



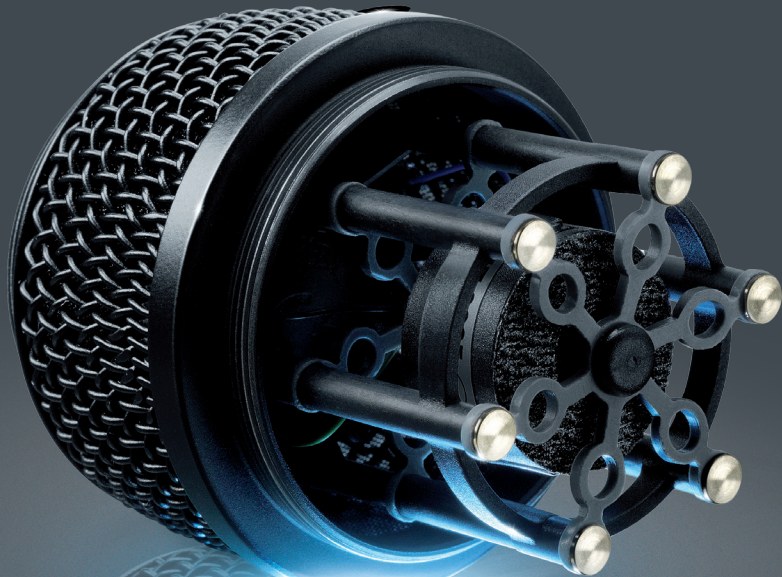
THE WIRELESS  
MASTERPIECE.

**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.



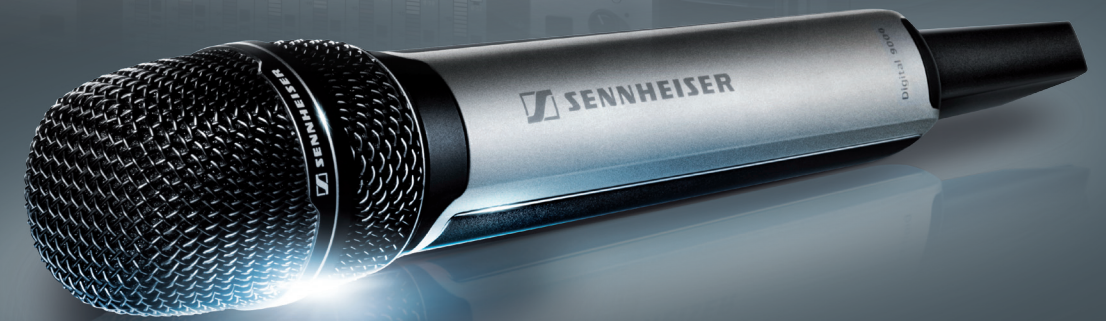
**WE PUSH, WE PROD.  
WE PULL APART.  
WE REDESIGN.  
WE REDEFINE.**

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.

Best in class goes digital: Introducing the DIGITAL 9000 system, delivering unprecedented levels of audio quality, performance and control for professional engineers. Demanding environments such as multi-channel broadcast and theater production require perfection – mistakes and drop-outs are unacceptable. DIGITAL 9000 is the world-class digital wireless solution professionals have demanded to meet that challenge. Representing over a decade of research and development, DIGITAL 9000 offers uncompressed digital audio transmission, immunity from intermodulation, stunning dynamics and purity of sound far ahead of analog wireless transmission. Easy to set up and operate, DIGITAL 9000 features an intuitive user interface that provides a clear, comprehensive system overview – even in stressful live situations. World-class digital has finally arrived. This is the pinnacle of innovation. This is DIGITAL 9000 – The Wireless Masterpiece.





## EM 9046

### The Heart of the System.

The new EM 9046 multichannel receiver is destined to become the reference standard throughout the broadcast and theatre production industries, like the legendary EM 1046 that came before.

The EM 9046 incorporates up to 8 digital receiving channels, each with 328 MHz of switching bandwidth covering the UHF spectrum from 470 to 798 MHz. A highly intuitive, icon-based user interface provides a complete system overview via a large TFT display. Designed for maximum spectral efficiency, the EM 9046 can safely accommodate as many as 40 channels within a 24 MHz frequency window. Complex intermodulation calculations are no longer necessary – operating frequencies can now be evenly spaced. A broad variety of connection options allow for easy integration into existing audio and IT infrastructure. Receiver modules can also be exchanged for upgrade and maintenance, making DIGITAL 9000 a future-proof investment.

