



IP-A1 Series

IP Audio Products Working with SIP, ONVIF* and Multicast



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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.

AND VIDEO MANAGEMENT SYSTEMS

Video Management Systems (VMS)

Security and Reliability

A video management system (VMS) arranges the interaction of cameras, recording systems and analytics software, utilizing a wide variety of AI technology. The software and the devices communicate via protocols according to the open ONVIF* standard.

NVR / IP Cameras

Surveillance and Responsiveness

Digital IP video cameras are commonly used for surveillance and send image data and control data via an IP network. A network video recorder (NVR) stores and processes the data received by the cameras.

SIP Communication Systems

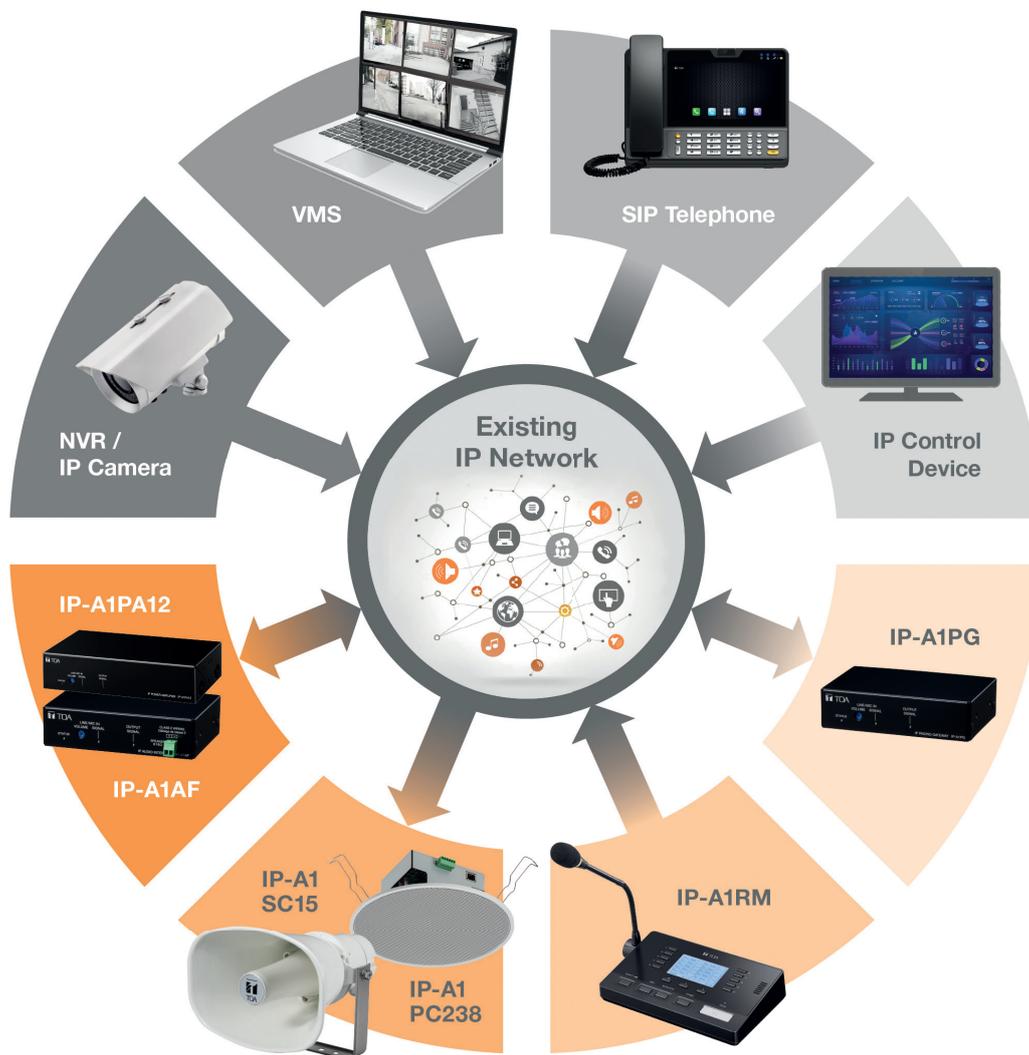
Accessibility and Scalability

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 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 gets easy access to a variety of devices in the room or building.



