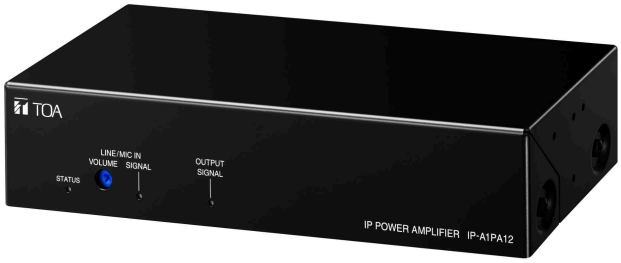
# IP-A1PA12

IP POWER AMPLIFIER 12W




The IP-A1PA12 is a compact 12 W amplifier which is designed to amplify audio signals received through network. It is equipped with 25 V, 70 V and 100 V speaker line outputs to drive wide range of high impedance speakers. With an external amplifier input capability, speaker(s) can be driven by internal amplifier or external amplifier by switching over. It allows integrations with IP camera systems by using ONVIF protocol, paging from IP phone systems by using SIP protocol and group broadcast by multicast streaming. Max. 20 audio files can be registered and they can be played back by control inputs or remote API (HTTP/HTTPS) commands.

## Key features

- 12W amplifier to drive 100/70/25V line speakers
- Receive SIP audio, ONVIF and Multicast
- Local broadcast using internal audio files or local audio source
- External amplifier input (100/70/25V) to share speakers between the built-in amplifer and external PA amplifier to be switched over
- 1 audio input (LINE/MIC selectable, phantom power On/Off)
- 2 control inputs, 1 control output and 1 mute control input
- HTTP/HTTPS commands (receive)
- Audio file storage (20 files, total 80MB, WAV/MP3)
- Playback programs (Repeat, Weekly Timer)
- PoE+ powered

# Specifications

| | |
|---|---|
| Power Source | PoE+ (IEEE802.3at Class 4) |
| Power Consumption | 25 W (rated output)<br>6 W (IEC62368-1) |
| Amplifier Rated Output | 12 W |
| Frequency Response | 100 Hz - 20 kHz |
| Audio Codec | Opus, PCMU (G.711u), PCMA (G.711a), G.722 |
| Audio Delay Time | Min. 100 ms (*1) |
| Broadcasting Mode | SIP Broadcasting/SIP calling Mode: Opus/PCMU/PCMA/G.722, P2P/SIP Server Connection<br>Multicast Broadcasting Mode: Opus/PCMU/PCMA/G.722 Auto codec recognition, 20 ports<br>VMS Broadcasting Mode: PCMU<br>Internal Message Broadcasting Mode<br>Local Broadcasting Mode: Output from LINE/MIC IN to SPEAKER OUT<br>Note: Each broadcast mode can be assigned an order of priority using the Priority Setting function. |
| Sound Source Files | Max. 20 files (File storage capacity: 80 MB total)<br>Supported file formats<br>WAV file: 8/16/44.1/48 kHz sampling frequency, 8/16 bit, monaural/stereo<br>MP3 file: 32/44.1/48 kHz sampling frequency, 64 - 320 kbps, CBR/VBR, monaural/stereo<br>Repeat playback: Playcount (1 - 10 times), Duration (5 - 3600 sec) or Timer (from Start time to End time)<br>Interval time: 0 - 60 sec, Delay time: 0 - 30 sec<br>Trigger: Control Input or Remote API (HTTP/HTTPS) |
| Chime | Pre and post chime tones (applied for Incoming SIP Call and internal audio file broadcast)<br>Preset chime tone x 5, editable tone x 2 |
| Network I/F | 100BASE-TX, Auto MDI/MDI-X, RJ45 connector |
| Network Protocol | IP, TCP, UDP, TLS, HTTP, HTTPS, RTP, SRTP, RTSP, RTCP, SRTCP, ARP, ICMP, IGMPv3, NTP, SIP (RFC3261), SIPS, SIP-TLS, DHCP |
| Audio Input | 1 channel, electronically-balanced, 10 kΩ<br>LINE/MIC selectable (Rated input: LINE: 0 dB (*2), MIC: -60 dB (*2)<br>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<br>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: 150 mA or less, removable terminal block (6 pins) |
| Speaker Output | High impedance 100 V line (830 Ω), 70 V line (420 Ω), 25 V line (52 Ω)<br>N (100 V), N (70 V/25 V switchable), R, C removable terminal block (4pins) |
| External Amplifier Input | High impedance 100 V line, 70 V line, 25 V line<br>N (100 V), N (70 V/25 V switchable), R, C removable terminal block (4pins) |
| Amplifier Switching Control | Relay switching<br>Swithced to external amplifier when the following functions and operations are activated:<br>mute control input, control input, system mute, remote API control and the unit power off. |
| Mute Control Input | 1 channel, 24 V DC cut-off signal, control current: 5 mA or less, non-polar, removable terminal block (2 pins) |
| Indicator | STATUS (green/blue/yellow/red), LINE/MIC IN (green/red), OUTPUT (green), LINK/ACT (green) |

