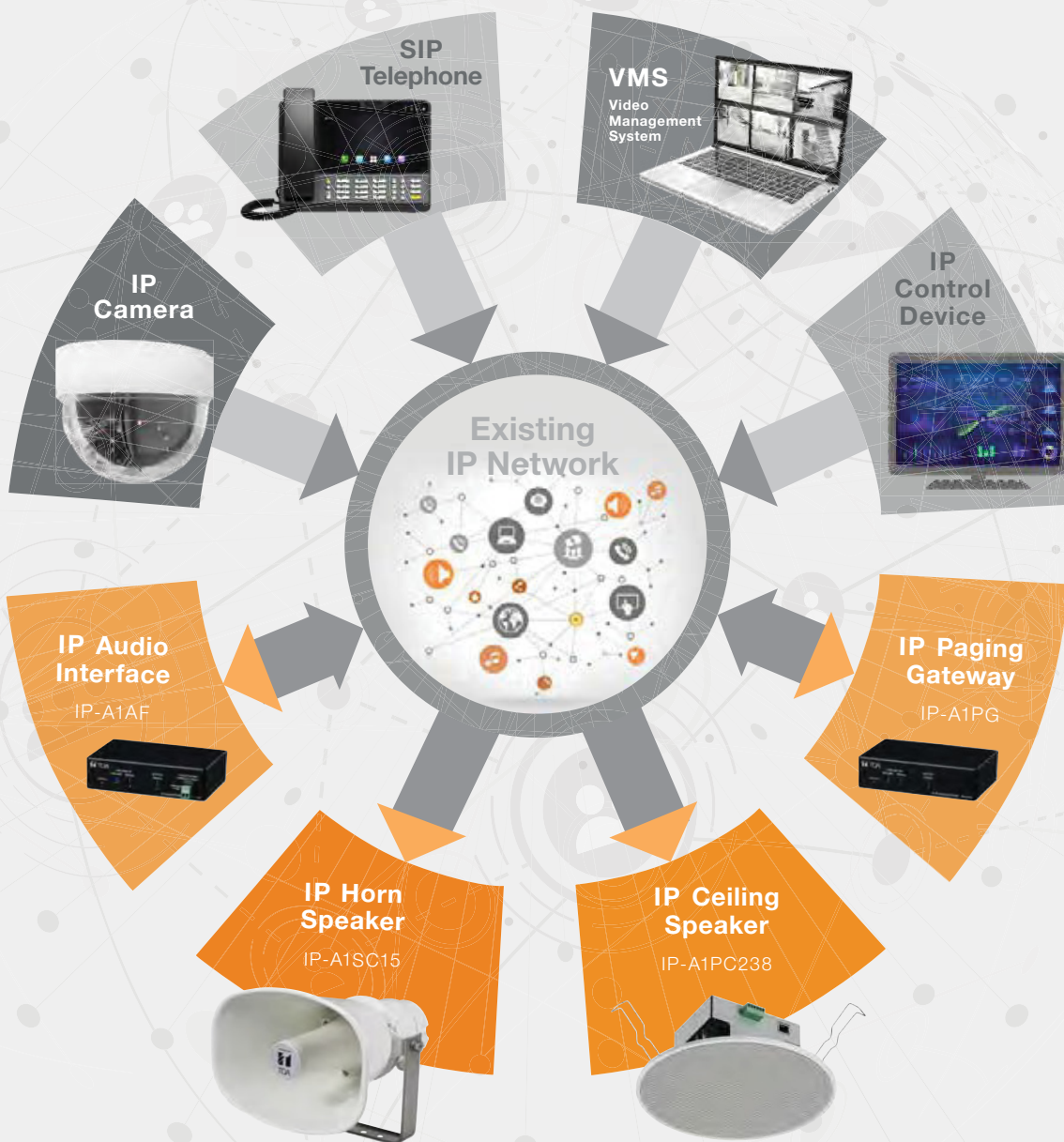




IP-A1 Series

IP Audio Products working with SIP, ONVIF* and Multicast

*ONVIF is a registered trademark of ONVIF Inc.



Upgrade your IP System: add **#TOAsound.**

Expand your IP network solution with IP-based audio products

TOA's extensive audio expertise can now be integrated into your IP network solution. Combine the possibilities and benefits of IP security systems and audio devices to help protect people and property. Turn your SIP telephone system into a network paging solution. Or provide your BGM installation with flexible and feature-rich network audio equipment. The applications are manifold.

A single standard network cable provides both power and connectivity to your network. Build your stand-alone solution without a server or primary system using peer-to-peer communication or extend your network system based on open protocols.



SIP COMMUNICATION SYSTEMS

Accessibility and Scalability

SIP, short for Session Initiation Protocol, has quickly become the new standard for telephone systems in various applications. A SIP phone can perform simple calls and often also announcements to groups of other devices.

IP CAMERAS

Surveillance and Responsiveness

An IP camera is a digital video camera that receives control data and sends image data via an IP network, commonly used for surveillance. Indoor or outdoor applications are possible.

The TOA IP-A1 Series fits right into your IP camera setup, SIP telephone system, VMS or IP control solution.