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

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IP-A1 Series

UNITES WITH SIP COMMUNICATION



NVR/IP Cameras

Give Your Camera a Strong Voice for Audible Reactions

Add a robust and powerful IP speaker to make crystal-clear announcements directly on site.

The **IP-A1SC15** weatherproof IP horn speaker is perfectly suited for installations at construction sites or in manufacturing facilities. The speaker provides an internal storage for prerecorded messages that can easily be triggered by the NVR over the network.

The **IP-A1RM** IP remote microphone adds a flexible option for live speech and manual control of the loudspeaker setup.



Video Management Systems (VMS)

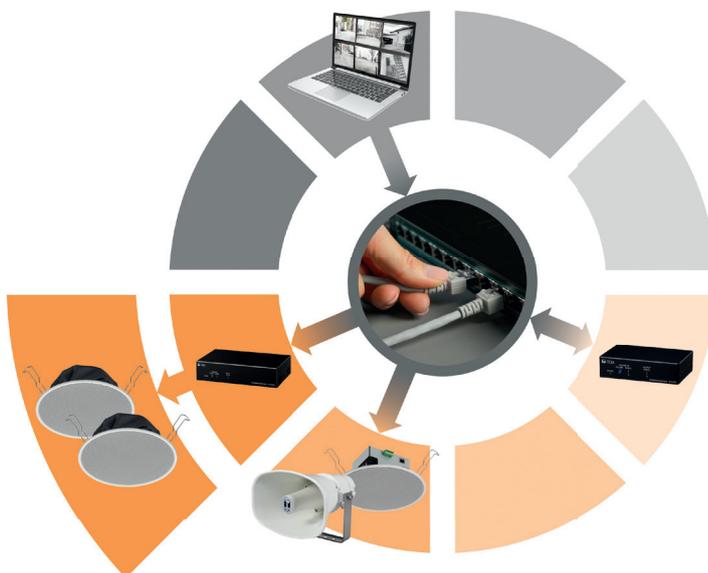
Expand Your VMS with a Clear and Strong Voice

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

The **IP-A1PG** IP paging gateway converts one-to-one calls into multicast audio streams to address any desired number of speakers at the same time.

The **IP-A1SC15** and **IP-A1PC238** are IP speakers and easily integrable into your VMS via ONVIF* audio streaming.

The **IP-A1PA12** IP power amplifier creates a small paging zone consisting of multiple high impedance speakers like the **PC-2360**.



SYSTEMS AND IP CONTROL DEVICES



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** 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 not only supply a low impedance speaker like the **F-1522SC**. At the same time, it can be connected to the microphone panel **IP-A1MP** and therefore create a flexible combination of IP intercom station and paging loudspeaker.



IP Control Devices

Control IP Loudspeakers over the Network

Via HTTP commands, you can change the volume of each IP speaker individually, start and stop music playback, or activate internal messages.

The **IP-A1PG** IP paging gateway can distribute analogue audio to various devices in the network simultaneously and provides flexible scheduling options.

The **IP-A1RM** IP remote microphone unites paging functionality and system control in a visually appealing desktop device.

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.





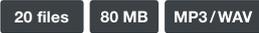
A Fitting IP-A1 Device for Every Application

IP-A1 series 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.

Your project requires a video surveillance system with audio playback? A paging solution? A BGM solution? Or an intercom system? Or a bit of everything?

IP-A1 can interact with multiple systems in the same installation and provides total freedom for your system design.

Full IP speakers, interfaces to analogue speakers or PA systems, paging microphones and call panels: Pick what you need to bring your network solution to the next level. A single standard network cable provides both power and connectivity for all IP-A1 network devices.

