

MICROFLEX™ WIRELESS

**ENTERPRISE-SCALE MICROPHONE SOLUTIONS
FOR MANAGED AV ENVIRONMENTS**





Vivid, lifelike audio for conferencing.

Contemporary AV conferencing environments provide comfortable, productive places for people to meet and engage.

The Microflex® Wireless platform was developed by Shure with innovative conferencing spaces in mind, providing flexible and elegant solutions for capturing and managing vivid, lifelike sound in managed meeting environments.

Every system shares the same building blocks: intelligent rechargeable microphone transmitters and charging stations, discreet wireless access point transceivers, flexible audio network interfaces, and comprehensive software tools.

Easy to configure and expand, Microflex Wireless easily scales from custom boardrooms to networked enterprises.

System Overview



TAILORED & DISCREET SOLUTIONS

With 2-, 4- or 8-channel configurations and a versatile offering of modern, low-profile wireless transmitters, Microflex Wireless systems fit any conferencing application and are designed to install easily and disappear into diverse AV environments.



SCALABLE & NETWORK READY

Individual systems can be combined to support configurations of up to 80 compatible channels, or 160 channels in High Density mode (region dependent). Ethernet connectivity and Dante™ digital audio networking allow to connect to corporate networks for remote management and campus-wide implementation.



SECURE TRANSMISSIONS

Wireless audio transmission is protected by AES-256 encryption to ensure unbreakable privacy and confidentiality. Corporate-uplink mode can be used to keep digital audio off the corporate network while still allowing remote monitoring and system control.



COMPREHENSIVE SOFTWARE CONTROL

Integrated Microflex Wireless Control Software supports setup and allows real-time remote control of a system. Shure SystemOn™ Audio Asset Management Software provides a comprehensive solution for managing large-scale Microflex Wireless deployments, enabling AV / IT administrators to support campus-wide installations from one central platform.



PRISTINE AUDIO

Microflex microphone elements flawlessly capture the detailed characteristics of the human voice. Legendary Shure quality and reliability preserve the vocal nuances to ensure realistic and natural communication.



INTELLIGENT PERFORMANCE

Transmitters become instantly active when removed from the Networked Charging Station. While the system is in use, the Access Point Transceiver actively scans the available spectrum, automatically coordinates clean frequencies for every microphone channel and moves away from unexpected interference.



ADVANCED POWER MANAGEMENT

Smart lithium-ion rechargeable batteries deliver up to 9 hours of continuous use, ensuring that transmitters can operate for a full working day. Standby mode allows energy saving, and remaining battery life or charge details can be monitored remotely over the network, accurate to hours and minutes.



THIRD PARTY INTEGRATION

Microflex Wireless offers an expanded level of integration with numerous leading third party AV hardware and software solutions. The system is fully compatible with control and automation systems and other downstream equipment, reducing setup time and streamlining the workflow when using a complete AV system.