VIDEO MANAGEMENT SYSTEMS (VMS)

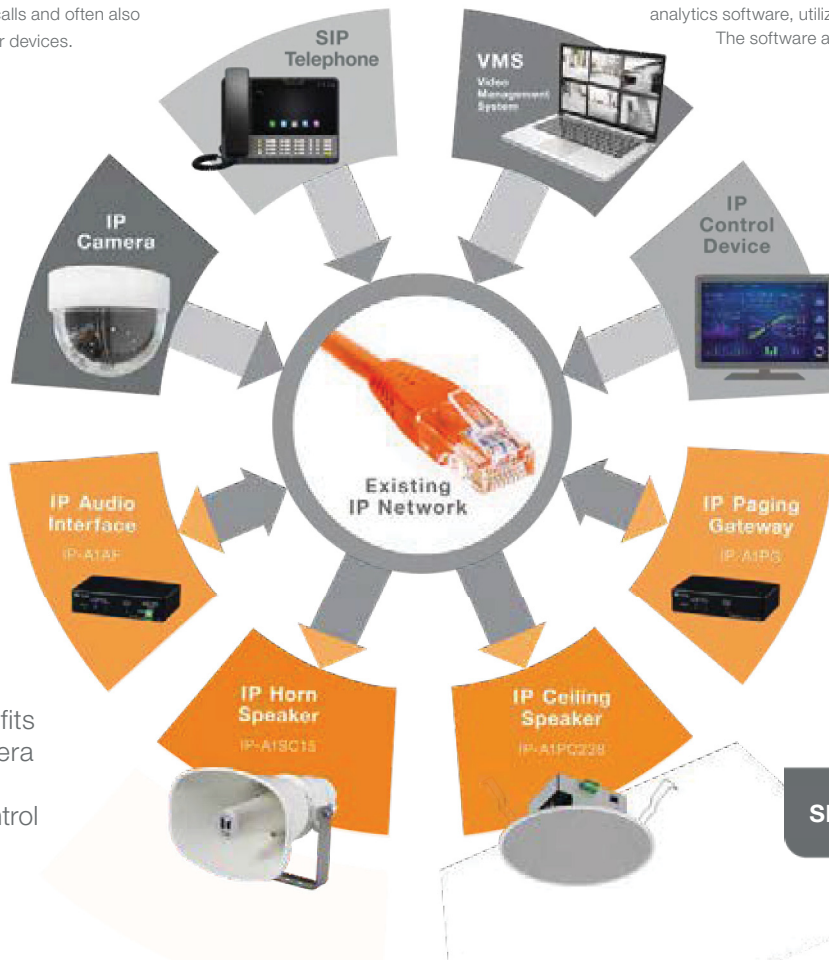
Security and Reliability

A video management system (VMS) orchestrates a surveillance workflow by integrating with cameras, recording systems and analytics software, utilizing a wide variety of AI technology. The software and the devices communicate using open ONVIF* standard.

IP CONTROL DEVICES

Comfort and Flexibility

There can be a central IP control system or simple control devices like wall panels and other remote controllers. The user needs easy access to the controlling functions of the system.



SIP **ONVIF** **MULTICAST**

BASED COMMUNICATION AND CONTROL SYSTEMS

IP Camera Systems

GIVE YOUR CAMERA A STRONG VOICE FOR AUDIBLE REACTIONS

Add a robust and powerful IP Speaker to make crystal-clear announcement directly on site:

The **IP-A1SC15** weatherproof IP Horn Speaker is perfectly suited for installations at construction sites or in manufacturing facilities.



SIP Communication Systems

USE YOUR SIP PHONE TO PAGE INTO DEDICATED ZONES

Turn your SIP communication system into a flexible paging system:

The **IP-A1PC238** intelligible IP ceiling speaker is ideal for indoor areas as lobbies, meeting rooms, or corridors.

The **IP-A1SC15** weatherproof IP horn speaker can be used in outdoor zones as parking lots or courtyards.

The **IP-A1AF** IP audio interface can supply a low impedance speaker and therefore integrate a wide variety of loudspeakers like the F-1000.



Video Management Systems (VMS)

EXPAND YOUR VMS WITH A CLEAR AND STRONG VOICE

Respond immediately to an alert or emergency with a live speech directly on site.

The **IP-A1PG** IP paging gateway converts simple calls into multicast audio streams to address any desired number of speakers.

The **IP-A1SC15** and **IP-A1PC238** are IP speakers and easily integratable into your VMS via the ONVIF* Profile S audio backchannel.



IP Control Devices

CONTROL IP LOUDSPEAKERS OVER THE NETWORK

You can change the volume of each IP speaker individually, start and stop music playback or activate internal messages via HTTP command.

The **IP-A1PG** IP paging gateway can distribute analogue audio to various devices in the network simultaneously.

The **IP-A1PC238** intelligible IP ceiling speaker is ideal for indoor areas as sales areas, storage rooms or corridors.

The **IP-A1AF** IP audio interface can integrate a local PA system into your IP solution.



*ONVIF is a registered trademark of ONVIF Inc.

IP-A1 SERIES - INTEGRATION AND KEY FEATURES

Thanks to open protocols, the IP-A1 Series products are highly integration-friendly

IP-A1 series IP audio products adopt common industrial standard protocols for its audio communication and controls, which helps to establish fully integrated systems by communicating not only between IP-A1 series devices but also with third-party devices and platforms such as SIP phones, VMS (video management systems) or access control systems.

communication system brings it to the next level for being capable of flexible audio communication over the network.

A single standard network cable provides both power and connectivity. The speakers broadcast crystal clear pre-recorded voice messages or live speech announcements, manually or automatically triggered e.g. to respond immediately to an emergency.