IP-A1	AF/PA12	PC238/SC15	RM	PG	MP
					
Power source	PoE+ / PoE	PoE+ / PoE	PoE	PoE	Phantom power
Network communication 	✓	✓	✓ SIP / multicast / HTTP only	✓	-
Audio storage 	✓	✓	✓	✓	-
Event scheduling	Weekly timer	Weekly timer	Calendar scheduler	Calendar scheduler	-
SIP/ONVIF* to group paging conversion	-	-	-	✓	-
Loudspeaker	-	✓	-	-	-
Speaker output	✓	-	-	-	-
Audio output (line)	✓	-	-	-	✓
Microphone	-	-	✓	-	✓
Audio input (line/mic)	✓ for SIP Calls and local broadcasts	-	✓	✓ for multicast paging	-
Contact I/O	✓	✓	✓	✓	✓
Call button	-	-	-	-	✓

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IP-A1 Series

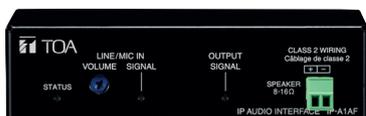
RECEIVING DEVICES

IP Audio Interface

IP-A1AF

Plug & Receive:

The **IP-A1AF** IP audio interface can integrate analogue receiving devices into your network. It can be connected to a local PA system and supply conventional low impedance speakers with its built-in 15 W amplifier. The audio input can be used to connect microphones for intercom applications or local broadcast of audio players.



IP Power Amplifier

IP-A1PA12

Plug & Receive:

The **IP-A1PA12** IP power amplifier is the high impedance variant of the IP-A1AF. It can supply multiple speakers with its built-in 12 W amplifier and adds an external amplifier input, letting the connected speakers be shared with a local PA system.



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 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 IP66 enclosure is perfectly suited for outdoor applications.



IP-A1 Series

TRANSMITTING DEVICES

IP Remote Microphone

IP-A1RM

Plug & Page:

The **IP-A1RM** IP remote microphone provides an LCD with up to 50 virtual buttons. Perform group paging, call via SIP, transmit prerecorded messages, and control the system via sets of HTTP commands. A variety of settings can be executed manually by the user, and the manual audio file recording provides additional comfort.



Microphone Panel

IP-A1MP

Push & Talk:

The **IP-A1MP** microphone panel is an analogue call station with microphone and call button. It has been designed to be connected to either the **IP-A1AF** or the **IP-A1PA12**. Adding a speaker to the setup creates a full SIP call station.

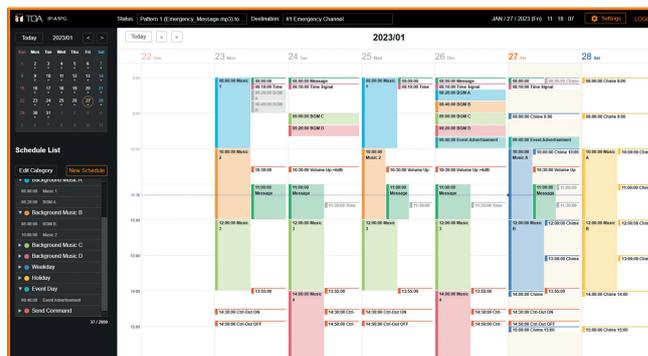


IP Paging Gateway

IP-A1PG

Plug & Transmit:

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



IP-A1 Scheduler

The **IP-A1 Scheduler** is a web-based calendar with fluent and intuitive navigation. You can schedule broadcasts of live audio or prerecorded messages. Or plan the transmission of various network control commands, not only for IP-A1 devices.

Enjoy almost endless flexibility in up to 2,000 schedules and choose between daily, weekly, monthly or custom repetitions.

No software installation is required because the scheduler is already integrated in the **IP-A1PG** and **IP-A1RM**.

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Bring All Systems into Harmony

Based on open interfaces for SIP, ONVIF* audio, multicast audio and HTTP commands, TOA's IP-based audio products plug right into standard IP networks and can be easily integrated into different systems like VMS or SIP telephone solutions at the same time.

But systems might interfere with one another while trying to page into a speaker. Therefore, priority management is crucial. IP-A1 provides flexible prioritization of all audio sources for every single device to prevent unregulated system usage.