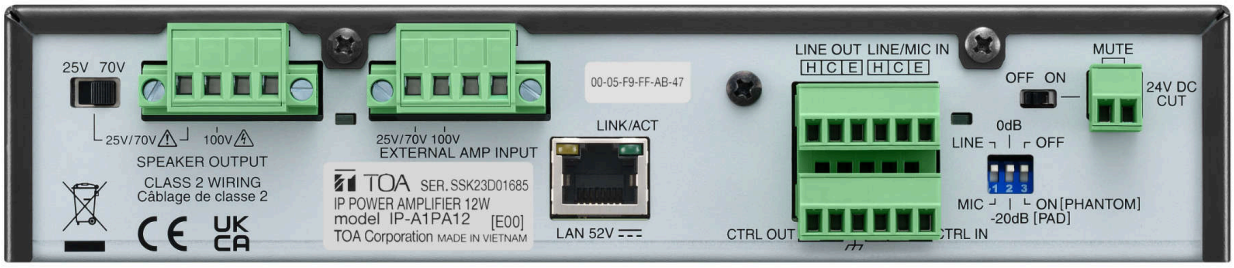
| | |
|---|---|
| Clock Accuracy | ±13 seconds per month |
| Time Adjustment | Manual time setting, Time adjustment by NTP server |
| Power Outage Protection Period | 24 hours (RTC time retention, at 40 °C (104 °F) |
| Feature Expansion | Device Connectivity Cloud Service (*3) |
| Operating Temperature | -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<br>Rear chassis: Surface-treated steel plate |
| Dimensions | 210 (W) x 44 (H) x 81.5 (D) mm (8.27" x 1.73" x 3.21") (excluding projection) |
| Weight | 940 g (2.07 lb) |
| Included Accessories | Removable terminal plug (6 pins, preinstalled on the unit) x 2, Removable terminal plug (2 pins, preinstalled on the unit) x 1, Rubber feet x 4, Mounting screw (M3 x 6) x 4 |
| Optional Accessories | Rack mounting bracket: MB-15B-BK (for rack mounting one IP-A1PA12 unit) (*3)<br>Wall mounting bracket: MB-15B (for wall mounting) |

(*1) When the model of local broadcasting is set to Normal, assume audio delay time. Audio input can be output with no delay when the mode of local broadcasting is set to No Delay.
(*2) 0 dB = 1V
(*3) Not compatible with jointing 2 units using MB-15B-J.
*ONVIF is a registered trademark of ONVIF Inc.
*These specifications apply to the firmware verion 3.6.0 or later. For the latest specifications and firmware, please refer to the TOA DATA Library (https://www.toa-products.com/international/)
(*3) Available only in Japan. A separate service contract is required.

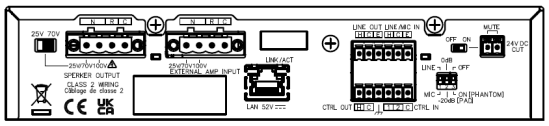
## PC requirements

| PC Requirements | |
|---|---|
| Display | 1920 x 1080 resolution or greater |
| OS | Windows 10 Pro (64 bit edition)<br>Windows 10 Home (64 bit editon)<br>Windows 11 Pro<br>Windows 11 Home |
| Web Browser | Google Chrome<br>Microsoft Edge |

