

# MICROFLEX<sup>®</sup> ADVANCE<sup>™</sup>

THE INVISIBLE AUDIO SOLUTION  
FOR AV CONFERENCING





## IN A/V, THE 'A' IS ESSENTIAL

Videoconferencing has become an essential tool for business communication. But it's easy to forget that the majority of the content is actually carried by the audio, not the video. If the camera fails during a videoconference, the meeting can go on virtually unimpeded. But if the audio fails, the meeting stops.

In business meetings, the voice does most of the work and we make decisions based on what we hear. Poor sound deprives us of valuable information and makes our brain work harder to compensate. After a while, we experience fatigue, and we struggle to pay attention.

Shure believes that good sound directly contributes to the well being, productivity, creativity, and connectedness of people in the workplace – and that room designers do not have to choose between sound and style.

Our mission is to develop audio tools that capture the voice naturally, fit harmoniously with the room's appearance, and make it effortless to connect people. Microflex Advance is a new series of audio products that uses advanced technology to provide outstanding sound quality, flexibility, and usability without compromising the appearance of the room.

Microflex Advance  
MXA910 Ceiling Array Microphone



Microflex Advance  
MXA310 Table Array Microphone



## ELEGANT DESIGN. ELOQUENT PERFORMANCE

Introducing Microflex® Advance™ networked array microphones: versatile and elegant AV conferencing solutions that discreetly and precisely capture the richness of the human voice.

Shure Microflex Advance array microphones feature new technologies that fundamentally change voice coverage and capture in AV conferencing environments.

Microflex Advance **Ceiling Arrays** provide configurable and invisible coverage from above for rooms of any size, shape or application.

Microflex Advance **Table Arrays** provide versatile and adjustable coverage areas in elegant, low-profile table-top solutions.

Both feature new Shure software tools that enable AV conference room designers to be more creative and conference managers to be more productive.

# WHY SHOULD YOU LISTEN?

## SYSTEM DESIGNER & INTEGRATOR

Microflex® Advance™ offers increased efficiency and unique application flexibility that let you deliver great AV solutions much faster. The power of Shure IntelliMix® and Dante™ make system design, installation, and configuration simple and straightforward.

## ARCHITECT & INTERIOR DESIGNER

Providing an “invisible” audio solution, Microflex Advance enables architects and interior designers to create visually stunning workspaces, without sacrificing sound quality. It gives clients the style they want and the audio quality they need.

## CEO

Teams work more effectively and produce better results when communication between their members is natural and effortless. Microflex Advance eliminates inefficient meetings caused by poor audio, and allows the team to focus on their work rather than spending time to make things work.

## USER

Microflex Advance enables users to be more productive and creative – simply, to do their best work. It enhances communication by allowing everyone to hear, and be heard and understood clearly, while removing distractions and avoiding listener fatigue during collaboration sessions.

## IT MANAGER & ADMINISTRATOR

Microflex Advance smoothly integrates into your existing IT infrastructure, without affecting network speed or performance. Scalable to any size, with central control capabilities, it makes AV/IT support more effective and less time consuming.

## CFO & FINANCE TEAM

Microflex Advance is a cost-effective audio solution that can be deployed in a variety of applications, eliminating the need for separate audio equipment purchases for audio-only and video conferencing use. Backed by industry-leading service and proven reliability, it presents a future-proof investment.

# ULTIMATE AV FLEXIBILITY

Ceiling Arrays use Steerable Coverage™ technology to position pick-up areas throughout a room with coverage more precise than shotgun microphones.

## Configurable Coverage

Configure up to eight pick-up patterns in three dimensions and adjust them for uniform acoustic performance throughout the room. Each Ceiling Array lobe can be steered toward a participant using the Auto Configuration mode in the control software for quick audio setup and capture.

## Flexible Networking

Mix, route and manage the signals from up to eight coverage areas as discrete channels on a Dante network over a single Ethernet cable. An individual automix channel provides added flexibility.