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 weekly timer/scheduler 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 speakers **IP-A1SC15** and **IP-A1PC238** as well as the IP interfaces **IP-A1AF** and **IP-A1PA12** can be addressed via multicast, enabling audio paging into groups of IP devices simultaneously.

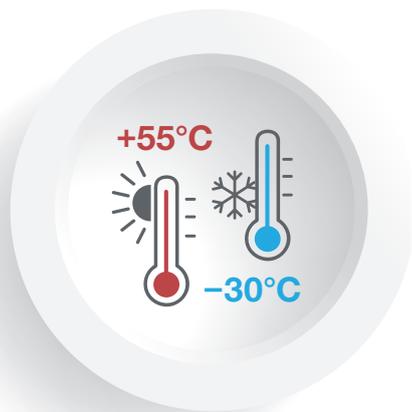
The **IP-A1RM** IP remote microphone can innately send out multicast audio. For systems and devices that are not multicast-ready, the **IP-A1PG** IP paging gateway provides the desired group paging function via its conversion from SIP or ONVIF* calls to multicast streaming.



Easy to Customize via API

For customized solutions, you can use the provided API to control every IP audio device 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, and the control of audio transmission like BGM is no difficulty either.

If you require an easy-to-use control device for manual operation, the **IP-A1RM** IP remote microphone with LCD will optimize your workflow.



The Audio Solution for Indoors and Outdoors

The **IP-A1SC15** IP 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**, the **IP-A1AF** IP audio interface and the **IP-A1PA12** IP power amplifier are ready to broadcast even at extreme temperatures between -30 °C and +55 °C.

All-in-One Stand-Alone Technology

The IP speakers **IP-A1SC15** and the **IP-A1PC238** are complete stand-alone advanced audio systems in a single unit. Both have a built-in storage for 20 prerecorded messages to be triggered via network, control input or its own timer function.

The IP horn speaker **IP-A1SC15** has an integrated and PoE+-powered 15 W amplifier to broadcast at very high sound pressure level (up to 124 dB).

The IP ceiling speaker **IP-A1PC238** comes with 8 W rated power, a built-in and PoE-powered amplifier as well as an appealing design and excellent intelligibility.



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** IP ceiling speaker provides spring clamps for quick and easy mounting.

Turn Your Analogue Equipment into IP Devices

The **IP-A1AF** IP audio interface and the **IP-A1PA12** IP power amplifier can supply a wide variety of conventional loudspeakers and integrate an entire local PA system into your IP solution. The **IP-A1PA12** allows the connected speakers to be shared with a local PA system.

The **IP-A1PG** IP paging gateway can be connected to analogue audio sources as audio players for BGM or microphones and distribute the audio to various IP devices in the network simultaneously.



IP-A1AF IP Audio Interface Retail Chain

Functionality

- Centralized control and management of local audio file storage and playback
- Communication via the internet using HTTP commands

Central Content Management



Benefits

- Easy control of several audio systems at once
- Unified playback of e.g. advertisement

Chain Store 1



Chain Store 2



Chain Store 3



IP-A1PA12 IP Power Amplifier Seminar Rooms

Functionality

- Local audio playback via multiple loudspeakers per seminar room
- Paging from secretary's room into seminar rooms
- Devices communicate via SIP and multicast

Secretary's Room



Benefits

- Every room is individually addressable via telephone
- Individual audio playback for every room
- More cost-effective than setups consisting entirely of IP speakers

Seminar Room 1

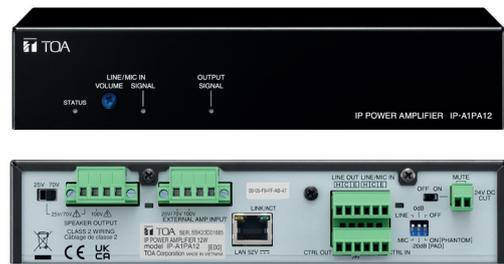
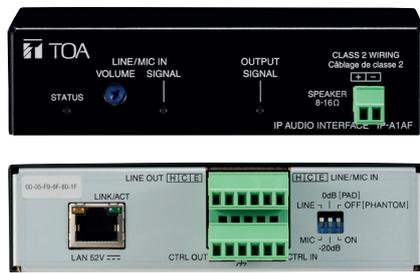