Adding an IP-A1 product or group into a commercial com-

| | IP-A1AF | IP-A1PC238 | IP-A1SC15 | IP-A1PG |
|---|-----------------------|---------------------|---------------------------------|---------------------------|
| Power source | PoE+ / PoE | PoE | PoE+ / PoE | PoE |
| Communication Protocols SIP ONVIF Multicast | ✓ | ✓ | ✓ | ✓ |
| Audio Codecs PCM U G.711u PCMA G.711a G.722 | ✓ | ✓ | ✓ | ✓ |
| Audio Input | ✓ for SIP Calls | - | - | ✓ for multicast paging |
| Audio Output | ✓ | - | - | - |
| Audio Storage Up to 20 80 MB MP3 WAV | ✓ | ✓ | ✓ | ✓ |
| Weekly Timer Triggering Broadcast Patterns | ✓ | ✓ | ✓ | coming soon |
| Control HTTP (API) Contact in/out | ✓ | ✓ | ✓ | ✓ |
| Environmental Ratings | - (-30°C to +55°C) | - (0°C to +50°C) | IP66 (-30°C to +55°C) | - (0°C to +40°C) |

IP AUDIO INTERFACE

IP-A1AF

Plug & Receive:

The **IP-A1AF** IP Audio Interface can integrate analogue receiving devices into your network as e.g., conventional low impedance speakers or local PA systems.



IP HORN SPEAKER

IP-A1SC15

Plug & Sound:

The **IP-A1SC15** IP Horn Speaker comes with a built-in 15 W power amplifier and high sound pressure levels. Its weatherproof enclosure is perfectly suited for outdoor applications.



IP CEILING SPEAKER

IP-A1PC238

Plug & Sound:

The **IP-A1PC238** IP Ceiling Speaker comes with a built-in 8 W power amplifier and spring clamps for easy and quick installation. Its light weight and universal applicable diameter enable a variety of indoor applications.



IP PAGING GATEWAY

IP-A1PG

Plug & Transmit:

The **IP-A1PG** IP Paging Gateway converts SIP / ONVIF* calls into multicast streams and enables paging into larger zones. Furthermore, it provides a multicast-ready audio input and the possibility to send sets of HTTP commands into the network.



*ONVIF is a registered trademark of ONVIF Inc.

IP-A1 SERIES - BENEFITS & ADVANTAGES

LET YOUR VMS, IP CAMERA OR SIP SYSTEM HAVE THE VOICE

Based on open standards, TOA's IP-based audio products plug right into standard IP networks and can be easily integrated into your video management system (VMS) or SIP-based communication system. Automatically or manually triggered by SIP phone systems, IP cameras or VMS incl. image sensing or motion detection, the IP-A1 Series products can be integrated into security or communication systems via ONVIF* / SIP / Multicast.



COMPLETE CONTROL OVER YOUR AUDIO BROADCAST

The IP-A1 Series products can be controlled, triggered and customized individually. Integrated into your system, the IP audio products add a strong voice wherever you need one. Control your broadcast using the included timer function, control inputs, individual or global muting to offer convenient handling in everyday life. For each different audio source, the output level can be harmonised to enable a uniform output sound level ensuring clear and listener-friendly voice announcements with high intelligibility.

FLEXIBLE GROUP PAGING

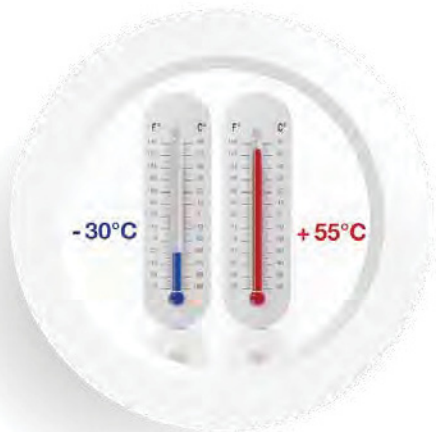
The **IP-A1SC15** Horn Speaker, the **IP-A1PC238** Ceiling speaker and the **IP-A1AF** Audio Interface can be addressed via multicast, enabling audio paging into groups of IP devices simultaneously.

The **IP-A1PG** converts SIP or ONVIF* calls into multicast streaming for delivering the group paging function even to systems that are not multicast-ready.



EASY TO CUSTOMIZE OVER API

For customized solutions, you can use the provided API to control every IP audio devices individually. By using HTTP commands, the IP-A1 Series products can be integrated into your own control program in a very simple way. Adapt the individual volume to the environmental noise level and optimize it to time, degree of emergency or distance. Furthermore, EV message activation, stop, upload, or download is easy to realize.



THE FITTING AUDIO SOLUTION - FOR INDOOR AND OUTDOOR

The **IP-A1SC15** Horn Speaker is ideal for outdoor applications thanks to its IP66 (dust/water) protected housing. It combines the TOA proven robust construction with latest network technology.

The **IP-A1SC15** and the **IP-A1AF** Audio Interface are ready to broadcast even at extreme temperatures between -30 °C and +55 °C.

ALL-IN-ONE STAND-ALONE NETWORK AUDIO TECHNOLOGY

The **IP-A1SC15** Horn Speaker and the **IP-A1PC238** Ceiling Speaker are complete stand-alone advanced audio systems in a single unit.

The IP Horn Speaker **IP-A1SC15** has an integrated and PoE+-powered 15 W amplifier to broadcast excellent sound quality at very high sound pressure level.

The IP Ceiling Speaker **IP-A1PC238** comes with 8 W rated power, a built-in and PoE-powered amplifier as well and an appealing design. Both have a built-in storage for 20 pre-recorded messages.



SIMPLE TO INSTALL WHEREVER YOU NEED A STRONG VOICE

Plug and broadcast: A single standard network cable provides both power and connectivity with your network.

