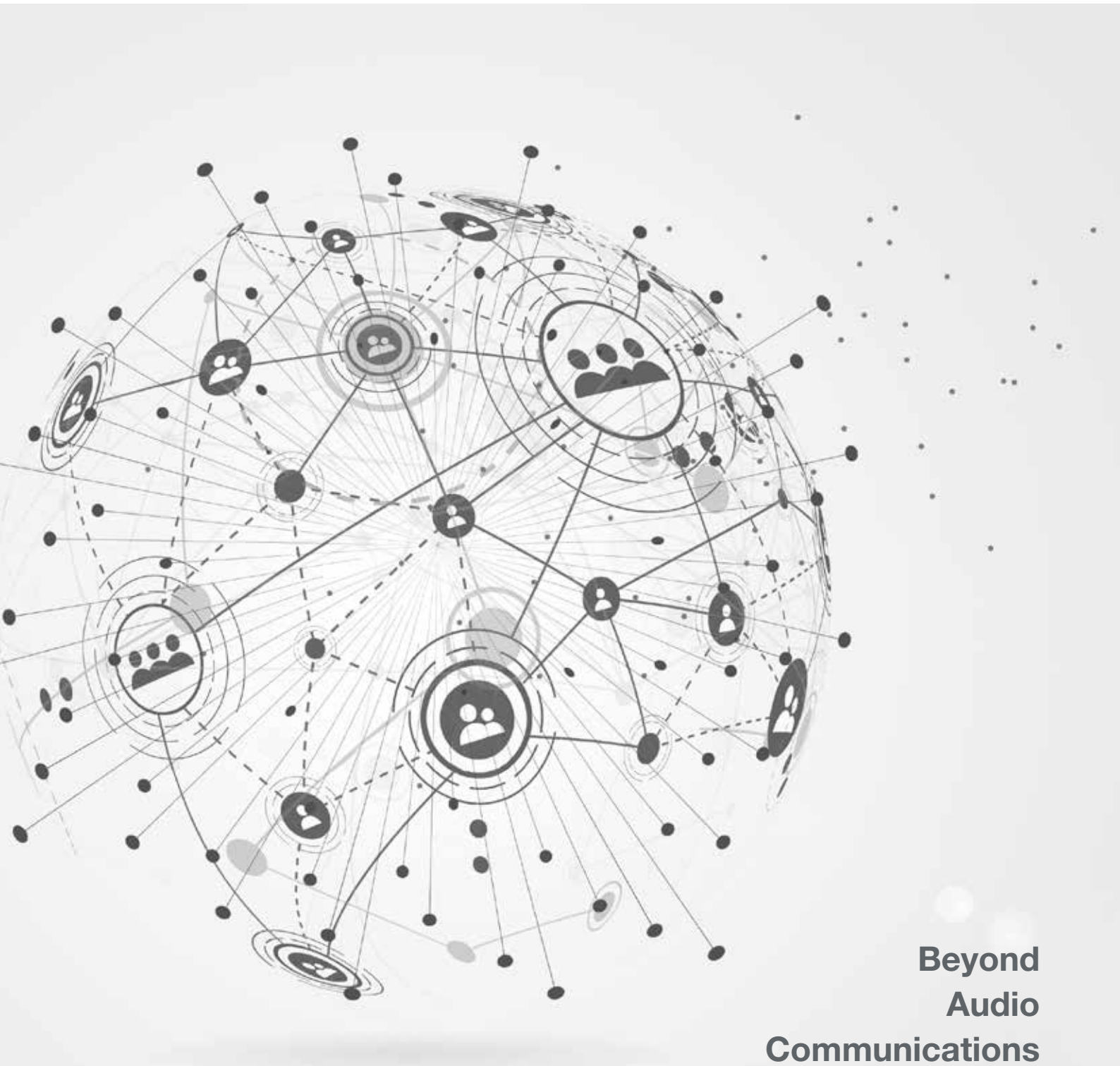




Sophisticated IP Audio Endpoints

IP-A1 Series



**Beyond
Audio
Communications**



More than meets the eye

All of these features are on board...