## Workflow Efficiency

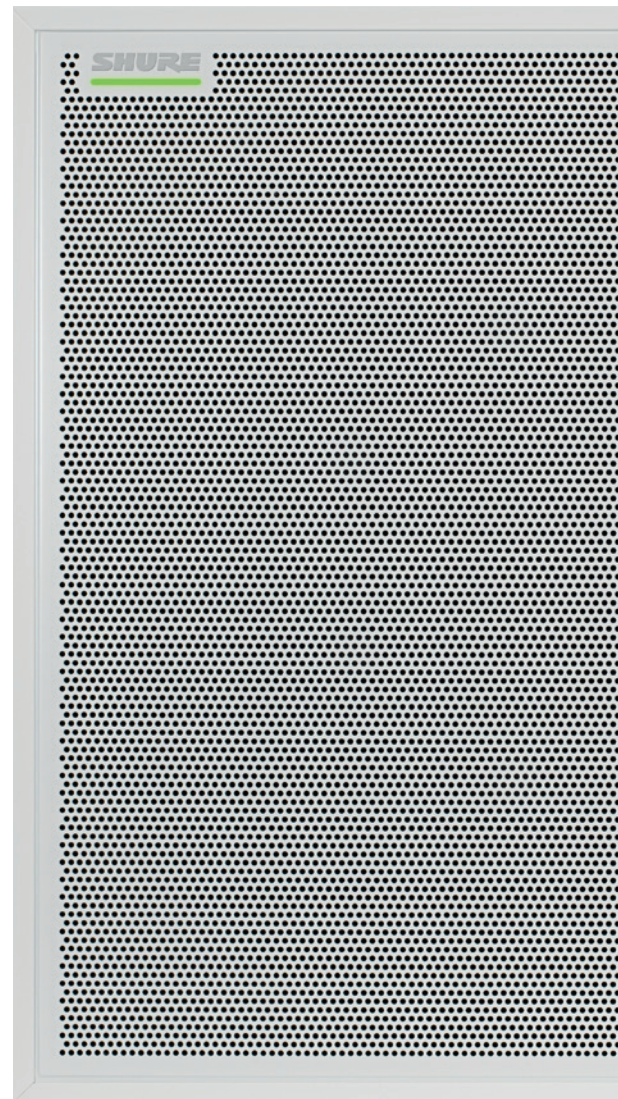
The microphone includes multiple templates to speed initial set-up and ten presets for importing or exporting array configurations.

## Digital Signal Processing

Microflex® Advance™ Ceiling arrays feature Shure DSP Utilities for precise coverage settings, automatic mixing, equalization, and echo reduction (page 12).

## Elegant Modern Design

Seamlessly integrate arrays within room designs via flush mounting (standard tile dimensions), slightly proud, pole or suspension mounts. Steerable Coverage technology and patented array technology enable positioning pick-up areas with coverage more precise than shotgun microphones\*.



**Microflex Advance**  
**MXA910** Ceiling Array Microphone

\*U.S. Patent No. 9,565,493

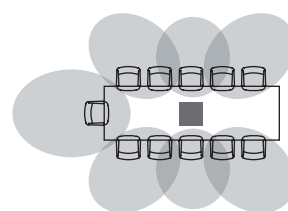




## Application Profile

A Ceiling Array is ideal for formal boardrooms where a clean work surface is preferred. This microphone is configured to capture seven discrete listening areas with coverage for an 11-seat meeting.

Under average room conditions, at a height of approx. 3 meters with seated participants, the recommended coverage diameter is approx. 9 meters.



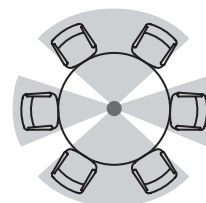
**Coverage Map**  
 11 Chairs  
 1 Rectangular Table  
 7 Coverage Areas



## Application Profile

Table Arrays are ideal for meeting rooms where the number of attendees varies and an uncluttered table is preferred.

The image on the right shows the MXA310 with two cardioid patterns and one bi-directional pick-up pattern to capture the voices of six participants. Note that this application scenario is one of many that can utilize up to four channels.



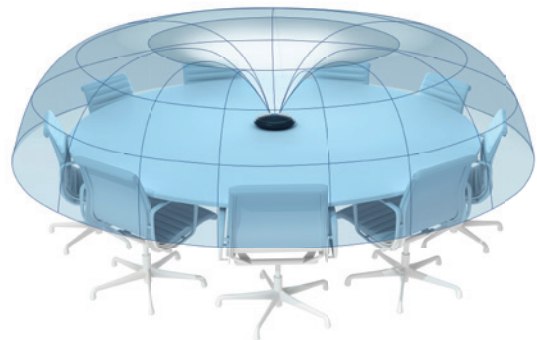
**Coverage Map**  
 6 Chairs 1 1 Round Table  
 1 Bi-Directional Pattern  
 2 Cardioid Patterns

# AGILE TABLETOP PERFORMANCE

Table Array microphones use Steerable Coverage™ technology to capture pristine audio around conferencing tables of different sizes, shapes and uses.