The IP Horn Speaker **IP-A1SC15** already includes a weatherproof mounting bracket and for ceiling installations, the **IP-A1PC238** Ceiling Speaker provides spring clamps for quick and easy mounting.

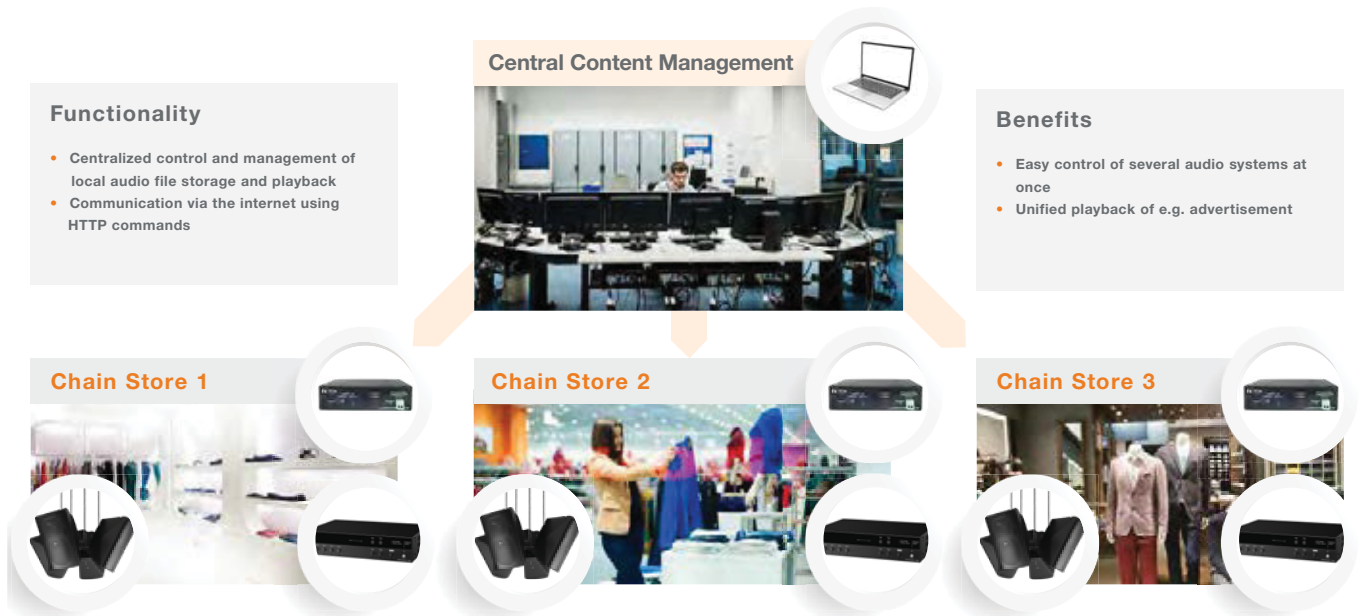
TURN YOUR ANALOGUE EQUIPMENT INTO IP DEVICES

The **IP-A1AF** Audio Interface can supply a wide variety of conventional low impedance loudspeakers or integrate a complete local PA system into your IP solution. The **IP-A1PG** Paging Gateway can be connected to analogue audio sources as audio players for BGM or microphones and distribute this audio to various IP devices in the network simultaneously.