IP-A1 series is a group of sophisticated IP audio endpoint devices which are designed in different forms. Although it looks like a simple speaker or an I/F box, it is capable of much more features than its appearance and performs as a minimal PA system even with a single device while multiple devices can also be managed as one controlled PA system.

01 What is IP-A1?

IP-A1 series consists of a variety of commercial-grade IP audio endpoints, which can be used as an independent audio system or a fully integrated audio communication system to be configured and operated in conjunction with external systems and platforms such as security video monitoring, access control, digital signage or fire alarm systems.



Common Key Features

| Audio File Storage | Standard Protocols | Audio Management | Easy Configuration | Integration Friendly |
|--------------------|-------------------------|-------------------------|-----------------------------|---------------------------------|
| MP3/WAV 80MB | SIP, Onvif Multicast | Priority & Volume | Browser UI & Software | HTTP API & Contact In/Out |

*Onvif is a registered trademark of ONVIF Inc.

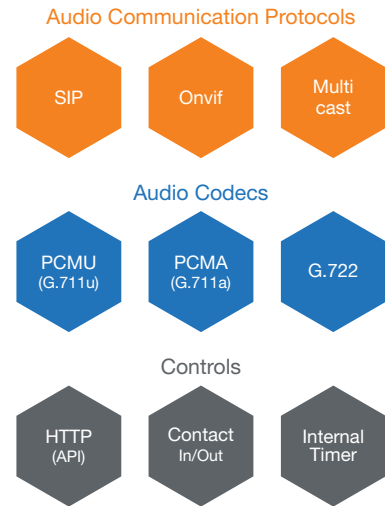
Audio communication system design can be much simpler and more flexible with IP-A1 series

02 Why IP-A1?

Integration-friendly

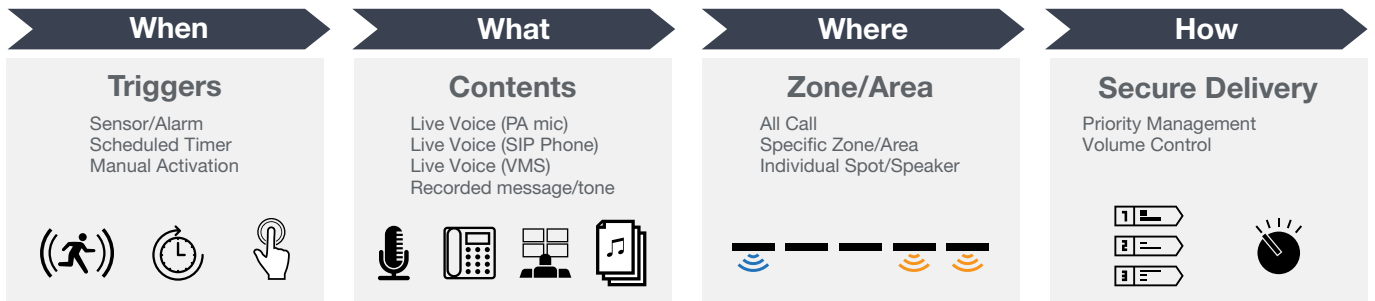
IP-A1 series IP endpoints adopt common industrial standard protocols for its audio communications and controls, which helps to establish fully integrated systems by communicating not only between IP-A1 series devices but also with external devices and platforms such as SIP phone, security VMS (Video Management Software), Access Control or Sensing systems.

Adding an endpoint or group of endpoints into a commercial communication system brings it to the next level for being capable of flexible audio communications over the network.



IP-A1 can be the easiest “**piece**” to be added for fulfilling **Audio System** requirements in your integration project designs.

Key Elements of Audio Communications



IP-A1 series is designed to handle these elements flexibly for meeting every single project requirements.