## Configurable Coverage

Set the coverage geometry for up to four areas in 15° increments, and specify the polar pattern for each configuration including cardioid, supercardioid, hypercardioid, omnidirectional, bi-directional and a toroid pattern. Patented technology enables more consistent polar patterns\*.



### Exclusive Toroid Pattern

Rejects overhead noise from HVAC, projectors and other sources, optimizing the voices of seated or standing meeting participants.

## Flexible Networking

Mix, route and manage the signals from up to four coverage areas as discrete channels on a Dante network over a single Ethernet cable. An individual automix channel provides added flexibility.

## Mute Controls

Program the touch-sensitive mute button for toggle, push-to-mute, push-to-talk or disable settings to send controls to external devices.

## LED Displays

The configurable multi-colored LED light ring shows the mute status of the microphone in use and displays lighted segments during set-up to confirm coverage areas and automix settings.

### Color LED Choices

Specify one of 8 LED colors to communicate microphone mute states, room security levels or other conditions.



Microflex Advance  
MXA310 Table Array Microphone

\*U.S. Patent No. 9,554,207

# SIMPLY SMARTER SOLUTIONS

Both arrays include Shure DSP Utilities, an expanded toolset of proprietary DSP tools that optimize voice quality by reducing room noise and improving speech intelligibility.

## Shure DSP Utilities

### Steerable Coverage™

Configure and control incredibly accurate polar patterns captured from participants in any location of a meeting space. Preconfigured templates in the control software simplify setup.

### Echo Reduction *(Ceiling Array only)*

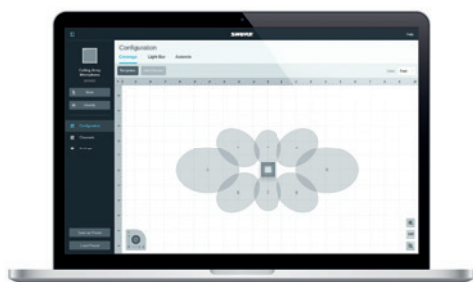
Employs a simple way of reducing acoustic echo by preventing far end participants from activating local microphone channels. Very effective as a front end to codecs with single channel AEC.

### Automatic Mixing

Increases clarity and reduces noise. This yields improved quality, intelligibility and seamless interaction between conference sites.

### Parametric Equalization (PEQ)

Each Ceiling Array and ANIs channel features a 4-band PEQ for the precise control of sound, while Table Arrays feature a 4-band PEQ that is assignable to any channel including the Automatic Mixer output channel.



## Browser-Based Tools

Both array microphones and the ANIs feature browser-based tools that make it easy to remotely monitor and control microphones, configure capture areas using convenient templates, set polar pattern and specify mixing preferences.

## Designer System Configuration Software

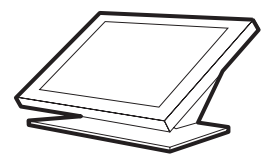
The Designer System Configuration Software allows system integrators to configure multiple virtual MXA910 Ceiling Arrays in one tool. Pickup lobes can be arranged for all of the MXA910's over an imported room diagram to ensure precise coverage. Settings can be saved and then imported to each physical MXA910 on site.



## Rich Third-Party Controls

Both microphones work seamlessly with audio conferencing processors, video conferencing codecs, and PC-based conferencing.

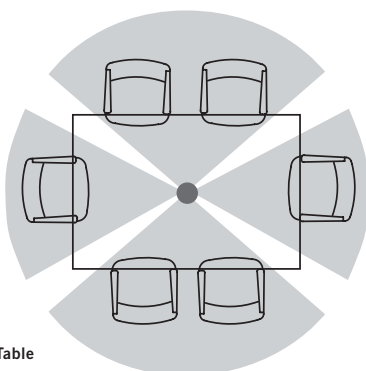
They also offer an extensive API (Application Programming Interface) for versatile integration and control of muting, presets, LED states and other settings via third-party control systems.



# APPLICATION FLEXIBILITY

Match single or multiple arrays to the AV conferencing needs of rooms of any size, configuration or activity: formal presentations, intimate discussions, distance learning or collaborative work.

