall be switchable between 10 mW (typical, low) and 30 mW (typical, standard) and 50 mW (typical, high).

The transmitter shall incorporate the Sennheiser HDX compander system and a defeatable pilot tone squelch. Audio frequency response shall range from 80 – 18,000 Hz (microphone) or 25 – 18,000 Hz (line). Signal-to-noise ratio at 1 mV and peak deviation shall be  $\geq 115$  dBA. Total harmonic distortion (THD) shall be  $\leq 0.9$  %. Input sensitivity shall be adjustable within a 60 dB range in steps of 3 dB.

Power shall be supplied to the transmitter by two 1.5V AA size batteries or by one Sennheiser BA 2015 rechargeable accupack. Nominal voltage shall be 2.4 V, current consumption shall be typical 180 mA at nominal voltage;  $\leq 25 \mu\text{A}$  when transmitter is switched off. Operating time shall be typical 8 hours. The transmitter shall have a rugged metal housing; dimensions shall be approximately 82 x 64 x 24 mm (3.23" x 2.52" x 0.94"). Weight including the batteries shall be approximately 160 grams (5.64 oz). Operating temperature shall range from  $-10$  °C to  $+55$  °C ( $+14$  °F to  $+131$  °F).

The transmitter shall be the Sennheiser SK 300 G4-RC.

The headset microphone shall be designed for professional „hands free“ applications. Its high-quality microphone capsule shall be a pre-polarized condenser with an omni-directional pick-up pattern and shall be optimized for speech intelligibility.

The headset microphone shall have an adjustable, visually unobtrusive neckband and an extremely thin microphone boom that shall be adjustable in length. The headset microphone shall be available in black (BK variant), beige (BE variant) or silver (SB variant).

The frequency response of the headset microphone shall be 20 Hz-20,000 Hz ( $\pm 3$  dB) and sensitivity shall be 5 mV/Pa ( $\pm 3$  dB). Nominal impedance at 1 kHz shall be 1 k $\Omega$ , with a min. terminating impedance of 4.7 k $\Omega$ . Maximum SPL shall be 143 dB, equivalent noise level shall be 27 dB(A). The current consumption shall be approximately 240  $\mu\text{A}$ . Operating voltage shall range from 4.5-15 V. Diameter of the microphone capsule shall be 3.3 mm (0.13"), diameter of the boom arm shall be 1.1 mm (0.04"). The cable shall be 1.6 m long and shall provide connection via a 3.5 mm jack plug or a lockable 3-pin special connector. Weight without cable shall be approximately 7 grams (0.25 oz). Operating temperature shall range from  $-10$  °C to  $+50$  °C ( $+14$  °F to  $+122$  °F).

The headset microphone shall be the Sennheiser SL Headmic 1.