Server-less & Scalable

IP-A1 series does not require a dedicated server for its operation in standalone mode, so that the system budget can be minimized. The simplest PA system can be established by a single endpoint device such as IP Horn Speaker, while a building wide or even community wide audio communication system can also be configured with a large number of endpoints designed in different forms.



Server



Spot Accouncement



Large-scale Broadcast

03 Lineup



Transmitter

IP Paging Gateway
IP-A1PG

- > 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 selectable, phantom power On/Off)
- > 4 control inputs and 1 control output
- > HTTP commands (receive/send)
- > Audio file storage (20 files, total 80MB, WAV/MP3)
- > PoE powered



Receiver

IP Audio Interface
IP-A1AF

- > Receive SIP audio, ONVIF Audio Backchannel and Multicast
- > Local broadcast using internal audio files or local audio source
- > 1 audio input (LINE/MIC selectable, phantom power On/Off)
- > 8W (PoE)/15W(PoE+) built-in amplifier, 1 LINE audio output
- > 2 control inputs and 1 control output
- > HTTP commands (receive)
- > Audio file storage (20 files, total 80MB, WAV/MP3)
- > Playback programs (Repeat, Weekly Timer)
- > PoE/PoE+ powered



Receiver

IP Ceiling Speaker
IP-A1PC238

- > 16cm (6") cone-type speaker for in-ceiling installations
- > Receive SIP audio, ONVIF Audio Backchannel and Multicast
- > Local broadcast using internal audio files
- > 8W built-in amplifier
- > 2 control inputs and 1 control output
- > HTTP commands (receive)
- > Audio file storage (20 files, total 80MB, WAV/MP3)
- > Playback programs (Repeat, Weekly Timer)
- > PoE powered



Receiver

IP Horn Speaker
IP-A1SC15

- > 124dB (PoE+ powered) with IP66 rating for outdoor installations
- > Receive SIP audio, ONVIF Audio Backchannel and Multicast
- > Local broadcast using internal audio files
- > 8W (PoE)/15W(PoE+) built-in amplifier
- > 2 control inputs and 1 control output
- > HTTP commands (receive)
- > Audio file storage (20 files, total 80MB, WAV/MP3)
- > Playback programs (Repeat, Weekly Timer)
- > PoE/PoE+ powered

04 Key Broadcast Functions

Internal Audio File

PG AF PC238 SC15

- > Up to 20 audio files (Total 80MB)
- > MP3, WAV
- > Volume level, Number of times to repeat and Interval can be specified.



Audio File Formats

WAV: 8/16/44.1/48 kHz sampling frequency, 8/16bit, mono/stereo
 MP3: 32/44.1/48 kHz sampling frequency, 64-320 kbps, CBR/VBR, mono/stereo

VMS (Onvif Audio Backchannel) Broadcast

AF PC238 SC15

- > Broadcasts can be made using Onvif Audio Backchannel protocol from VMS (Video Management System) software.



Compatible Audio Codecs

PCMU (G.711u)

2-way Communication

AF

- > Audio back stream can be made for audio monitoring and/or conversation applications.



Audio Input

Audio Input: LINE/MIC (LINE: 0dB, MIC: -60dB), PAD, Phantom Power On/Off

SIP Broadcast

AF PC238 SC15

- > Broadcasts can be made using SIP protocol via SIP server.



Compatible Audio Codecs

G.722, PCMU (G.711u), PCMA (G.711a)

Multicast Streaming

PG AF PC238 SC15

- > Up to 20 multicast addresses and ports can be managed and streamed by one IP-A1PG.
- > Each receiving device is capable of 20 multicast ports.



Compatible Audio Codecs

G.722, PCMU (G.711u), PCMA (G.711a) – Auto codec recognition

Priority Management

PG AF PC238 SC15

- > Broadcast priorities can be changed between broadcast types and patterns on each device.