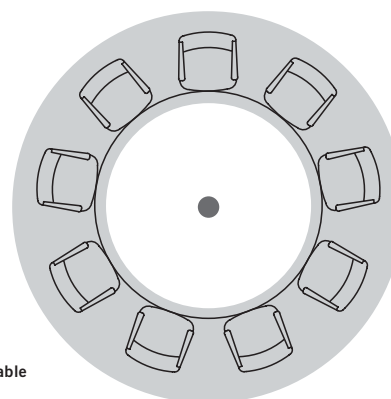
## Table Array Coverage Maps



**Small Rectangular Table**  
1 Table Array

Profile  
6 Chairs  
1 Rectangular Table

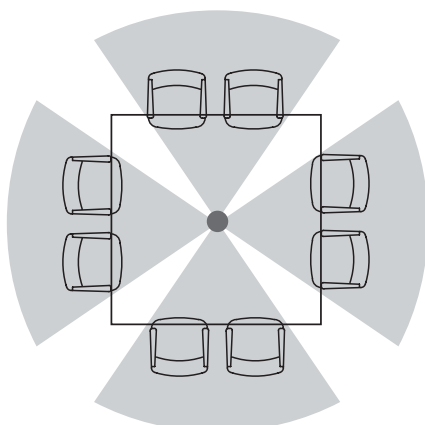
**1 Bi-Directional Pattern**  
**2 Cardioid Patterns**



**Medium Round Table**  
1 Table Array

Profile  
9 Chairs  
1 Round Table

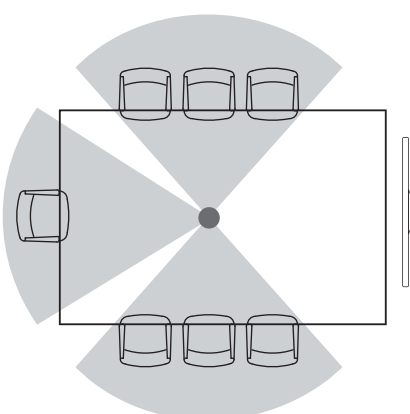
**1 Toroid Pattern**



**Square Table**  
1 Table Array

Profile  
8 Chairs  
1 Square Table

**4 Supercardioid Patterns**

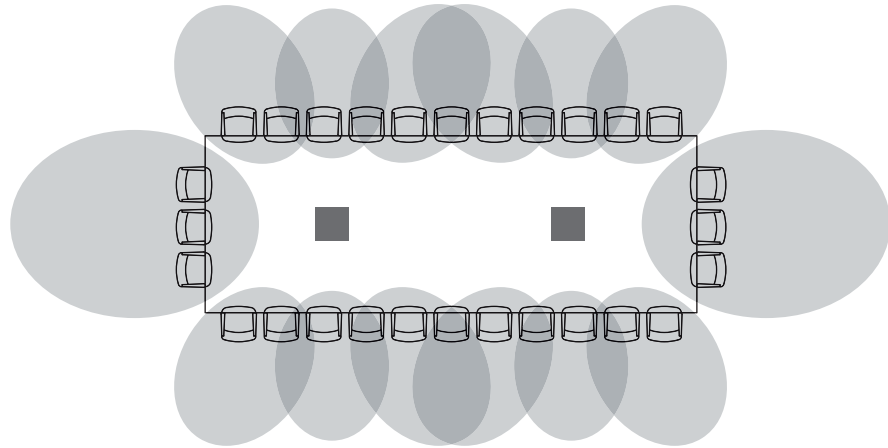


**Rectangular Table**  
1 Table Array

Profile  
5 Chairs  
1 Rectangular Table

**1 Supercardioid Pattern**  
**2 Cardioid Patterns**

# Ceiling Array Coverage Maps\*



**Large Conference Room**  
2 Ceiling Arrays

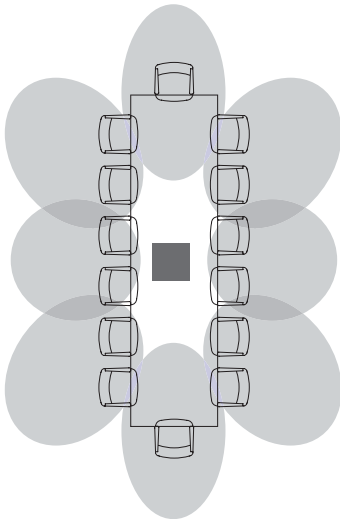
Profile  
28 Chairs  
1 Rectangular Table