- Fast setup and easy operation with an excellent system overview
- 8-channel modular receiver system – tunable between 470 and 798 MHz
- Automatic compensation of RF cable loss - even with very remote antennas
- Antenna loop-through to cascade up to 4 system units
- Built-in graphical spectrum analyzer and RF level recorder
- Simultaneous analog and digital (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 fully compatible with all microphone capsules from evolution wireless G3 and 2000 Series, including the Neumann KK 204 and KK 205 capsules. The new MD 9235 dynamic capsule is the preferred specialist for loud stages. Three new permanently polarized condenser capsules – ME 9002, ME 9004 and ME 9005 – feature a revolutionary shock mount design that delivers ultra-low handling noise and maximum pop suppression. The digital audio transmission of the SKM 9000 offers arresting dynamics and audio quality rivaling the best wired microphones. The artifact-free, uncompressed digital audio transmission in DIGITAL 9000 is a perfect match to cable sound. Exchangeable energy packs with environment-friendly Lithium Ion technology maximize operating time, while saving thousands of batteries over the lifetime 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.

Compact, lightweight and powerful, the SK 9000 bodypack transmitter ensures impeccable sound transmission even under the toughest conditions. Equipped with a robust 3-pin Lemo socket, the SK 9000 accommodates lavalier microphones, line and instrument signals, all with cable-like audio transmission. The housing of the SK 9000 is made of die cast magnesium to strike the perfect balance between lightweight design and roadworthy construction. Ease of use and safety against unwanted changes were the goals for the user interface, which features an intuitive icon based menu structure and infrared synchronization with the receiver for fast, efficient set-up. The SK 9000 can utilize exchangeable energy packs with environment-friendly Lithium Ion technology, maximizing operating time and 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
- Compact and lightweight – easy to conceal in a costume and unobtrusive for a broadcast professional
- Robust magnesium housing

# Accessories



**AB 9000**  
antenna booster



**A 9000**  
omnidirectional antenna



**AD 9000**  
directional antenna

DIGITAL 9000 utilizes the new remote-controlled AB 9000 antenna booster, which 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.



**MD 9235**  
cardioid,  
dynamic



**Neumann  
KK 204**  
cardioid,  
true condenser



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



**MMK 965**  
switchable: cardioid or  
super-cardioid,  
true condenser



**MMD 945**  
super-cardioid,  
dynamic



**MMD 935**  
cardioid,  
dynamic

**ME 9002**  
omni-directional,  
pre-polarized condenser



**ME 9004**  
cardioid,  
pre-polarized condenser



**ME 9005**  
super-cardioid,  
pre-polarized condenser



**MME 865**  
super-cardioid,  
pre-polarized condenser



**MMD 845**  
super-cardioid,  
dynamic



**MMD 835**  
cardioid,  
dynamic



# Accessories



## L 60

The L 60 charging station accommodates the BA 60 and BA 61 energy packs for the SK 9000 and SKM 9000. Up to four L60 chargers can be cascaded to create an 8-bay charging solution, 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 simultaneously charge two BA 60, two BA 61, or one of each. 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 easy communication between the talent & 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 ultra-miniature MKE 1 combines superb sound with optimum protection against sweat and moisture. With its full and natural sound, the nearly invisible lavalier microphone is the new standard for live shows and broadcasting. Available in black, white, brown, beige and a paintable version, the MKE 1 only picks up what it is meant to pick up - perfect sound.



## 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

The GZL 9000 is a low-loss antenna cable with a diameter of only 0.22 in. (5.5 mm), with 0.07 dB/ft. attenuation at 500 MHz and 0.09 dB/ft. attenuation at 700 MHz. It connects via robust N-connectors.