Default Priorities (High to Low)

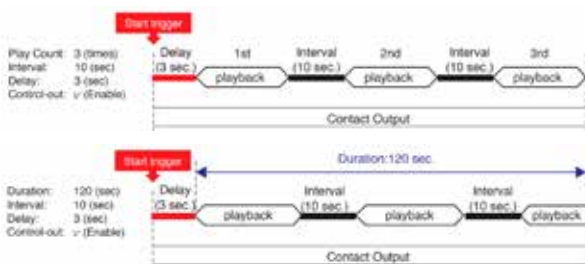
IP-A1PG: SIP, VMS, Pattern 1-20, LINE/MIC IN
 Receivers: SIP, VMS, Multicast 1-10, Pattern 1-20, Multicast 11-20, Local*

*Available only on IP-A1AF

Broadcast Patterns

PG AF PC238 SC15

- > Up to 20 Broadcast Patterns can be registered by using internal audio files.
- > Play mode can be selected from the following;



Play Count

- Specify the number of times to repeat
- Specify interval and Delay time.
- Enable/disable control-out.

Duration

- Specify the total duration time to repeat.
- Specify interval and Delay time.
- Enable/disable control-out.



Weekly Timer

- Specify Start and End time to repeat.
- Select applicable days.
- *This functions is available only on IP-A1AF, IP-A1PC238.

