



THE WIRELESS
MASTERPIECE.

Sound is amazing.

It affects the brain like no other sense. It creates electrical impulses that dance from synapse to synapse. It sends shivers shooting up and down your spine. It makes the hairs on the back of your neck reach for the heavens. The soaring peaks and plunging troughs of sound waves are as vital as they are beautiful.

To us at Sennheiser they are everything.

We have always been driven by an insatiable lust to capture and reproduce sound as perfectly as possible.



WE PUSH, WE PROD.
WE PULL APART.
WE REDESIGN.
WE REDEFINE.

Nothing should be sacrificed. No sound should be lost. Nothing should be merely good enough. Excellence is the be all and end all. The more you pursue sound, the more you discover the wonders it has to offer. We've been advancing the science of sound every minute of every hour of every day for 70 years.

And we're not ready to stop.

DIGITAL 9000

The Wireless Masterpiece.

The best in class is now digital: With the new Digital 9000 system, Sennheiser provides the answer for the most demanding applications, such as multichannel broadcast and theatre production. In these industries, the engineer carries the responsibility of making the event happen every day with flawless precision – mistakes and drop-outs are unacceptable... and there's no second chance when you go live. Now – after more than a decade of research and development – Digital 9000 presents the world-class digital solution that professionals can only expect from Sennheiser. Digital 9000 offers uncompressed digital audio transmission, free from intermodulation, with stunning purity of sound and dynamics far ahead of analog wireless transmission. Automatic safety and control functions make the digital system easy to set up and operate, while an intuitive user interface provides a clear, comprehensive system overview even in stressful live situations. A pinnacle of innovation, this is the best-in-class digital wireless system available. This is DIGITAL 9000 – The Wireless Masterpiece.







TANNEHEISER
Digital 8800



EM 5046

EM 9046

The Heart of the System.

The new multichannel audio receiver EM 9046 is destined to become a reference standard throughout the broadcast and theatre production industries.

The receiver incorporates up to 8 digital receiving channels, each with 328 MHz of switching bandwidth covering the UHF range from 470 to 798 MHz. The highly intuitive icon-based user interface provides a complete overview of the system via a large TFT display. The receiver, designed for maximum spectral efficiency, eliminates the need for complex intermodulation calculations. A broad variety of connection options allows for easy integration into existing audio and IT infrastructure. Receiver modules can be exchanged easily for upgrade and maintenance, making Digital 9000 a future-proof investment.

- 8-channel modular receiver system – tunable between 470 and 798 MHz
- Automatic compensation of RF cable loss
- Antenna remote control via the RF cable
- Built-in graphical spectrum analyzer and RF level recorder
- Analog and AES 3 output modules available, capable of a signal split of up to 1:6



SKM 9000

State-of-the-Art Handheld Transmitter.

Experience the outstanding clarity of the SKM 9000, a world class digital handheld transmitter ready to take on any challenge. The SKM 9000 is compatible with microphone capsules from evolution wireless G3 and 2000 Series, including the Neumann KK 204 and KK 205 capsules. Three new heads, ME 9002, ME 9004 and ME 9005, feature a new shock mount design for outstandingly low handling noise with a low pop sensitivity and the acoustic transparency of a permanently polarized condenser microphone. The MD 9235 dynamic capsule is the preferred specialist for loud live sound stages. The digital audio transmission of the SKM 9000 offers arrestingly great dynamics and is the ideal solution when wired microphones are used simultaneously. The artefact-free, uncompressed digital audio transmission is a perfect match to cable sound. Exchangeable energy packs with environment-friendly Lithium Ion technology supply the required energy while saving thousands of batteries over the life-time of the product.

- Expansive choice of acoustic capsule solutions for varying applications
- The pinnacle in practical operation and sound quality
- 4 exclusive Digital 9000 series microphone capsules with the lowest possible handling noise and pop sensitivity
- Compatible with the evolution wireless G3 / 2000 series microphone heads as well as Neumann capsules from the KK 200 series



SK 9000

World Class Bodypack Transmitter.

A powerful companion for every stage setting or outdoor application: this lightweight, digital bodypack transmitter ensures impeccable sound transmission even under the toughest conditions. The SK 9000 is compatible with 3-pin Lemo connector lavalier microphones, but also capable of providing cable-like audio transmission for guitars or other instruments with line level signals. The housing of the SK 9000 is made of die cast magnesium to offer the perfect balance between a lightweight design and roadworthy construction. Ease of use and safety against unwanted changes were the basis for the design of the user interface – an icon based menu structure and infrared synchronization with the receiver make set-up fast and efficient. As with the SKM 9000, exchangeable energy packs with environment-friendly Lithium Ion technology supply the required energy while saving thousands of batteries over time.