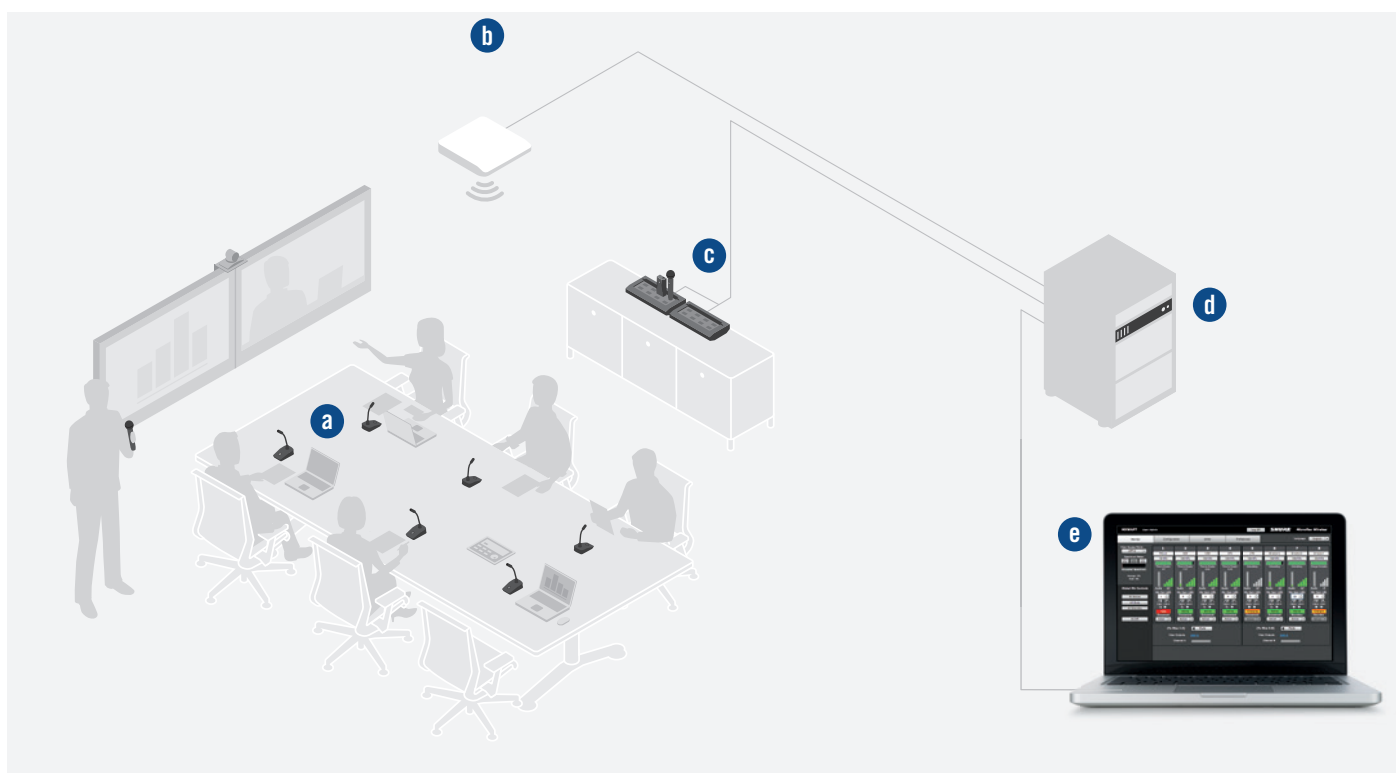
Conference Room Application

Microflex® Wireless systems bring wireless elegance and flexibility to meeting spaces where a wired solution is not preferred, or to historic buildings where running cables and drilling holes is not possible.

With a single Microflex Access Point Transceiver mounted discreetly in the room, you can easily manage up to 8 wireless microphones in any configuration your application requires—boundary, gooseneck, bodypack or handheld. Add more Access Point Transceivers for up to 160 compatible channels (*in High Density Mode, region dependent*).

When you need to reconfigure a room—from a formal boardroom setup to an AV workroom—modular, wireless components easily flex to meet the channel capacity and transmitter requirements of new conferencing applications.

Additionally, Microflex Wireless systems are fully compatible with leading third-party control systems such as AMX® and Crestron, as well as AV conferencing solutions like Cisco® and Polycom®.



a Wireless Microphones

Elegant boundary, gooseneck, bodypack and handheld transmitters send and receive audio signal and data wirelessly to the Access Point Transceiver.

b Access Point Transceiver

Manages the wireless link with transmitters and connects to the Audio Network Interface via Ethernet over a single Cat5e cable for power (PoE), digital audio and control signal routing.

c Networked Charging Stations

2-, 4- and 8-bay stations fully charge batteries within 2 hours and connect to the Audio Network Interface via Ethernet over Cat5e cable. They provide real-time monitoring of charge status and one-touch linking of docked wireless microphones.

d Audio Network Interface

Converts Dante™ digital networked audio from the Access Point Transceiver to per-channel analog audio output for connectivity to teleconference systems, local sound reinforcement or other audio components. Also provides a 4-port switch, making it easy to set up a Microflex Wireless system without needing additional networking hardware.

e Microflex Wireless Control Software

Browser-based software provides remote control of key set-up and monitoring functions. Remotely view spectrum usage and remaining battery life in hours and minutes, adjust audio levels, set mute button and light ring behavior, and configure system connections. Also allows custom integration into third party control systems such as AMX® and Crestron®.



Enterprise Applications

For sites where AV / IT teams manage diverse AV applications that span rooms, floors, buildings and campuses, networkable Microflex® Wireless components extend the reach and efficiency of team resources.