**14 Coverage Areas**

**Medium Conference Room**  
1 Ceiling Array

Profile  
14 Chairs  
1 Rectangular Table

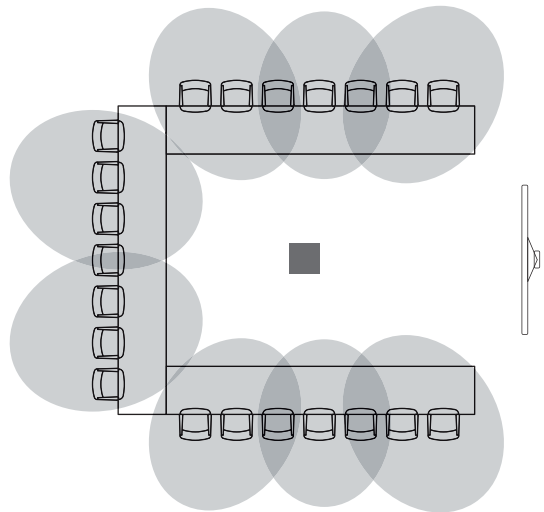
**8 Coverage Areas**



**Videoconference Room**  
1 Ceiling Array

Profile  
21 Chairs  
3 Rectangular Tables

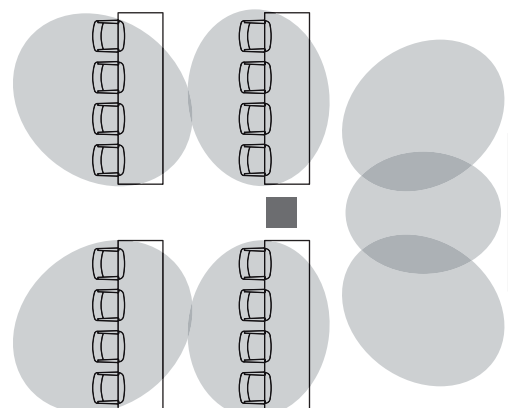
**8 Coverage Areas**



**Classroom / Presentation Room**  
1 Ceiling Array

Profile  
16 Chairs  
4 Rectangular Tables

**7 Coverage Areas**



**\* Coverage Capabilities**

Installed at a height of 3 meters (ten feet), Ceiling Arrays capture audio from seated participants to a recommended area of 9 meters (30 feet) in diameter, meeting the STIPA "A" intelligibility rating.\*\*

Note: Ceiling Arrays are capable of picking up participants beyond 9 meters (30 feet).

\*\*Room conditions: RT60 (reverb time)  
= 500 ms @ 1kHz, weighted room noise  
= 40dB SPL(A). IEC-602682-16.

# BETTER TOGETHER

Shure Networked Audio Processors and Interfaces seamlessly integrate with Microflex Advance and enhance collaboration by offering a complete, high-quality audio conferencing solution and extremely intelligible meeting sound.



## IntelliMix® Audio Conferencing Processor **P300-IMX**

The IntelliMix P300 Audio Conferencing Processor offers DSP algorithms optimized for AV conferencing applications with Microflex Advance microphones. Featuring acoustic echo cancellation, noise reduction and automatic gain control for up to 8 Dante channels, the P300-IMX ensures echo- and noise-free conference room audio that facilitates communication and collaboration. Easy to install and configure, the P300-IMX provides Dante, analog, USB and mobile connectivity options that make joining room systems and collaborating with laptops and mobile devices easier than ever.

### Features

- IntelliMix® DSP
- 10 Dante input channels, 2 output channels
- 2 analog audio inputs / 2 outputs
- USB 2.0
- 14 x 6 Matrix Mixer
- 3.5mm Mobile input (1/8")
- Browser-based remote control
- Single Ethernet connectivity
- 10 configuration presets
- Third-party control system compatible
- Power over Ethernet plus (PoE+)
- 8 Channels of Acoustic Echo Cancellation

### Audio Performance

Enhanced meeting room audio for natural communication and better interaction in AV conferences with remote team members.

### Simplicity

Pre-defined templates for system configuration reduce programming time, and allow installation within seconds.

### Connectivity

Choose how you connect, with options for Dante devices, analog room conference systems, PC-based soft codecs via USB, or mobile devices.

### Compact & Quiet Design

Silent and small-size form factor allows fast and discreet installation behind a TV screen or under the table, without any audible fan noise.