- Flexible use for a broad variety of audio sources
- 3-pin Lemo connector for lavalier microphones, guitars and instruments
- Robust and lightweight – easy to conceal in a costume and unobtrusive for a broadcast professional
- Magnesium housing

Accessories



A 9000
omnidirectional antenna



AD 9000
directional antenna



AB 9000
antenna booster

The remote-controlled antenna booster contains eight highly selective filters that each allow a 24 MHz frequency window to pass. This adds significant safety to the system, as unwanted signals are blocked directly before the first active component in the RF signal chain. For ease of use, the frequency window can be remotely selected or changed from the receiver. The linear RF amplifier offers exceptionally high resistance to intermodulation and can compensate for cable losses of up to 14 dB. The booster and receiver communicate with each other to verify the cable loss on the RF cable and adjust the gain automatically. The AB 9000 is available as a stand-alone booster or as an integrated component in either the A 9000 omnidirectional or the AD 9000 directional antenna.



ME 9002
omni-directional,
pre-polarized condenser



ME 9004
cardioid,
pre-polarized condenser



ME 9005
super-cardioid,
pre-polarized condenser



MD 9235
cardioid,
dynamic



MMD 835
cardioid,
dynamic



MMD 845
super-cardioid,
dynamic

MME 865
super-cardioid,
pre-polarized condenser

MMD 935
cardioid,
dynamic

MMD 945
super-cardioid,
dynamic

MMK 965
switchable,
true condenser

**Neumann
KK 204**
cardioid,
true condenser

**Neumann
KK 205**
super-cardioid,
true condenser



Accessories



L 60

The L 60 charges the BA 60 and BA 61 energy packs for the SK 9000 and SKM 9000. While the L 60 offers two charging slots, it can be cascaded with up to three additional chargers powered by a single NT 3-1 power supply. An empty cell is charged 70 % in 1 hour and 100 % in 3 hours. The L 60 has the ability to charge two BA 60, two BA 61, or one BA 60 and one BA 61.



KA 9000 COM

The KA 9000 COM command switch brings the command function to the SK 9000, making for communication between the talent and crew. By pushing the command button, the audio signal is switched from the XLR out to the SUB-D 25 multicore audio output of the receiver.



MKE 1

The various color and cable variations make the MKE 1 the most flexible clip-on microphone for any type of application. With its full and natural sound, the nearly invisible lavalier microphone is the new standard for live shows and broadcasting.

BA 60, B 60, BA 61, B 61

Four energy packs are available for the handheld and bodypack transmitters. The rechargeable BA 60 and BA 61 packs feature Lithium Ion technology. The built-in electronics check the charge state of the cell and provide a precise prediction of the remaining operating time. The BA 60 offers an operating time of 5½ hours for the SKM 9000, and the BA 61

offers 6½ hours of operating time for the SK 9000. The B 60 and B 61 are additional primary cell holders that offer a backup solution if no charged battery pack is available. The B 60 holds two AA batteries and works with the SKM 9000. The B 61 holds three AA batteries and works with the SK 9000.

GZL 9000, CI 1-4

The GZL 9000 is a low-loss antenna cable with a diameter of only 5.5 mm, with 0.22 dB/m attenuation at 500 MHz and 0.3 dB/m attenuation at 700 MHz. It connects via robust N-connectors. Electric guitars can also benefit from the uncompressed digital audio transmission of the SK 9000.

The CI 1-4 guitar cable allows for interconnectivity between a guitar and the SK 9000.

GZL 9000-A5: length 5 m / 1.1 – 1.5 dB loss
GZL 9000-A10: length 10 m / 2.2 – 3 dB loss
GZL 9000-A20: length 20 m / 4.4 – 6 dB loss
CI 1-4: guitar cable, length 1.5 m

EM 9046 CAB

The EM 9046 CAB is a set of cables to cascade multiple EM 9046.