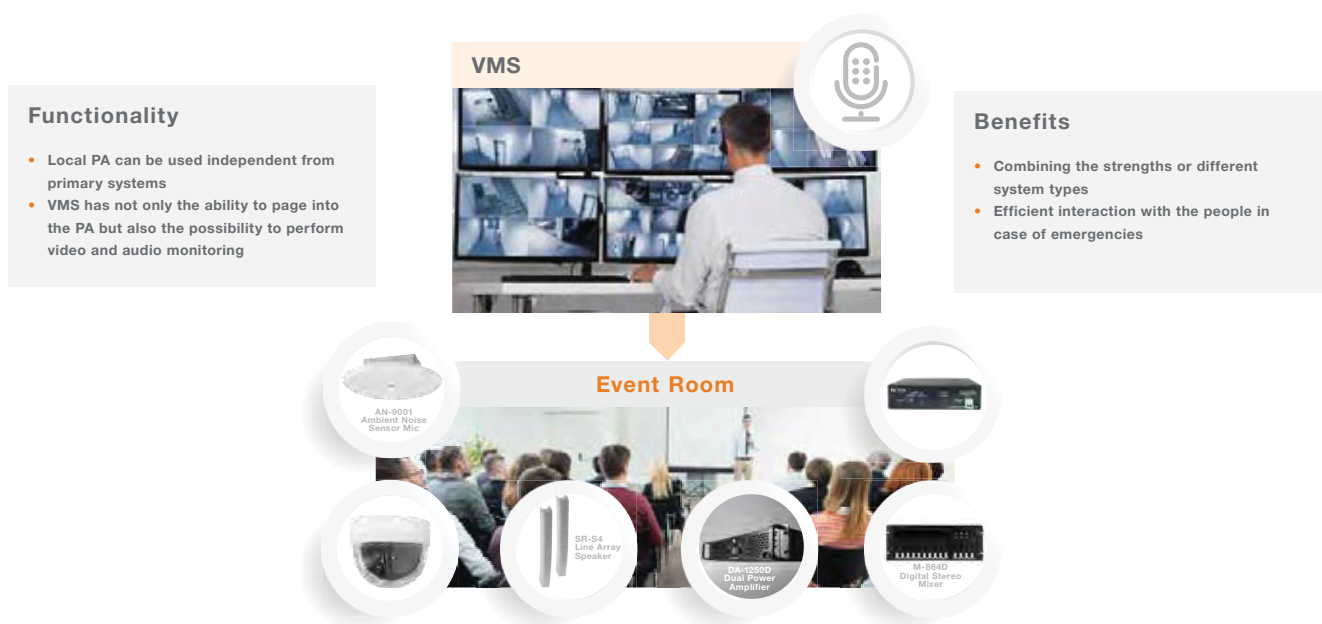


APPLICATION EXAMPLES IP-A1AF

Application Example IP-A1AF IP Audio Interface Retail Chain



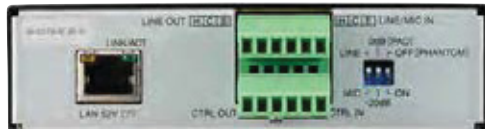
Application Example IP-A1AF IP Audio Interface Event Room



PRODUCT SPECIFICATIONS IP-A1AF



IP-A1AF front



IP-A1AF rear

- Receive SIP audio, ONVIF* audio backchannel and multicast
- Local broadcast using internal audio files or local audio source
- 1 audio input (LINE / MIC and phantom power selectable)
- 15 W (PoE+) / 8 W (PoE) built-in amplifier, 1 LINE audio output
- 2 control inputs and 1 control output
- HTTP commands (receive)
- Audio file storage (20 files, total 80 MB, WAV / MP3)
- Different playback programs (repeat, duration, weekly timer)
- PoE+ / PoE-powered

| Specifications | IP-A1AF |
|--------------------------------|--|
| Power Source | PoE+ (IEEE802.3at Class 4), PoE (IEEE802.3af Class 3) |
| Power Consumption | 22 W (at PoE+ powered, rated output) 12.95 W (at PoE-powered, rated output) 5 W (IEC62368-1) |
| Amplifier Rated Output | 15 W (at PoE+, powered, 8 Ω) 8 W (at PoE, powered, 8 Ω) Applicable impedance: 8 - 16 Ω |
| Frequency Response | 50 Hz - 20 kHz |
| Audio Codec | PCMU (G.711u), PCMA (G.711a), G.722 |
| Audio Delay Time | Min. 100 ms (*1) |
| Broadcasting Mode | SIP Broadcasting/SIP calling Mode: PCMU/PCMA/G.722, P2P/SIP Server Connection Multicast Broadcasting Mode: PCMU/PCMA/G.722 Auto codec recognition, 20 ports VMS Broadcasting Mode: ONVIF* Audio Backchannel, PCMU Internal Message Broadcasting Mode Local Broadcasting Mode: Output from LINE/MIC IN to SPEAKER OUT Note: Each broadcast mode can be assigned an order of priority using the Priority Setting function. |
| Internal Messages | Max. 20 messages (Max. recording capacity: 80 MB) Supported file formats WAV file: 8/16/44.1/48 kHz sampling frequency, 8/16 bit, monoaural/stereo MP3 file: 32/44.1/48 kHz sampling frequency, 64 - 320 kbps, CBR/VBR, monoaural/stereo Repeat playback: Playcount (1 - 10 times), Duration (5 - 3600 sec) or Timer (from Start time to End time) Interval time: 0 - 60 sec, Delay time: 0 - 30 sec Trigger: Control Input or Remote API (HTTP) |
| Network I/F | 100BASE-TX, Auto MDI/MDI-X, RJ45 connector |
| Network Protocol | TCP/IP, UDP, HTTP, RTP, RTSP, RTCP, ARP, ICMP, IGMPv3, NTP, SIP (RFC3261) |
| Audio Input | 1 channel, electronically-balanced, 10 kΩ LINE/MIC selectable (Rated input: LINE: 0 dB (*2), MIC: -60 dB (*2)) PAD function (-20 dB (*2)), Phantom power ON/OFF (12 V DC), volume adjustable removable terminal block (6 pins) |
| Audio Output | 1 channel, electronically-balanced, 600 Ω or less Rated input: 0 dB (*2), removable terminal block (6 pins) |
| Control Input | 2 channels, no-voltage make contact inputs, open voltage: 5 V DC, short-circuit current: 2 mA or less, removable terminal block (6 pins) |
| Control Output | 1 channel, open collector output, withstand voltage: 30 V DC, control current: 10 mA or less, removable terminal block (6 pins) |
| Indicator | STATUS (green/blue/orange/red), LINE/MIC IN (green/red), OUTPUT (green), LINK/ACT (green) |
| Clock Accuracy | ±13 seconds per month |
| Time Adjustment | Manual time setting, Time adjustment by NTP server |
| Power Outage Protection Period | 24 hours (RTC time retention, at 40 °C (104 °F)) |
| Operating Temperature | -30 °C to +55 °C (-22 °F to 131 °F) |
| Operating Humidity | 90 %RH or less (no condensation) |
| Finish | Front case: Surface-treated steel plate, black, paint Rear chassis: Surface-treated steel plate |
| Dimensions | 126 (W) x 33 (H) x 80 (D) mm (4.96" x 1.3" x 3.15") (excluding projection) |
| Weight | 390 g (0.86 lb) |
| Accessory | Removable terminal plug (6 pins, preinstalled on the unit) ...2, Removable terminal plug (2 pins, preinstalled on the unit) ...1, Rubber feet ...4, Mounting screw (M3 x 6) ...4 |

(*1) When using in Local Input Broadcasting Mode, assume Audio Delay Time.