Seminar Room 2



Seminar Room 3





IP Audio Interface

- Receive SIP audio, ONVIF* audio and multicast audio
- API for HTTP command reception
- Local broadcast using internal audio files or local audio source
- Different playback programs (repeat, duration, weekly timer)
- 15 W (PoE+) / 8 W (PoE) built-in amplifier
- 1 speaker output (8-16 Ω), 1 line audio output
- 1 audio input (line/mic and phantom power selectable)
- 2 control inputs and 1 control output
- PoE+ / PoE- powered

IP Power Amplifier

- Receive SIP audio, ONVIF* audio and multicast audio
- API for HTTP command reception
- Local broadcast using internal audio files or local audio source
- Different playback programs (repeat, duration, weekly timer)
- 12 W built-in amplifier
- 1 speaker output (100/70/25 V), 1 line audio output
- 1 external amplifier input (100/70/25 V)
- 1 audio input (line/mic and phantom power selectable)
- 2 control inputs, 1 mute control input and 1 control output
- PoE+ -powered

Specifications	IP-A1AF	IP-A1PA12
Power source	PoE+ / PoE	PoE+
Power consumption	22 W (PoE+ -powered, rated output) 12.95 W (PoE-powered, rated output) 5 W (IEC62368-1)	25 W (rated output) 6 W (IEC62368-1)
Rated output	15 W (PoE+-powered), 8 W (PoE-powered)	12 W
Frequency response	50 Hz – 20 kHz	100 Hz – 20 kHz
Audio codecs	PCM-U (G.711u), PCMA (G.711a), G.722	
Multicast channels	20 ports	
Internal messages	Max. 20 messages (max. recording capacity: 80 MB), supported file formats: WAV/MP3	
Network I/F	100BASE-TX, Auto MDI/MDI-X, RJ-45 connector	
Network protocols	TCP/IP, UDP, HTTP, RTP, RTSP, RTCP, ARP, ICMP, IGMPv3, NTP, SIP (RFC3261)	
Speaker output	8 – 16 Ω	100 V line, 70 V line, 25 V line
External amplifier input	-	100 V line, 70 V line, 25 V line
Audio inputs	1 channel, electronically-balanced, line/mic selectable, pad function (–20 dBV), phantom power on/off (12 V DC), volume adjustable	
Audio outputs	1 channel, 600 Ω or less, electronically-balanced	
Control inputs	2 channels, no-voltage make contact inputs	
Mute control inputs	-	1 channel, 24 V DC cut signal
Control outputs	1 channel, open collector output	
Operating temperature	–30°C to +55°C (–22 °F to 131 °F)	
Dimensions	126 x 33 x 80 mm (4.96" x 1.3" x 3.15") (W x H x D)	210 x 44 x 81.5 mm (8.27" x 1.73" x 3.21") (W x H x D)
Finish	Steel plate, black	
Weight	390 g (0.86 lb)	940 g (2.07 lb)

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* audio streaming

Monitoring Room



Benefits

- Flexible regarding the location of the installation
- Easy loudspeaker installation without necessity to lay dedicated cables to a central audio system

Construction Site



Company Property



Parking Area



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 Room



Examination Room



Treatment Room





IP Horn Speaker

- 124 dB with IP66 rating for outdoor installations
- Receive SIP audio, ONVIF* audio and multicast audio
- API for HTTP command reception
- Local broadcast using internal audio files
- Different playback programs (repeat, duration, weekly timer)
- 15 W built-in amplifier
- 2 control inputs and 1 control output
- PoE+/PoE-powered

IP Ceiling Speaker

- 16 cm (6") cone-type speaker for in-ceiling installations
- Receive SIP audio, ONVIF* audio and multicast audio
- API for HTTP command reception
- Local broadcast using internal audio files
- Different playback programs (repeat, duration, weekly timer)
- 8 W built-in amplifier
- 2 control inputs and 1 control output
- PoE-powered