05 Applications

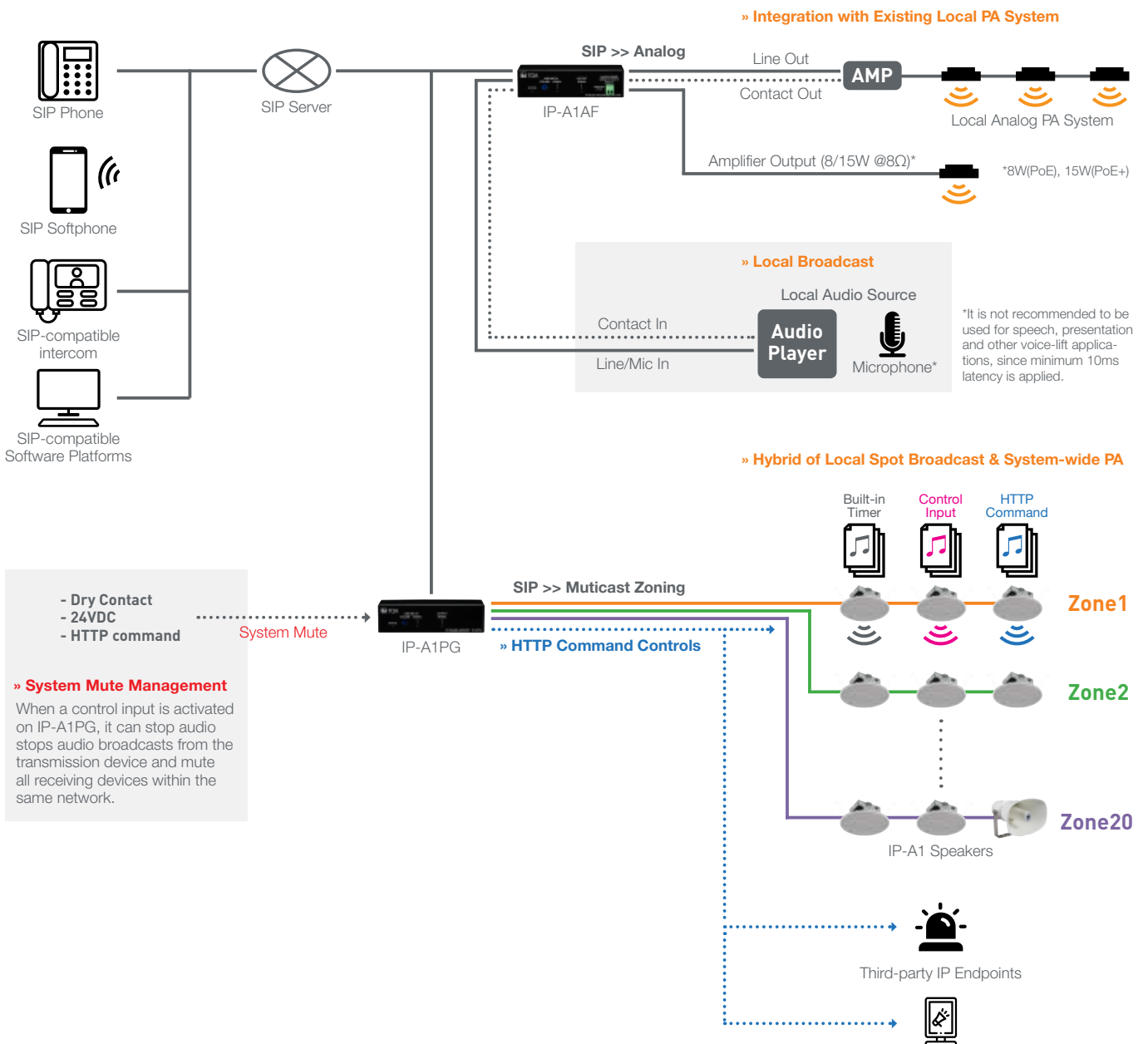
Minimal Standalone Operation



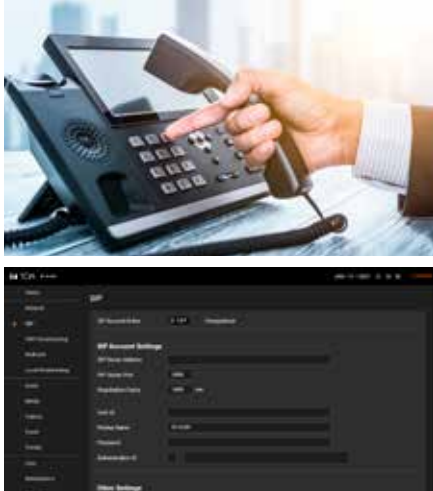
Internal Audio Files (20 files, MP3/WAV, 80MB)

Scheduled Timer / Repeat

Sophisticated PA System Integrations

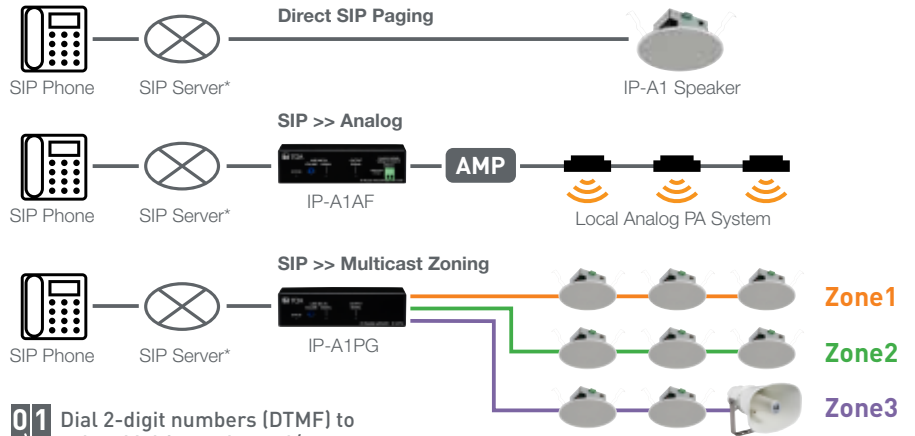


SIP Phone System Integrations



IP-A1 Browser Interface
(SIP Account Setting Menu)

» As simple as adding a “Phone”



01 Dial 2-digit numbers (DTMF) to select Multicast channel/zone

*Peer-to-peer (P2P) network communication is also supported to establish the system without a SIP server.