(*2) 0 dB = 1 V

APPLICATION EXAMPLES IP-A1SC15

Application Example IP-A1SC15 IP Horn Speaker Security Pole

Functionality

- The camera detects an intruder and activates the playback of a corresponding audio file in the horn speaker
- Additionally, a microphone can be used for live speech
- Devices communicate via HTTP commands and ONVIF*

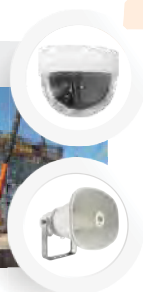
IP Camera Surveillance



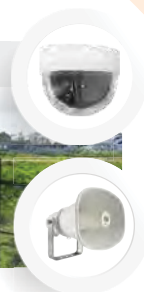
Benefits

- Flexible regarding the location of the installation
- No server required (for communication between camera and horn)

Construction Site



Company Property



Parking

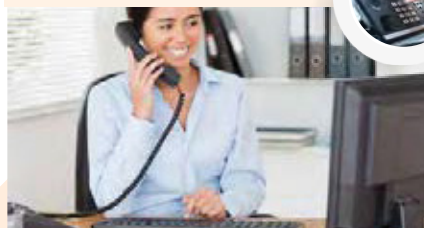


Application Example IP-A1SC15 IP Horn Speaker Schoolyard

Functionality

- Paging from secretary's room into schoolyard
- Devices communicate via SIP and multicast

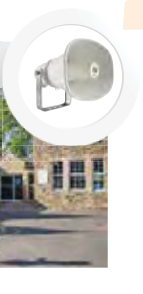
Secretary's Office



Benefits

- Easy loudspeaker installation without necessity to lay dedicated cables to a central audio system
- No server required

Schoolyard



Outdoor Sports Field



Recreation Yard



PRODUCT SPECIFICATIONS IP-A1SC15



- 124 dB (PoE+ powered) with IP66 rating for outdoor installations
- Receive SIP audio, ONVIF* audio backchannel and multicast
- Local broadcast using internal audio files
- 15 W (PoE+) / 8 W (PoE) built-in amplifier
- 2 control inputs and 1 control output
- HTTP commands (receive)
- Audio file storage (20 files, total 80 MB, WAV / MP3)
- Different playback programs (repeat, duration, weekly timer)
- PoE+ / PoE-powered

| Specifications | IP-A1SC15 |
|------------------------------|---|
| Power Source | PoE+ (IEEE802.3at Class 4), PoE (IEEE802.3af Class 3) |
| Power Consumption | 22 W (at PoE+ powered, rated output), 13 W (at PoE-powered, rated output), 5 W (IEC62368-1) |
| Amplifier Rated Output | 15 W (at PoE+ powered), 8 W (at PoE-powered) |
| Sensitivity | 112 dB (1 W, 1 m) (500 Hz - 2.5 kHz, peak level) |
| Maximum Sound Pressure Level | 124 dB (at PoE+ powered, 15 W, 1 m) (500 Hz - 2.5 kHz, peak level) 121 dB (at PoE-powered, 8 W, 1 m) (500 Hz - 2.5 kHz, peak level) |
| Frequency Response | 280 Hz - 12.5 kHz |
| Audio Codec | PCMU (G.711u), PCMA (G.711a), G.722 |
| Broadcasting Mode | SIP Broadcasting Mode: PCMU/PCMA/G.722 Multicast Broadcasting Mode: PCMU/PCMA/G.722, Max. 20 ports VMS Broadcasting Mode: ONVIF* Audio Backchannel, PCMU Internal Message Broadcasting Mode Note: Each broadcast mode can be assigned an order of priority using the Priority Setting function. |
| Internal Messages | Max. 20 messages (Max. recording capacity: 80 MB) Supported file formats WAV file: 8/16/44.1/48 kHz sampling frequency, 8/16 bit, monoaural/stereo MP3 file: 32/44.1/48 kHz sampling frequency, 64 - 320 kbps, CBR/VBR, monoaural/stereo Repeat playback: Playcount(1-10 times), Duration (5-3600 sec) or Timer (from Start time to End time) Interval time: 0 - 60 sec, Delay time: 0 - 30 sec Trigger: Control Input or Remote API (HTTP) |
| Network I/F | 100BASE-TX, MDI/MDI-X, RJ-45 |
| Network Protocol | TCP/IP, UDP, HTTP, RTP, RTSP, ARP, ICMP, IGMPv3, NTP, SIP (RFC3261) |
| Control Input | 2 channels, no-voltage make contact inputs, open voltage: 5 V DC, short-circuit current: 2 mA or less, removable terminal block (3 pins) |
| Control Output | 1 channel, open collector output, withstand voltage: 30 V DC, control current: 10 mA or less, removable terminal block (3 pins) |
| Indicator | LAN LINK/ACT (green), STATUS (orange) |
| Dust/Water Protection | IP66 |
| Operating Temperature | -30 °C to +55 °C (-22 °F to +131 °F) |
| Operating Humidity | 90 %RH or less (no condensation) |
| Finish | Horn flare and body: Aluminum, off-white (RAL 9010 equivalent), paint Reflector horn: ABS resin, off-white (RAL 9010 equivalent) Rear cover: PC resin, off-white (RAL 9010 equivalent), paint Bracket, screws and bolts: Stainless steel |
| Dimensions | 222 (W) x 211 (H) x 276 (D) mm (8.74" x 8.31" x 10.87") |
| Weight | 1.4 kg (3.09 lb) |
| Accessory | Rear cover...1, Removable terminal plug (3 pins)...2 |
| Option | Speaker mount bracket: SP-131, SP-201, SP-301 Pole band: YS-60B |

NOTE: Take special care to avoid mounting this speaker directly to structures (such as ski lift towers) that generate large amounts of vibration. Also, do not use this speaker in environments where it may be exposed to oil or other chemicals, as mounting parts could rapidly deteriorate, possibly resulting in personal injury or other accidents due to the speaker falling.