Microflex Wireless extends the Shure legacy of best-in-class audio to boardrooms, huddle rooms and meeting spaces, as well as education and training facilities of all sizes, delivering an enterprise-scale solution with confidence.

All components in the Microflex Wireless system are connected and accessible over Ethernet networks. Any number of networked systems can be setup, managed, monitored and controlled on-site or remotely via web browser.

Shure SystemOn™ Audio Asset Management Software provides comprehensive centralized IT support and real-time troubleshooting across entire networks, particularly for large-scale deployments. The software provides a hardware status view from one central portal and proactively identifies issues such as low batteries and missing or offline equipment. AV / IT admins are able to detect problems before they become critical and respond quickly and efficiently, eliminating the need for on-site troubleshooting.



a Multi-Purpose Room
Flexible, scalable rooms that are easily reconfigured for training sessions and events.

b Auditorium / Theater / Lecture Hall
Media rich presentation halls for direct, keynote-type presentations or lectures with audience participation.

c AV Conferencing Room / Huddle Room
Intimate conference spaces for engaging with remote participants.

d Boardroom
Highly aesthetic spaces for executive-level meetings and presentations.

Wireless Microphone Transmitters

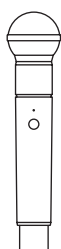
MXW2

Handheld Transmitter

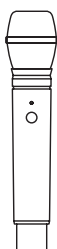


Durable, lightweight handheld transmitter with integrated antenna. Accepts signature Shure vocal microphone capsules.

- Interchangeable microphone heads
- Dual transmit antennas maximize signal strength depending on hand placement



With SM58® and Beta 58A® microphone cartridges



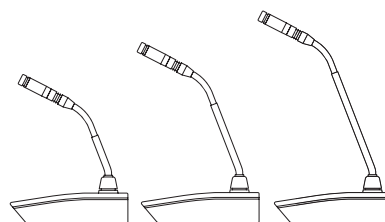
With SM86 and VP68 microphone cartridges

MXW8

Gooseneck Base Transmitter

Stylish, contoured design with minimal footprint. Accepts Microflex modular gooseneck microphones available in multiple lengths with polar pattern and LED options.

- Programmable LED light ring
- Earphone output for return channel audio
- Concealed power switch prevents accidental powering off



Compatible with 5, 10, and 15 inch Microflex Modular Goosenecks



MXW1

Hybrid Bodypack Transmitter

Compact bodypack with integrated omni microphone perfect for use on a lanyard or in a shirt pocket, with external mic input and belt clip included for attachment to clothing.

- External mic input for easy connection to ear-worn and lavalier mics
- Integrated omnidirectional microphone with external input auto switchover feature
- Earphone output for return channel audio



MXW6

Boundary Transmitter

Low-profile wireless boundary microphone offers flexible placement on any surface in front of one or multiple speakers.

- Available with cardioid or omnidirectional pickup patterns
- Low battery indicator LED
- Earphone output for return channel audio
- Concealed power switch prevents accidental powering off

Microflex Wireless Microphone Features:

- AES-256 encryption
- Advanced li-ion rechargeability; up to 9 hours continuous use
- Programmable mute button
- Full range audio (mic dependent)
- Bi-directional wireless for real time remote control of settings
- Up to 50 m (160 ft.) transmission range
- Adjustable power limits to maximize the number of transmitters to operate in separate rooms
- Range warning alert emits beeping sound when range exceeded
- Connect to any standard USB power source for "always on" usage
- Standby mode significantly extends battery life during periods of inactivity
- CommShield® Technology prevents audible interference from consumer wireless devices



Network Connectivity

MXWAPT2 | MXWAPT4 | MXWAPT8

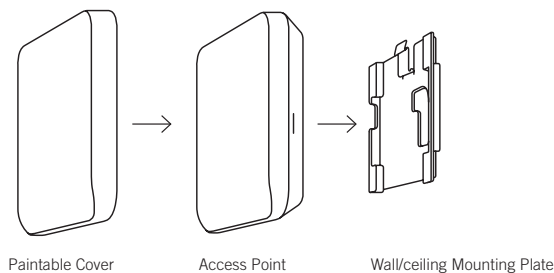
Access Point Transceiver

Low-profile Access Point Transceivers maintain two-way audio and data links with 2, 4 or 8 synced wireless microphones. The Access Point Transceiver features Power over Ethernet connectivity, is easily installed and connected to the network, and ships with wall/ceiling mounting plate and a paintable cover to match the room color.