Security VMS Integrations



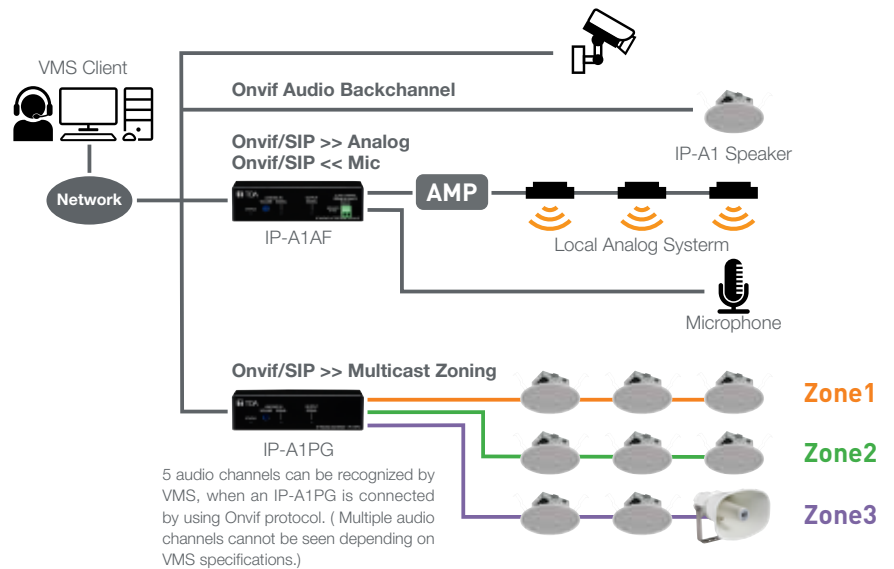
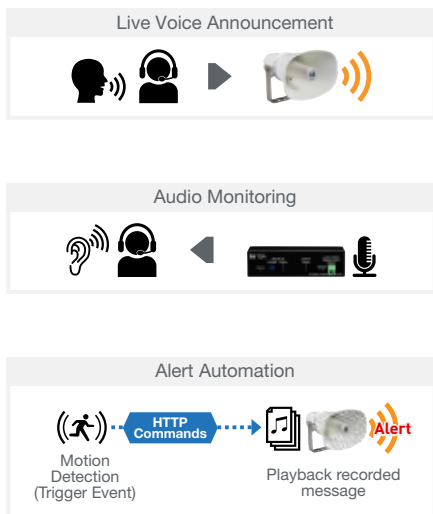
» As simple as adding a “Camera”



Scan to discover IP-A1 device within the same network by VMS as a generic Onvif device.

Register it in VMS as an IP camera or an audio device.

- Live announcements
- Monitor onsite sound*
*Available only on IP-A1AF



5 audio channels can be recognized by VMS, when an IP-A1PG is connected by using Onvif protocol. (Multiple audio channels cannot be seen depending on VMS specifications.)

06 Features

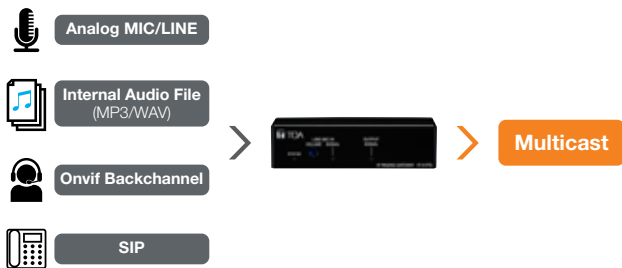


IP-A1PG the Intelligence of IP-A1 Series

IP-A1PG is designed to manage a variety of functions to make IP-A1 series a powerful communication system, while being integrated with external systems and platforms for receiving and sending signals to each other.

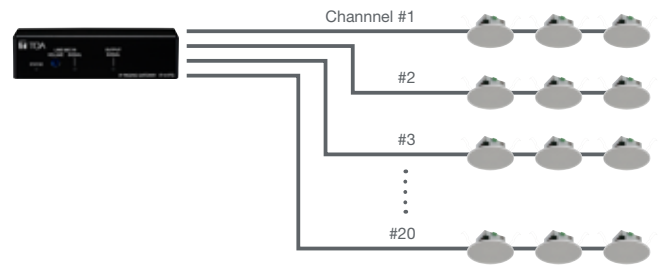
Audio Protocol Conversion

A variety of audio sources sent via different protocols can be converted into multicast format.