Specifications	IP-A1SC15	IP-A1PC238
Power source	PoE+ / PoE	PoE
Power consumption	22 W (PoE+-powered, rated output) 13 W (PoE-powered, rated output) 5 W (IEC62368-1)	12.95 W (rated output) 5 W (IEC62368-1)
Rated output	15 W (PoE+-powered), 8 W (PoE-powered)	8 W
Sensitivity (1 W, 1 m)	112 dB	94 dB
Max. SPL (1 m)	124 dB (15 W), 121 dB (8 W)	103 dB (8 W)
Speaker component	-	16 cm (6") cone-type
Speaker mounting method	-	Spring clamp
Frequency response	280 Hz – 12.5 kHz	60 Hz – 20 kHz
Audio codecs	PCM U (G.711u), PCMA (G.711a), G.722	
Multicast channels	20 ports	
Internal messages	Max. 20 messages (max. recording capacity: 80 MB), supported file formats: WAV/MP3	
Network I/F	100BASE-TX, Auto MDI/MDI-X, RJ-45 connector	
Network protocols	TCP/IP, UDP, HTTP, RTP, RTSP, RTCP, ARP, ICMP, IGMPv3, NTP, SIP (RFC3261)	
Control inputs	2 channels, no-voltage make contact inputs	
Control outputs	1 channel, open collector output	
Dust / water protection	IP66	-
Operating temperature	-30 °C to +55 °C (-22 °F to 131 °F)	0 °C to +50 °C (32 °F to 122 °F)
Dimensions	222 x 211 x 276 mm (8.74" x 8.31" x 10.87") (W x H x D)	230 x 89 mm (9.06" x 3.5") (Ø x D)
Finish	Aluminium, ABS resin, PC resin, Stainless steel, off-white (RAL 9010 or equivalent)	Steel plate, Steel net, traffic white (RAL 9016 or equivalent)
Weight	1.4 kg (3.09 lb)	880 g (1.94 lb)

IP-A1RM IP Remote Microphone Museum

Functionality

- Automatic or manual triggering of pre-recorded messages
- Live paging into single speakers or flexible speaker zones
- Devices communicate via SIP, multicast and HTTP commands

Monitoring Room



Benefits

- Flexible reaction options for various situations
- Easy system control
- Ideal for systems without integrated paging functionality

Exhibition Room 1



Exhibition Room 2



Parking Area



IP-A1IMP Microphone Panel Intercom Solution

Functionality

- Conference rooms can call secretary's room and vice versa
- Paging from secretary's room into single rooms or entire zones
- Devices communicate via SIP and multicast

Secretary's Room



Benefits

- Natural conversations between secretary's and conference room
- Intercom and public address combined in one system

Conference Room 1



Conference Room 2



Conference Room 3



IP Remote Microphone

- Gooseneck microphone with LED indicator
- LCD with 50 virtual keys
- Paging via SIP or multicast
- API for HTTP command reception
- Transmission of entire sets of HTTP commands
- Scheduler function
- Storage for prerecorded and manually recorded messages
- System mute function to mute all IP-A1 series devices in the network
- 1 AUX audio input (line/mic) for local audio sources
- 2 control inputs and 1 control output
- PoE-powered



Microphone Panel

- Microphone incl. preamplifier
- Call button
- Indication LED
- 1 line audio output
- 1 control input and 1 control output
- Powered via phantom power