APPLICATION EXAMPLES IP-A1PC238

Application Example IP-A1PC238 IP Ceiling Speaker Doctor's Office

Functionality

- Call out patients to guide them to the right treatment room
- Call out doctors in emergency situations
- The devices communicate via SIP and multicast

Reception



Benefits

- Every room is individually addressable
- Easy setup with no central equipment
- No server required

Waiting Rooms



Examination Rooms



Treatment Rooms



Application Example IP-A1PC238 IP Ceiling Speaker Office Conference Area

Functionality

- Paging from secretary's room into conference rooms
- Control of the loudspeakers via tablets
- Devices communicate via SIP, multicast and HTTP commands

Secretary's Room



Benefits

- Every room is individually addressable via telephone
- Individual local audio playback and loudspeaker control for every room

Conference 1



Conference 2



Conference 3



PRODUCT SPECIFICATIONS IP-A1PC238



- 16 cm (6") cone-type speaker for in-ceiling installations
- Receive SIP audio, ONVIF* audio backchannel and multicast
- Local broadcast using internal audio files
- 8 W built-in amplifier, 1 LINE audio output
- 2 control inputs and 1 control output
- HTTP commands (receive)
- Audio file storage (20 files, total 80 MB, WAV/MP3)
- Different playback programs (repeat, duration, weekly timer)
- PoE-powered

| Specifications | IP-A1PC238 |
|--------------------------------|--|
| Power Source | PoE (IEEE802.3af Class 3) |
| Power Consumption | 12.95 W (rated output) 5 W (IEC62368-1) |
| Amplifier Rated Output | 8 W |
| Sensitivity | 94 dB (1 W, 1 m) (500 Hz - 5 kHz, pink noise) |
| Maximum Sound Pressure Level | 103 dB (8 W, 1 m) |
| Frequency Response | 60 Hz - 20 kHz (peak - 20 dB) |
| Speaker Component | 16 cm (6") cone-type |
| Audio Codec | PCMU (G.711u), PCMA (G.711a), G.722 |
| Broadcasting Mode | SIP Broadcasting Mode: PCMU/PCMA/G.722, P2P/SIP Server Connection Multicast Broadcasting Mode: PCMU/PCMA/G.722 Auto codec recognition, 20 ports VMS Broadcasting Mode: ONVIF* Audio Backchannel, PCMU Internal Message Broadcasting Mode Note: Each broadcast mode can be assigned an order of priority using the Priority Setting function. |
| Internal Messages | Max. 20 messages (Max. recording capacity: 80 MB) Supported file formats WAV file: 8/16/44.1/48 kHz sampling frequency, 8/16 bit, monoaural/stereo MP3 file: 32/44.1/48 kHz sampling frequency, 64 - 320 kbps, CBR/VBR, monoaural/stereo Repeat playback: Playcount (1-10 times), Duration (5-3600 sec) or Timer (from Start time to End time) Interval time: 0 - 60 sec, Delay time: 0 - 30 sec Trigger: Control Input or Remote API (HTTP) |
| Network I/F | 100BASE-TX, Auto MDI/MDI-X, RJ45 connector |
| Network Protocol | TCP/IP, UDP, HTTP, RTP, RTSP, RTCP, ARP, ICMP, IGMPv3, NTP, SIP (RFC3261) |
| Control Input | 2 channels, no-voltage make contact inputs, open voltage: 5 V DC, short-circuit current: 2 mA or less, removable terminal block (6 pins) |
| Control Output | 1 channel, open collector output, withstand voltage: 30 V DC, control current: 10 mA or less, removable terminal block (6 pins) |
| Indicator | STATUS (orange), LINK/ACT (green) |
| Clock Accuracy | ±13 seconds per month |
| Time Adjustment | Manual time setting, Time adjustment by NTP server |
| Power Outage Protection Period | 24 hours (RTC time retention, at 40 °C (104 °F)) |
| Dimensions for Fixing Hole | Mounting hole: $\phi 200 \pm 2$ mm (7.87" ± 0.08 ") Ceiling thickness: 5 - 25 mm (0.2" - 0.98") |
| Speaker Mounting Method | Spring clamp |
| Operating Temperature | 0 °C to +50 °C (32 °F to 122 °F) |
| Operating Humidity | 90 %RH or less (no condensation) |
| Finish | Frame: Steel plate, white (RAL 9016 equivalent), paint Grill: Steel net, white (RAL 9016 equivalent), paint |
| Dimensions | $\Phi 230 \times 89$ (D) mm (9.06" \times 3.5") |
| Weight | 880 g (1.94 lb) |
| Accessory | Pattern paper ...1, Removable terminal plug (6 pins, preinstalled on the unit) ...1 |

NOTE: Please do not install the product near heat insulation material, or cover the product with heat insulation or acoustic absorbing materials to prevent fire risk. Please do not install the product in damp or wet locations or areas with high humidity (condensing) as it may cause damage to the product.