- Compact design and slim profile (7"x7"x1½") with paintable cover
- Can be powered over Ethernet by the Audio Network Interface
- Plenum rated for installation flexibility
- 2-, 4- or 8-channel models, up to 80 compatible channels per room in standard mode*
- High Density mode doubles the max. number of MXW transmitters, up to 160 channels**
- Bi-directional wireless for both audio signal and control data
- Automated frequency coordination
- Dante™ digital networked audio enables audio routing over Ethernet to any Dante-enabled equipment
- AES-256 encryption

* Total number of channels is region dependent.

** High Density mode available with MXW firmware version 5.x or later. Can be selected for each individual MXWAPT in the browser-based control interface.



Dante Digital Audio Networking offers a total solution that enables transport of low-latency, multi-channel, uncompressed digital audio over standard IP Ethernet networks.

MXWANI4 | MXWANI8

Audio Network Interface

With per-channel analog outputs and a versatile 4 port gigabit Ethernet switch, these rack-mountable 4-channel and 8-channel units are the central point for connecting Microflex Wireless systems to teleconferencing and presentation AV networks.

- 4 or 8 block connector channel outputs
- 1 or 2 mono block connector inputs for return channel audio
- 4 port gigabit switch with optimized port configurations
- Power over Ethernet (PoE) connection to the Access Point Transceiver
- Front panel controls allow adjustment of input and output levels and channel muting and soloing
- Supports Dante™ networking of digital audio for low latency transport and recording
- Headphone output to solo audio channels



MXWANI4 4-Channel Audio Network Interface: Rear Panel



MXWANI8 8-Channel Audio Network Interface: Rear Panel

Networked Charging Stations

MXWNCS2 | MXWNCS4 | MXWNCS8

Networked Charging Stations

Versatile 2-, 4- and 8-bay chargers include docking USB charge ports that accept any Microflex Wireless transmitter*. Ethernet system connection supplies remote battery status monitoring via the control software and easy transmitter linking to the Access Point Transceiver.

*MXWNCS2 not compatible with MXW8 Transmitter

- Connects to the system over Ethernet
- Monitor remaining battery life and charge levels in hours and minutes over the network
- Easy linking of docked microphones to Access Point Transceivers
- Charges to full in 2 hours; 50% charge in 1 hour
- Front panel LEDs report 10, 25, 50, 75 and 100% levels



MXWNCS8
8-bay Charging Station



MXWNCS2
2-bay Charging Station



MXWNCS4
4 bay Charging Station



Software Control

Microflex Wireless Control Software

Browser-based control software that offers comprehensive remote monitoring and control of all settings and status parameters over the web, a corporate network or an AV local area network.

- Spectrum scanner provides data on spectrum availability with channel count estimates
- Battery life and charge level monitoring in hours and minutes
- Mic gain, low and high pass audio adjustment
- Individual and global mic controls for powering on/off and triggering mute and standby modes
- Set preferences to program default system behavior

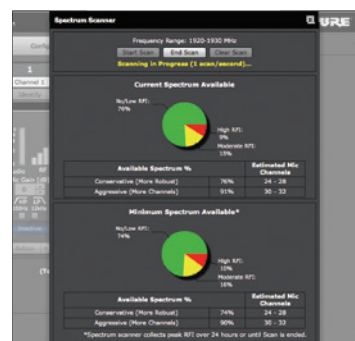
Note: Microflex Wireless Control Software allows monitoring and control of individual MXW systems at a time. For consolidated overview of all MXW systems across an entire network, SystemOn Software is recommended.



MXW18
Audio Network Interface



Preferences Tab



Spectrum Scanner

SystemOn™ Audio Asset Management Software



Shure SystemOn Audio Asset Management Software was developed for managing mission critical or large-scale deployments of Shure audio hardware across corporate and higher education networks from one central platform. SystemOn tracks audio levels, battery life and RF/spectrum status in real time, enabling IT administrators and AV technicians to monitor and control Shure hardware devices remotely using a laptop, smartphone, or tablet.