EM 9046

RF characteristics

Frequency range	470 MHz to 798 MHz
Receiving channels	up to 8
Receiver principle	double superheterodyne
Diversity	True Bit Diversity
Sensitivity	"HD" mode: -86 dBm "LR" mode: -100 dBm
Antenna inputs	2 N-type sockets (50 Ω)
Daisy chain outputs	2 N-type sockets (50 Ω), amplification: 11 dB ±0.5 dB (related to booster input)
Daisy chainable receivers (HF)	max. 4 EM 9046 (32 channels)

Audio characteristics

Audio output voltage	XLR balanced, -10 dBu to +18 dBu in 1 dB steps (2 kΩ)
Headphone output	2 × 100 mW at 32 Ω, short-circuit proof
Digital audio output	AES3, XLR-3, 44.1 kHz; 48 kHz; 88.2 kHz or 96 kHz, 24 bit, ext. synchronizable
Audio output sockets	8 XLR-3 sockets and 1 multicore/ sub-D socket (25-pin) can be equipped with 2 audio modules, analog (AAO), digital (DAO) or mixed 8 XLR-3 sockets and 1 multicore/sub-D socket (25-pin) per audio module

Other characteristics

Power consumption	max. 250 W
Power supply	100 to 240 V~, 50/60 Hz
Mains connector	3-pin, protection class I as per IEC/EN 60320-1
Dimensions	177 × 449 × 496 mm (H × W × D, without handles)
Weight	approx. 17 kg (fully equipped with 1 AAO, 1 DAO, 8 DRX)
Booster supply	12 V DC via antenna socket, max. 200 mA each, short-circuit proof
LAN	IEEE 802.3-2002 (10/100 Mbit/s), shielded RJ 45 socket
Word clock input	BNC, 75 Ω, input voltage range: 200 mV ... 5 Vpp, max. input voltage: 15 V (DC + AC)
Word clock output	BNC, 75 Ω, output voltage: 3.0 Vpp ±500 mV at 75 Ω source impedance
Word clock sampling rates	44.1 kHz; 48 kHz; 88.2 kHz or 96 kHz

In compliance with / Approved by

Europe	EMC: EN 301489-1/-9 Radio: EN 300422-1/-2 Safety: EN 60065
USA	FCC: 47 CFR 15 subpart B
Canada	Industry Canada RSS-123, IC: 2099A-EM9000



SKM 9000

RF characteristics

Frequency ranges

470 MHz to 798 MHz, divided into 4 ranges:

SKM 9000 A1–A4: 470–558 MHz

SKM 9000 A5–A8: 550–638 MHz

SKM 9000 B1–B4: 630–718 MHz

SKM 9000 B5–B8: 710–798 MHz

88 MHz

Switching bandwidth

RF output power

“HD” mode: 10 mW rms, 50 mW peak

“LR” mode: 25 mW rms, 50 mW peak

< 5 ppm

Frequency stability

Tuneability

in steps of 25 kHz

Audio characteristics

Audio gain

adjustable in 3 dB steps from 0 dB to +62 dB

(depending on microphone head)

Lower cut-off frequency (–3 dB)

adjustable: 80 Hz, 100 Hz, 120 Hz

Other characteristics

Operating time

Power consumption

Dimensions

Weight

5.5 hrs (with BA 60 accupack)

max. 960 mW

270 × 40 mm (L × Ø)

approx. 350 g (with BA 60 accupack and ME 9005 microphone head)

In compliance with / Approved by

Europe

EMC: EN 301489-1/-9

Radio: EN 300422-1/-2

Safety: EN 60065, EN 62311 (SAR)

FCC Part 74

USA

FCC-ID: DMOSKM9000

limited to 698 MHz

Industry Canada

Canada

RSS-123, IC: 2099A-SKM9000

limited to 698 MHz



SK 9000

RF characteristics

Frequency ranges	470 MHz to 798 MHz, divided into 4 ranges: SK 9000 A1–A4: 470–558 MHz SK 9000 A5–A8: 550–638 MHz SK 9000 B1–B4: 630–718 MHz SK 9000 B5–B8: 710–798 MHz
Switching bandwidth	88 MHz
RF output power	“HD” mode: 10 mW rms, 50 mW peak “LR” mode: 25 mW rms, 50 mW peak
Frequency stability	< 5 ppm
Tuneability	in steps of 25 kHz
Antenna output	coax socket

Audio characteristics

Mic/line input	3-pin special audio socket
Audio gain	mic: adjustable in 3 dB steps from 0 dB to +42 dB instruments: adjustable in 3 dB steps from –6 dB to +9 dB line: –6 dB
Input impedance	mic: 22 kΩ
Lower cut-off frequency (–3 dB)	mic: adjustable 60 Hz, 80 Hz, 100 Hz, 120 Hz
Instrument cable emulation	cable length adjustable in 3 steps

Other characteristics

Operating time	6.5 hrs (with BA 61 accupack)
Power consumption	max. 960 mW
Dimensions	76 × 62 × 20 mm (H × W × D, with BA 61 accupack)
Weight	approx. 147 g (with BA 61 accupack and belt clip)