Multicast Zoning

Up to 20 multicast addresses and ports can be managed by one IP-A1PG for zoning broadcast applications.



| Multicast Transfer Channel Settings | | | | |
|-------------------------------------|-------------------|-------|--|--|
| Group Name | Multicast Address | Port | | |
| 1 Multicast 1 | 239.239.14.1 | 49000 | | |
| 2 Multicast 2 | 239.239.14.2 | 49002 | | |
| 3 Multicast 3 | 239.239.14.3 | 49004 | | |

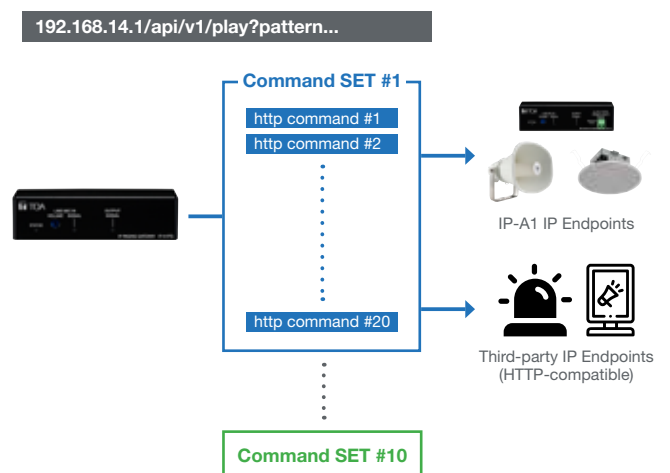
System Mute

All broadcasts made by IP-A1 series endpoints within the same network can be muted at once by triggering the control input.



HTTP Command Distribution

General HTTP commands can be registered and sent out as a set to any HTTP command-compatible devices.



IP-A1AF



IP-A1PC238



IP-A1SC15



| Power source | PoE+ / PoE | PoE | PoE+ / PoE |
|--|------------------------------------|---------------------------------|--|
| Audio Protocols | ✓ | ✓ | ✓ |
| Audio Protocols | ✓ | ✓ | ✓ |
| Two-way Communication (MIC Input) | ✓ | - | - |
| Audio Output | ✓ | - | - |
| Audio Strage | ✓ | ✓ | ✓ |
| Weekly Timer Triggering Broadcast Patterns | ✓ | ✓ | ✓ |
| Controls | ✓ | ✓ | ✓ |
| Environmental Ratings | - (-30 to +55°C / -22 to 131°F) | - (0 to +50°C / 32 to 122°F) | IP66 (-30 to +55°C / -22 to 131°F) |

» Priority Management

Broadcast priority can be flexibly configured on each endpoint device independently.



» Individual Volume Adjustment

Individual (Master and each Input) volume level can be flexibly adjusted to uniform the output level or set specific broadcasts at higher level intentionally.



» Weekly Timer

Weekly Timer function is available to play broadcast patterns by specifying "Start" time, "End" time and effective Day of Week.



07 What can be achieved by HTTP commands?



Remote API
HTTP



Play and Stop Internal Audio Files

PG **AF** **PC238** **SC15**

- Internal audio files can be played back and stopped.



Initiating a SIP Call

AF **PC238** **SC15**

- A SIP call can be initiated and cancelled from an IP-A1 device to a pre-registered SIP phone.



Volume Setting

PG **AF** **PC238** **SC15**

- Master volume, Master offset volume and Internal audio source volume can be adjusted and configured.



“Command Set” Distribution

PG

- Up to 10 pre-registered HTTP Command Set can be distributed from IP-A1PG. And each Command Set consists of up to 20 commands.



Get Device Status and Setting Values

PG **AF** **PC238** **SC15**

- Device status and setting values can be obtained.



Device Maintenance

PG **AF** **PC238** **SC15**

- Key device maintenance operations can be performed.