GZL 9000-A5: length 16.4 ft. / 1.1 – 1.5 dB loss  
GZL 9000-A10: length 32.8 ft. / 2.2 – 3 dB loss  
GZL 9000-A20: length 65.6 ft. / 4.4 – 6 dB loss



## CI 1-4

The CI 1-4 instrument cable allows guitars, basses and other line level signals to benefit from the uncompressed digital audio transmission of the SK 9000.

CI 1-4: guitar cable, length ~5 ft. (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	6.96 x 17.67 x 19.52 in. (H × W × D, without handles)
Weight	approx. 37.48 lbs. (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 698 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	"HD" mode: 10 mW rms, 50 mW peak
RF output power	"LR" mode: 25 mW rms, 50 mW peak < 5 ppm in steps of 25 kHz
Frequency stability	
Tuneability	

### 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

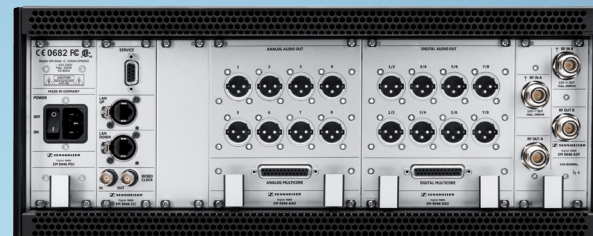
### Other characteristics

Operating time	5.5 hrs (with BA 60 accupack)
Power consumption	max. 960 mW
Dimensions	10.62 x 1.57 in. (L x W)
Weight	approx. 12.34 oz. (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
Canada	Industry Canada RSS-123, IC: 2099A-SKM9000 limited to 698 MHz

\* Transmitters and receivers with frequency range above 698 MHz are only for use outside of the U.S. per the FCC regulations





## SK 9000

### RF characteristics

<b>Frequency ranges</b>	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*
<b>Switching bandwidth</b>	88 MHz
<b>RF output power</b>	“HD” mode: 10 mW rms, 50 mW peak “LR” mode: 25 mW rms, 50 mW peak
<b>Frequency stability</b>	< 5 ppm
<b>Tuneability</b>	in steps of 25 kHz
<b>Antenna output</b>	coax socket

### Audio characteristics

<b>Mic/line input</b>	3-pin special audio socket
<b>Audio gain</b>	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
<b>Input impedance</b>	mic: 22 kΩ
<b>Lower cut-off frequency (–3 dB)</b>	mic: adjustable 60 Hz, 80 Hz, 100 Hz, 120 Hz
<b>Instrument cable emulation</b>	cable length adjustable in 3 steps

### Other characteristics

<b>Operating time</b>	6.5 hrs (with BA 61 accupack)
<b>Power consumption</b>	max. 960 mW
<b>Dimensions</b>	2.99 x 2.44 x .78 in. (H x W x D, with BA 61 accupack)
<b>Weight</b>	approx. 5.18 oz. (with BA 61 accupack and belt clip)

### In compliance with / Approved by

<b>Europe</b>	EMC: EN 301489-1/-9 Radio: EN 300422-1/-2 Safety: EN 60065, EN 62311 (SAR)
<b>USA</b>	FCC part 74 / 47 CFR 15 subpart B FCC-ID: DMOSK9000 limited to 698 MHz
<b>Canada</b>	Industry Canada RSS-123, IC: 2099A-SK9000 limited to 698 MHz

\* Transmitters and receivers with frequency range above 698 MHz are only for use outside of the U.S. per the FCC regulations

## A 9000 | AD 9000 | AB 9000

### RF characteristics

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

### Other characteristics

<b>Current consumption</b>	max. 160 mA at 12 V
<b>Voltage range</b>	9 to 18 V DC feed via antenna cable from EM 9046
<b>Mounting connection</b>	3/8" or 5/8" thread
<b>Dimensions</b>	A 9000: 9.84 x 6.49 x .90 in. (H x W x D) AB 9000: 3.14 x 2.51 x .94 in. (H x W x D) AD 9000: 12.95 x 12.67 x .90 in. (H x W x D)
<b>Weight</b>	A 9000: approx. 13.76 oz. AB 9000: approx. 9.35 oz. AD 9000: approx. 22.08 oz.

### In compliance with / Approved by

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



# 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 tailor the system to your application. Both Digital 9000 transmitters also employ specially engineered energy 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. Create your own Masterpiece.