## USB Audio Network Interface with Matrix Mixing **ANIUSB-MATRIX**

The ANIUSB-MATRIX Audio Network Interface provides a versatile hub for collaboration in small to medium-size meeting rooms, suitable for both room video conference systems and soft codec solutions. The device presents a budget-friendly companion to Microflex Advance microphones, for AV conferencing applications that leverage the integrated processing functionality of existing video codecs in the room.

### Features

- 4 Dante audio inputs / 2 outputs
- 1 analog audio input / 1 output
- USB 2.0
- 6 X 4 Matrix Mixer
- Per channel Equalizer, Mute, Limiter, Gain
- Browser-based remote control
- Single Ethernet connectivity
- 10 configuration presets
- Third-party control system compatible
- Power over Ethernet (PoE)



## Shure Network Audio Encryption

Shure has considered the unique security needs of our customers and developed technology to safeguard content without compromising audio quality. When using Microflex Advance together with the P300 Audio Conferencing Processor and selected Shure Audio Network Interfaces, Shure Network Audio Encryption with AES-256 encryption technology can be enabled to protect confidential content. With Shure Network Audio Encryption enabled, Dante audio is encrypted prior to being sent over the network to another Dante

device which supports Shure Network Audio Encryption, where it is decrypted and forwarded for Intelli-Mix® DSP processing or analog conversion. While the AES-256 encryption standard has been widely adopted and used worldwide by leading financial institutions, Government bodies and Health Care Services, we take security seriously and understand that you may not be able to achieve 100 per cent secure Dante audio. However, Shure Network Audio Encryption is one of the most secure form of transmission available.

# SHURE NETWORKED SYSTEMS

Wired or wireless, analog or digital, Shure components work together as an ecosystem of enterprise-scale microphone solutions for managed AV conferencing environments.



## Microflex® Advance™ MXA

Both Microflex Advance array microphones are fully digital for networked set-up, management and control on Dante™ networks.

### Both Arrays Feature

- Shure DSP Utilities
- Single Ethernet Cable Connectivity
- Dante Audio Networking
- Software-based Configuration Templates
- 10 Configuration Presets
- Browser-based Remote Control
- Third-party control string compatible
- Commshield® RF Immunity
- Black, White & Aluminum Finishes
- AES67 network audio streaming (910 only)



Connectivity  
Dante™ PoE



CommShield®  
Technology

### Networkable Microphones

Ceiling Array Microphone | **MXA910**  
Table Array Microphone | **MXA310**



**Front Panels**  
Common LED signals for ANI Input & Output devices

## Audio Network Interfaces ANI4IN and ANI4OUT

ANI4IN can bring up to four analog wired microphones, including Microflex boundary and gooseneck models onto a Dante network for easy audio routing and convenient browser-based remote control. ANI4OUT provides 4 analog outputs and easily integrates with Microflex® Advance™ or Microflex® Wireless microphones that are connected to a network switch via Dante.

### Features

- Browser-based remote control
- Logic Pin state settings (ANI4IN-BLOCK)
- Single Ethernet connectivity
- Shure Network Audio Encryption
- 10 configuration presets
- Third-party control system compatible
- XLR and Block connectivity
- Power over Ethernet (PoE)
- Audio Summing
- Per Channel 4-Band Parametric Equalization



**ANI: Inputs**  
4-Channel Dante™ Mic/Line Audio Network Interface with XLR or Block Inputs



**ANI: Outputs**  
4-Channel Dante™ Mic/Line Audio Network Interface with XLR or Block Outputs

## Audio Network Interface ANI22



The ANI22 can bring up to two line / mic signals onto or from a Dante network for easy audio routing and convenient browser-based remote control. ANI22 provides all the same feature as the ANI4, but offers 2 input channels and 2 output channels in one interface which makes it ideal for smaller rooms with a lower channel counts. It easily integrates with Microflex® Advance™ and Microflex® Wireless Systems that are connected to a network switch via Dante.

### Features

- 2 input and 2 output channels in one interface
- Browser-based remote control
- Logic Pin state settings (ANI22-BLOCK)
- Single Ethernet connectivity
- Shure Network Audio Encryption
- 10 configuration presets
- Third-party control system compatible
- XLR and Block connectivity
- Power over Ethernet (PoE)
- Audio Summing
- Per Channel 4-Band Parametric Equalization

# Dante™ ENABLED & COMPATIBLE MICROPHONES

Dante Audio Networking enables delivery of low-latency, multi-channel, uncompressed digital audio over a standard Ethernet network.