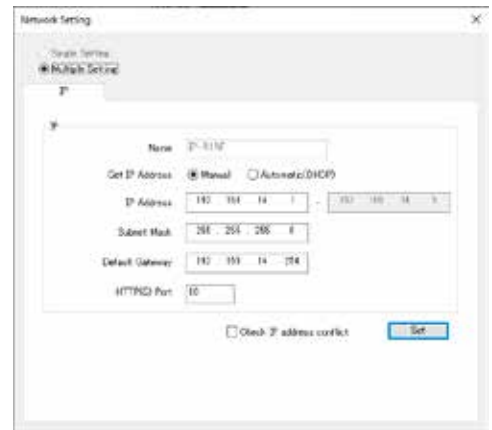
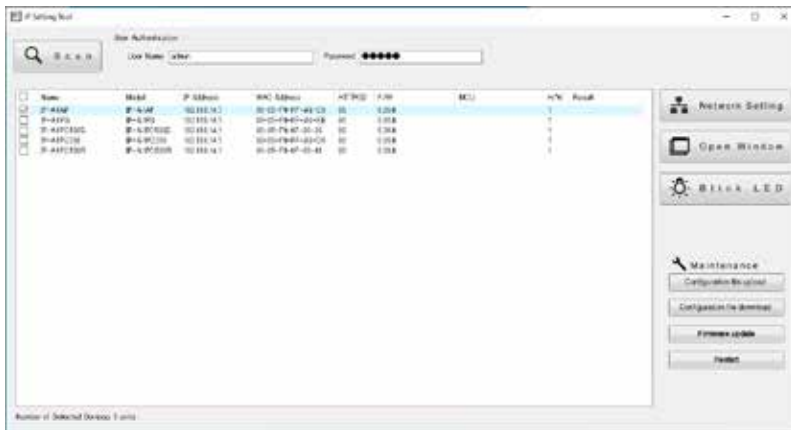
Please contact us to get the full command list.

08 IP Setting Tool Software



(Free to download)

- All IP-A1 series endpoint devices within the same network can be discovered and displayed as a list.
- Configuration file can be downloaded/uploaded.
- Firmware can be updated.
- Basic network settings can be configured on single device or multiple devices.



PC Requirements

| | |
|---------|---|
| OS | Windows 10 Pro (64bit) / 10 Home (64bit) / 11 Pro / 11 Home |
| Display | Resolution: 1366 x 768 or more |



IP-A1PG IP Paging Gateway



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 selectable, phantom power On/Off)
- 4 control inputs and 1 control output
- HTTP commands (receive/send)
- Audio file storage (20 files, total 80MB, 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 | PCMU(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

IP-A1AF IP Audio Interface



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 selectable, phantom power On/Off)
- 8W (PoE)/15W(PoE+) built-in amplifier, 1 LINE audio output
- 2 control inputs and 1 control output
- HTTP commands (receive)
- Audio file storage (20 files, total 80MB, WAV/MP3)
- Playback programs (Repeat, 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 = 1V

IP-A1PC238 IP Ceiling Speaker



- 16cm (6") cone-type speaker for in-ceiling installations
- Receive SIP audio, ONVIF Audio Backchannel and Multicast
- Local broadcast using internal audio files
- 8W built-in amplifier
- 2 control inputs and 1 control output
- HTTP commands (receive)
- Audio file storage (20 files, total 80MB, WAV/MP3)
- Playback programs (Repeat, 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" x 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.

IP-A1SC15 IP Horn Speaker



- 124dB (PoE+ powered) with IP66 rating for outdoor installations
- Receive SIP audio, ONVIF Audio Backchannel and Multicast
- Local broadcast using internal audio files
- 8W (PoE)/15W(PoE+) built-in amplifier
- 2 control inputs and 1 control output
- HTTP commands (receive)
- Audio file storage (20 files, total 80MB, WAV/MP3)
- Playback programs (Repeat, 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), 12.95 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, Auto codec recognition, 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) |
| 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)) |
| 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. These specifications only apply to the firmware version 2.1.0.