Centralized Monitoring & Control

- Automatically discovers Shure devices on the same subnet via IP address
- Allows to manage devices across subnets
- Provides real-time status of wireless system and device attributes, and captures event history
- Remotely controls audio gain, muting and RF channel assignments



Remote Response Troubleshooting

- Instant notification of low battery and missing devices to AV/IT administrator
- Remote muting, device identification, and single-view audio gain adjustment
- Real-time room status for help desk for greater efficiency
- Offline system status notifications via email and SMS text

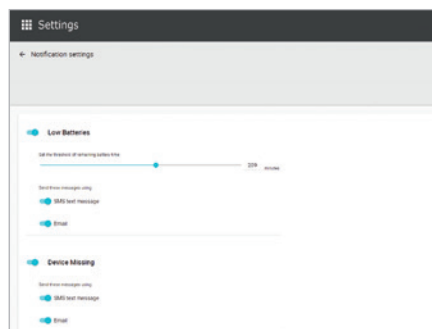


Simple Configuration

- Streamlined login by selecting users from existing enterprise directories
- Customizable user access and permissions based on role or location
- Direct link between hardware and software requires zero programming
- Seamless feature and software updates
- Language options customizable to individual account settings

Device Name	IP Address	Status	Location
MXW18-001	192.168.1.101	Online	Room 101
MXW18-002	192.168.1.102	Online	Room 102
MXW18-003	192.168.1.103	Online	Room 103
MXW18-004	192.168.1.104	Online	Room 104
MXW18-005	192.168.1.105	Online	Room 105
MXW18-006	192.168.1.106	Online	Room 106
MXW18-007	192.168.1.107	Online	Room 107
MXW18-008	192.168.1.108	Online	Room 108
MXW18-009	192.168.1.109	Online	Room 109
MXW18-010	192.168.1.110	Online	Room 110

Inventory Management



Notifications

Name	Email	Role
Admin User	admin@shure.com	Administrator
Audrey Dempsey	dempsey@shure.com	Technician
Jim Swenson	swenson@shure.com	Technician
Sarah Adams	adams@shure.com	Technician
Tracy Lange	lange@shure.com	Administrator

Users & Roles

SystemOn also supports Shure ULX-D® Digital Wireless Systems and SCM820 Intellimix® Automatic Mixers.

The software is available through a subscription model. Each IP-addressable device requires one license. For more details, visit www.shure.com

Microflex Wireless Specifications (Note: Some specifications subject to change.)

SYSTEM

Working Range:

50 m (160 ft)

Note: Actual range depends on RF power setting, signal absorption, reflection and interference.

RF Carrier Frequency Range (Band):

USA, Canada, Mexico: 1920–1930 MHz (Z10)

EMEA, Asia: 1880–1900 MHz (Z11)

Audio Frequency Response:

50 Hz–20 kHz (+1, –3 dB)

Note: Dependent on microphone type

Dynamic Range:

>99 dB, A-weighted

System Gain:

Mic gain @ 0dB to line level output on MXWANI through Dante

+50 dB

Latency:

18 ms, nominal

RF Sensitivity:

–87 dBm, minimum

RF Output Power:

19dBm (80mW) maximum

Cable Requirements:

Cat 5e or higher, shielded, 100m max.between network devices

Network Addressing Capability:

DHCP, link-local, static

Operating Temperature Range:

0°C (32°F) to 49°C (120°F)

Storage Temperature Range:

–29°C (–20°F) to 74°C (165°F)

NETWORKED CHARGING STATION

Charge Time:

MXW1, MXW6, MXW8: 2 hours

MXW2: 3 hours

Network Interface:

10/100 Mbps Ethernet

Power Requirement:

15 V DC @ 3.3 A maximum

Dimensions:

NCS8: 68 mm × 343 mm × 184 mm

NCS4: 68 mm × 191 mm × 184 mm

NCS2: 48 mm × 102 mm × 153 mm

Weight:

NCS8: 2.9 kg (6.4 lbs)

NCS4: 1.7 kg (3.7 lbs)

NCS2: 0.8 kg (3.7 lbs)

TRANSMITTERS

Gain Adjustment Range:

–25 to +15 dB (in 1 dB steps)

Maximum Input Level:

Mic gain @ –16 dB

–9 dBV

Headphone Output:

3.5 mm (1/8"), dual mono

(will drive stereo phones)

Maximum Headphone Output Power:

1kHz @ 1% distortion, peak power, @16Ω

17.5 mW

Antenna Type:

Internal, Spacial Diversity,

Linear Polarization

Battery Type:

Rechargeable Li-Ion

Battery Life:

Standard Density Mode:

Up to 8 hours (MXW1, MXW6, MXW8)

Up to 15 hours (MXW2)

High Density Mode:

Up to 9 hours (MXW1, MXW6, MXW8)

Up to 16 hours (MXW2)

Charge Connector:

USB 3.0 Type A

Housing:

Molded Plastic

Storage Temperature Range:

–29°C (–20°F) to 74°C (165°F)

MXW1 HYBRID BODYPACK TRANSMITTER

Microphone Connector:

4-Pin male mini connector (TA4M),

See drawing for details

Internal Microphone:

Omnidirectional (20 Hz – 20 kHz)

Dimensions:

22 mm × 45 mm × 99 mm

(0.9 in. × 1.8 in. × 3.9 in.)

Weight:

85 g (3.0 oz.)

with batteries, without microphone

MXW2 HANDHELD TRANSMITTER

Microphone Capsule:

SM58®, SM86, Beta58A®, VP68

Dimensions:

226 mm × 51 mm

(8.9 in. × 2.0 in.) L × Dia.

including SM58 microphone capsule

Weight:

323 g (11.4 oz.)

with batteries, including

SM58 microphone capsule

MXW6 BOUNDARY TRANSMITTER

Microphone Capsule:

MXW6/O R183B

MXW6/C R185B

Dimensions:

23 mm × 44 mm × 114 mm

(0.9 in. × 1.75 in. × 4.5 in.)

Weight:

108 g (3.8 oz.) *with batteries*

MXW8 GOOSENECK BASE TRANSMITTER

Microphone Connector:

6-pin connector for Shure MX405/10/15

Dimensions:

36 mm × 71 mm × 124 mm

(1.4 in. × 2.8 in. × 4.9 in.) H × W × D

Weight:

193 g (6.8 oz.)

with batteries, without microphone

ACCESS POINT TRANSCEIVER

Network Interface:

RJ45: Gigabit Ethernet,

Dante digital audio

Power Requirement:

Power over Ethernet (PoE)

Class 0, 6.5W

Antenna Type:

Internal, Spacial Diversity,

Circular Polarization

Housing:

Molded Plastic, Cast Zinc

Plenum Rating:

UL2043

Dimensions:

24 mm × 170 mm × 170 mm

(1.35 in. × 6.7 in. × 6.7 in.)

Without mounting plate or cover

Weight:

APT8: 856 g (1.9 lbs)

APT4: 845 g (1.86 lbs)

APT2: 845 g (1.86 lbs)

AUDIO NETWORK INTERFACE

Network Interface:

Four-Port Gigabit Ethernet Switch,

Dante digital audio

AD/DA Converter:

24-bit, 48 kHz

Latency:

Estimated Nominal, ±0.1 ms

Analog-to-Dante: 0.21 ms

Dante-to-Analog: 0.24 ms + TN

TN = Network latency in milliseconds, as

set in Dante Controller. Note: Dante network

latency is typically associated with the

receiving device.

Audio Frequency Response:

20 Hz to 20 kHz (+1, –1.5 dB)

Dynamic Range:

20 Hz to 20 kHz, A-weighted, typical

Analog-to-Dante: 113 dB

Dante-to-Analog: 110 dB

Power Requirements:

100 to 240 V AC, 50-60 Hz, 1 A

Output Noise:

20 Hz to 20 kHz, A-weighted, typical

Line: –84.5 dBV

Aux: –95.2 dBV

Mic: –106.5 dBV

Dimensions:

44 mm × 483 mm × 366 mm

(1.7 in. × 19.0 in. × 14.4 in.)

Weight:

MXWANI4: 3.1 k.g (6.9 lbs)

MXWANI8: 3.2 kg (7.1 lbs)

Dante is a trademark of Audinate Pty Ltd.

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