Specifications	IP-A1RM	IP-A1MP
Power source	PoE	Phantom power (9 V - 26 V DC)
Power consumption	3.5 W	8 mA or less (at 12 V DC)
Audio codec	PCMU (G.711u), PCMA (G.711a), G.722	-
Multicast channels	20	-
Internal messages	Max. 20 messages (max. recording capacity: 80 MB), supported file formats: WAV/MP3	-
Recorded audio	Max. 2 min, 1 message	-
Chime	Preset tone x 5, editable tone x 2	-
Command sets	20 HTTP commands can be registered in each of 10 command sets	-
Network I/F	100BASE-TX, Auto MDI/MDI-X, RJ-45 connector	-
Network protocols	TCP/IP, UDP, HTTP, RTP, RTSP, RTCP, ARP, ICMP, NTP, SIP (RFC3261)	-
Microphone type	Uni-directional electret condenser microphone	Omni-directional electret condenser microphone
Monitor speaker	Cone-type, volume adjustable, rated outout: 1 W	-
Operation	5 operation keys, 3 function keys, 10 selection keys	1 push switch, momentary type
Display	LCD, 255 x 160 dots with backlight	-
AUX inputs	1 channel, unbalanced, line/mic selectable, pad function (-20 dBV), volume adjustable, 3.5 mm mini jack	-
Audio outputs	-	1 channel, 200 Ω, volume adjustable, electronically-balanced
Control inputs	1 channel, no-voltage make contact input	
Mute control inputs	1 channel, 24 V DC cut signal	-
Control outputs	1 channel, open collector output	1 channel, no-voltage make contact output
Operating temperature	0 °C to +40 °C (32 °F to 122 °F)	-20 °C to +55 °C (-4 °F to 131 °F)
Dimensions	224 x 47.2 x 136 mm (8.82" x 1.86" x 5.35") (W x H x D)	44.6 x 107 x 29 mm (1.76" x 4.21" x 1.14") (W x H x D)
Finish	ABS resin, black	Steel plate, ABS resin, white (RAL 9016 or equivalent)
Weight	630 g (1.39 lb)	170 g (0.37 lb)

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* audio streaming and multicast

Secretary's 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 Community Space



Office 5th Floor



Office Courtyard



IP-A1PG IP Paging Gateway Retail Store

Functionality

- Streaming of local music through the network
- Scheduling of music playback and prerecorded ads
- Devices communicate via multicast and HTTP commands

Backoffice



Benefits

- Easy scheduler access via web browser
- Telephones can also page into the speaker system

Store Level 1



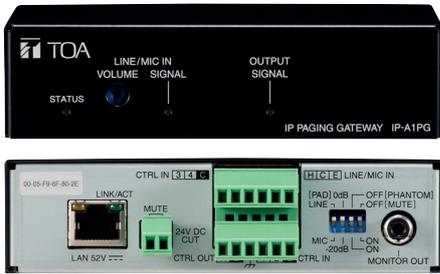
Store Level 2



Store Level 3



IP Paging Gateway



- Convert SIP audio, ONVIF* audio, internal audio files or local audio source into multicast streaming
- API for HTTP command reception
- Transmission of entire sets of HTTP commands
- Scheduler function
- Audio file storage
- System mute function to mute all IP-A1 series devices in the network
- 1 audio input (line/mic and phantom power selectable)
- 4 control inputs and 1 control output
- PoE-powered

Specifications	IP-A1PG
Power source	PoE
Power consumption	2.5 W
Audio codecs	PCMU (G.711u), PCMA (G.711a), G.722
Multicast channels	20 ports
Internal messages	Max. 20 messages (Max. recording capacity: 80 MB), Supported file formats: WAV/MP3
Command sets	20 HTTP commands can be registered in each of 10 command sets
Network I/F	100BASE-TX, Auto MDI/MDI-X, RJ-45 connector
Network protocols	TCP/IP, UDP, HTTP, RTP, RTSP, RTCP, ARP, ICMP, IGMPv3, NTP, SIP (RFC3261)
Audio inputs	1 channel, electronically-balanced, LINE/MIC selectable, pad function (-20 dBV), Phantom power ON/OFF (12 V DC), volume adjustable
Monitor outputs	1 channel, 600 Ω or less, electronically-balanced, RCA pin jack
Control inputs	4 channels, no-voltage make contact inputs
Mute control inputs	1 channel, 24 V DC cut signal
Control outputs	1 channel, open collector output
Operating temperature	0 °C to +40 °C (32 °F to 122 °F)
Dimensions	126 x 33 x 80 mm (4.96" x 1.3" x 3.15") (W x H x D)
Finish	Steel plate, black
Weight	390 g (0.86 lb)

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