APPLICATION EXAMPLES IP-A1PG

Application Example IP-A1PG IP Paging Gateway VMS for Office Building

Functionality

- VMS can monitor and also perform paging into every room
- IP-A1PG converts the calls of the VMS into multicast to address groups of loudspeakers
- Devices communicate via ONVIF* and multicast

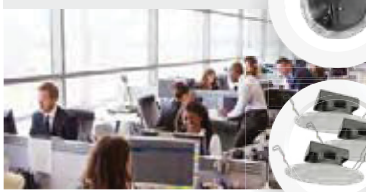
Monitoring Room



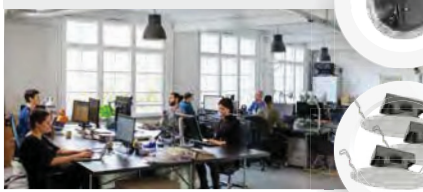
Benefits

- Several different zone groupings can be achieved: single loudspeakers, entire rooms, entire floors or customized combinations of the mentioned
- Greater flexibility in the interaction with larger numbers of people

Office 1st Floor



Office 2nd Floor



Office Courtyard



Application Example IP-A1PG IP Paging Gateway Hospital retrofit of outside speakers

Functionality

- Paging from reception into PA zones and to the outdoor loudspeakers
- Devices communicate via Multicast

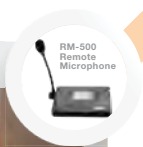
Hospital PA Room



Benefits

- Easy and cost-efficient loudspeaker installation without necessity to lay dedicated cables to central audio system
- No server required

Reception



Parking



Courtyard



PRODUCT SPECIFICATIONS IP-A1PG



IP-A1PG front



IP-A1PG rear

- Convert SIP audio, ONVIF* audio backchannel, internal audio files or local audio source into multicast streaming
- System mute function to mute all broadcasts made by every single IP-A1 series devices within the same network
- 1 local audio input (LINE/MIC and phantom power selectable)
- 4 control inputs and 1 control output
- HTTP commands (receive/send)
- Audio file storage (20 files, total 80 MB, WAV/MP3)
- PoE-powered

| Specifications | IP-A1PG |
|--------------------------------|--|
| Power Source | PoE(IEEE802.3af Class 3) |
| Power Consumption | 2.5 W |
| Audio Transmission Method | Multicast Audio Streaming |
| Audio Codec | PCM(U.G.711u), PCMA(G.711a), G.722 |
| Audio Delay Time | Min. 100 ms(*1) |
| Network I/F | 100BASE-TX, Auto MDI/MDI-X, RJ45 connector |
| Network Protocol | TCP/IP, UDP, HTTP, RTP, RTSP, RTCP, ARP, ICMP, IGMPv3, NTP, SIP(RFC3261) |
| Audio Input | 1 channel, electronically-balanced, 10 kΩ LINE/MIC selectable (Rated input: LINE: 0 dB (*2), MIC: -60 dB (*2)) PAD function (-20 dB (*2)), Phantom power ON/OFF (12 V DC), volume adjustable removable terminal block (6 pins) |
| Monitor Output | 1 channel, electronically-balanced, 600 Ω or less Rated output: 0 dB (*2), RCA pin jack |
| Control Input | 4 channels, no-voltage make contact inputs, open voltage: 5 V DC, short-circuit current: 2 mA or less, removable terminal block (6 pins) |
| Mute Control Input | 1 channel, 24 V DC cut signal, control current 5 mA or less, removable terminal block (2 pins) |
| Control Output | 1 channel, open collector output, withstand voltage: 30 V DC, control current: 10 mA or less, removable terminal block (6 pins) |
| Indicator | STATUS (green/blue/orange/red), LINE/MIC IN (green/red), OUTPUT (green), LINK/ACT (green) |
| Broadcasting | Audio transmission Transmit internal messages by multicast audio streaming Transmit audio from audio input connected devices by multicast audio streaming Audio conversion Convert SIP voice to multicast audio stream and transmit Convert ONVIF* Audio Backchannel audio to multicast audio stream and transmit |
| Event | Execute event triggered by control input Configurable actions: Internal message broadcast, audio input broadcast, command set transmission, broadcast disable, system mute |
| Internal Message | Max. 20 messages (Max. recording capacity: 80 MB) Supported file format: WAV file: 8/16/44.1/48 kHz sampling frequency, 8/16 bit, monoaural/stereo MP3 file: 32/44.1/48 kHz sampling frequency, 64 - 320 kbps, CBR/VBR, monoaural/stereo Repeat playback: Playcount (1 - 10 times) or Duration (5 - 3600 sec) Interval time: 0 - 60 sec, Delay time: 0 - 30 sec |
| Command Set | 20 commands can be registered in each of 10 command sets |
| Clock Accuracy | ±13 seconds per month |
| Time Adjustment | Manual time setting, Time adjustment by NTP server |
| Power Outage Protection Period | 24 hours (RTC time retention, at 40 °C (104 °F)) |
| Operating Temperature | 0 °C to +40 °C (32 °F to 104 °F) |
| Operating Humidity | 90 %RH or less (no condensation) |
| Finish | Front case: Surface-treated steel plate, black, paint Rear chassis: Surface-treated steel plate |
| Dimensions | 126 (W) x 33 (H) x 80 (D) mm (4.96" x 1.3" x 3.15") (excluding projection) |
| Weight | 390 g (0.86 lb) |
| Accessory | Removable terminal plug (6 pins, preinstalled on the unit) ...2, Removable terminal plug (2 pins, preinstalled on the unit), Rubber feet ...4, Mounting screw (M3 x 6) ...4 |

(*1) When using Monitor output, assume an audio delay time.

(*2) 0 dB = 1 V



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Specifications are subject to change without notice.