## Microflex® Wireless MXW

Microflex® Wireless provides a selection of versatile wireless microphones that deliver high-quality audio in AV conferencing environments from custom boardrooms to networked enterprises.

- Handheld, bodypack, boundary and gooseneck transmitters
- Shure rechargeable batteries, docking station, and USB chargers
- Remote monitoring and control
- Automated frequency coordination
- AES-256 encryption
- CommShield® Technology guards against unwanted radio interference

### Networkable Wireless Systems

Networked Charging Stations

**MXWNCS2 / MXWNCS4 / MXWNCS8**

2-, 4- and 8-Channel Access Point Transceivers

**MXWAPT2 / MXWAPT4 / MXWAPT8**



Connectivity  
Dante™ PoE



## Microflex® MX

Microflex wired microphones feature the highest standard of quality and efficiency for installed audio applications.

### Network Compatible Microphones

Low Profile Boundary Microphone | **MX395**

Multi-Element Boundary Microphone | **MX396**

Boundary Microphone | **MX392B/E**



Connectivity  
XLR / Block



Via  
ANI

## Networking Devices MXWAN14 | MXWAN18 | SCM820

Existing Shure Dante-compatible interface devices can provide network connectivity for any Microflex Advance conferencing solution.



### Microflex Wireless

4- and 8-Channel Audio Network Interfaces

MXWAN14 / MXWAN18



### SCM820

8-Channel Digital IntelliMix® Automatic Mixer

SCM820 provides Dante connectivity and versatile configuration options.

# INSTALLATION SOLUTIONS

MXA910 Ceiling Array Microphones are designed for suspension, pole and flush mounting in metric or imperial formats. MXA310 Table Array Microphones feature through-the-table mounting kits. The A310-FM mounting accessory also allows flush mounting in a table. Audio Network Interfaces are 1/3 rack mountable and can also be mounted under-the-table or on a wall.

## Integrated Vibration Isolation

Prevents transmission of mechanical noise through the microphone.

## Plenum-Rated

UL 2043 suitable for air handling spaces and plenum compliant when used with supplied Fyre Wrap® accessory.

## Available Ceiling Adapters & Accessories

### A910-25MM

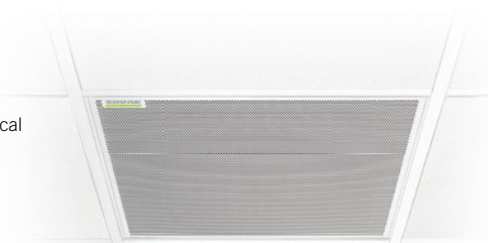
Configures a 600 mm Ceiling Array for a 625 mm grid.

### A910-JB

Allows the Ethernet cable connected to the array to be installed inside flex conduit.

### A910-HCM Hard Ceiling Mount

Can be pre-installed in the ceiling and the MXA910 installed later using the access door. Provides knockouts for conduit connections.



*Flush mount installation in ceiling tile grid*



*Flush mount installation in drywall or hard ceiling with A910-HCM accessory*



*Suspension mount*



*VESA-format pole mount*





**Table Array Mounting Kit (included)**

Cable management solutions for on-the-table or through-the-table applications; includes mounting tube/wingnut.

*MXA310 retrofits existing Shure table mounted MX395, MX396, MX392 boundary microphones.*

**A310-FM Flush Mount (optional)**

Allows MXA310 Table Array to be mounted flush in the table; includes rubber isolation to prevent mechanical vibrations.

*A310-FM available in black and aluminum finishes; paintable to match table surface.*

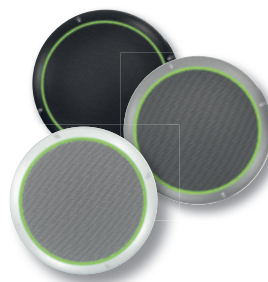


**ANI Bracket (included)**

Mounts a single ANI under a table or on a wall.

**CRT1 ANI Bracket (optional)**

Mounts up to 3 ANIs under a table, on a wall, or in a rack.



**Expressive Finishes**

Ceiling and Table Array microphones are available in black, white and aluminum finishes to match room aesthetics or the finishes of other AV system components. The Ceiling Array microphone can also be custom-painted to fit your environment.



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