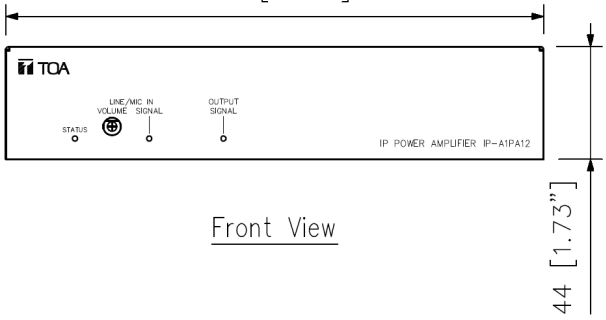
## Product rear image



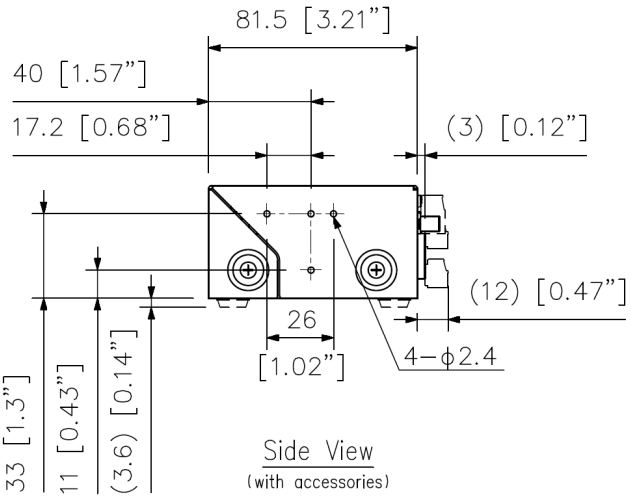

## Dimensions



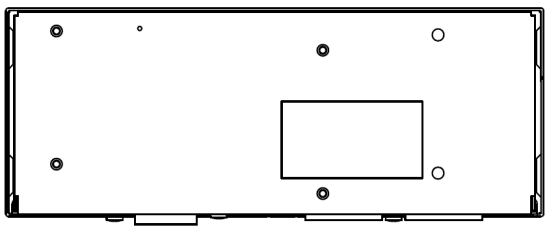
Rear View




Front View




Side View
(with accessories)



Bottom View

UNIT: mm

Note: Numerical values in parentheses are for reference only.

# A&E specifications

The IP power amplifier shall be able to amplify audio signals connected to audio input terminals or received through netwrok. It shall be equipped with 25V, 70V and 100V speaker line outputs to drive high impedance loudspeakers with an internal 12 watt amplifier.
The IP power amplifier shall be able to receive digital audio streams from SIP, ONVIF or Multicast for example, into analogue signals for the purpose of broadcasting public announcements. Broadcast shall be able to be controlled using remote HTTP control API or control inputs from connected external equipment and local inputs.
The IP power amplifier shall be equipped with 25V, 70V or 100V line high impedance external amplifier input. The internal connection to loudspeakers shall be able to be switched between the internal amplifer and an external amplifier by mute control input, control input, system mute, remote API control or the unit power off.
The IP power amplifier shall have an electronically balanced 10k Ω audio input with LINE/MIC selection and a 600 Ω electronically balanced output. The audio input shall have an independent volume control on the front panel that can only be adjusted by using a screwdriver.
The IP power amplifier shall offer priority status among the various broadcast modes that will override and interrupt a lower priority broadcast.
The IP power amplifier shall be capable of being muted by TOA IP-A1PG IP Paging Gateway or IP-A1RM IP Remote Microphone as the highest priority operation.
Twenty multi-cast ports shall be available for group paging and shall have the facility of storing up to twenty audio files with the code of WAV or MP3 format internally. The device shall have the flexibility of broadcasting these files at predetermined times by setting the start and end time along with the day(s) of the week, or repeated when necessary, triggered from a control input or from remote API (HTTP). The IP audio interface shall be capable of being muted by TOA IP-A1PG Paging Gateway or TOA IP-A1RM Remote Microphone as the highest priority operation. Remote settings shall be achieved by connection to a Windows® based personal computer and by using the PC's browser, operational settings, functions and system status can be established. Power source shall be supplied from a PoE+ switching hub.
The IP power amplifier shall be housed in black treated steel plate and its dimension shall be 210 (W) x 44 (H) x 81.5 (D) mm (8.27" x 1.73" x 3.21") weighing 940 g (2.07 lbs).
Optional extras:
Rack mounting bracket: MB-15B-BK
Wall mountung bracket: MB-15B
manufactured by TOA CorporationManufacturer: TOA Corporation
Model: IP-A1PA12