In compliance with / Approved by

Europe	EMC: EN 301489-1/-9 Radio: EN 300422-1/-2 Safety: EN 60065, EN 62311 (SAR)
USA	FCC part 74 / 47 CFR 15 subpart B FCC-ID: DMO SK9000 limited to 698 MHz
Canada	Industry Canada RSS-123, IC: 2099A-SK9000 limited to 698 MHz



A 9000 | AD 9000 | AB 9000

RF characteristics

Frequency ranges	470 MHz to 798 MHz, divided into 2 ranges: A1–A8: 470 MHz to 638 MHz B1–B8: 630 MHz to 798 MHz
Directivity	A 9000: omni-directional AD 9000: directional typ. 17 dB (constant)
Amplification	N-type socket (50 Ω)
Antenna input (AB 9000 only)	N-type socket (50 Ω)
Antenna output	A 9000: 3.2 dBi
Antenna gain	AD 9000: 4.6 dBi
Apex angle AD 9000	approx. 100° (-3 dB)
Front-to-back ratio AD 9000	≥ 14 dB
OIP3	≥ 35 dBm
Preselection 24 MHz	automatic or manual (without EM 9046) via rotary switch

In compliance with / Approved by

Europe	EMC: EN 301489-1/-9 Radio: EN 300422-1/-2 Safety: EN 60065
USA	FCC: 47 CFR 15 subpart B
Canada	Industry Canada RSS-123, IC: 2099A-EM9000

Other characteristics

Current consumption	max. 160 mA at 12 V
Voltage range	9 to 18 V DC feed via antenna cable from EM 9046
Mounting connection	3/7" or 5/7" thread
Dimensions	A 9000: 250 × 165 × 23 mm (H × W × D) AB 9000: 80 × 64 × 24 mm (H × W × D) AD 9000: 329 × 322 × 23 mm (H × W × D)
Weight	A 9000: approx. 390 g AB 9000: approx. 265 g AD 9000: approx. 625 g

Create Your Own Masterpiece.

The possibilities with Digital 9000 are almost endless. You can daisy-chain up to four EM 9046 receiver units to create a multi-channel wireless system, PC-controlled with unrivaled audio fidelity.

Specially designed antennas, boosters, and cables ensure smooth signal transmission, free of glitches under the toughest of circumstances.

The world-class mic heads and lavalier mics available for the Digital 9000 transmitters let you build the perfect system for your application. Both 9000 transmitters also employ specially engineered battery packs and charger units for reliable performance.

With its uncompressed, digital audio transmission, the Digital 9000 system leaves nothing to be desired. Premium sound quality and intermodulation-free wireless transmission keep your performance or broadcast running smoothly. Build the perfect system for your application. Create your own Masterpiece.

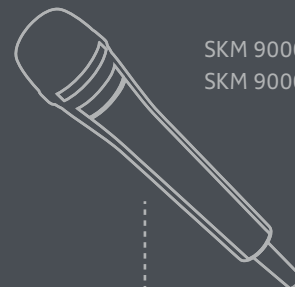


PC client

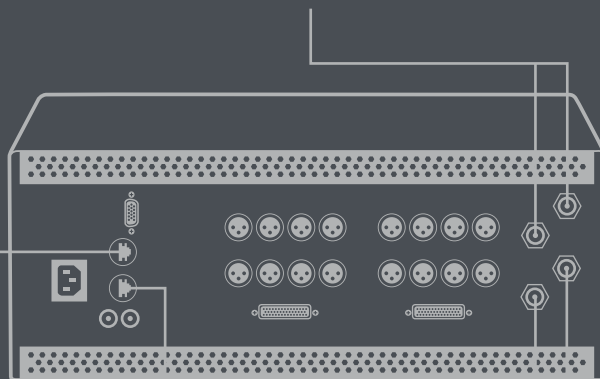
A 9000

AD 9000

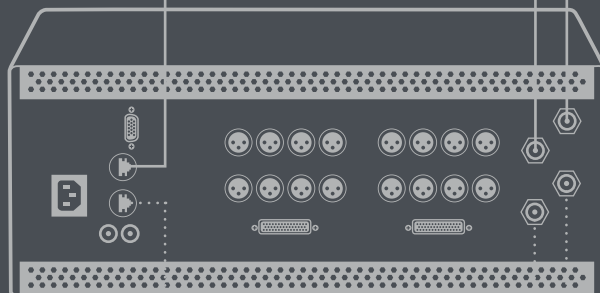
AB 9000



SKM 9000
SKM 9000 COM



EM 9046



SK 9000



MKE 1

