



# UNIFIED IP AUDIO SOLUTION

YOUR SPECIALIST FOR IP COMMUNICATION SOLUTION

# Solution Overview

ZYCOO IP Audio Solution is an IP audio communication system based on SIP, streaming media and MQTT IoT technologies. Our solution provides functionalities such as broadcasting, intercom, telephony, paging, and many more.

The entire solution architecture consists of IP audio endpoints, IP audio dispatch console and IP audio dispatch app, and an IP audio server. IP audio endpoints are hardware based, which include network speakers, IP intercoms, IP phones, and IP paging gateways, while IP audio dispatch console, which is installed on a computer, and IP audio dispatch app, which supports both Android and IOS, are software based. The IP audio server can be either a computer running our IP audio center software, or our IP audio server IAS-L100, and can be deployed on premise, or in the cloud. The solution architecture is designed to work within the standard intranet and or internet without the need for special equipment or wiring, as shown below.



# Solution Features



## Background Music

By using ZYCOO IP Audio Solution, users can easily create music playlists with any desired music file combination, then play background music by choosing a specific music playlist for a particular device or group. The stop, volume control, previous/next track features are all supported.



## IP PBX Features

Besides the full-featured public address system, ZYCOO IP Audio Solution also has IP PBX features enabled, such as digital receptionist, inbound control, outbound control, click to page, call monitor, call whisper, call split, and so on. Furthermore, users can integrate standard SIP trunking into the system to achieve the outbound features, with no upper limit on the number of SIP trunks.



## Video Intercom & Video Linkage

ZYCOO IP Audio Solution can provide video intercom and video linkage features. For example, SIP safety intercom Ei-V05 has a built-in HD camera that provides direct video calls. For all of the Ei-Series, external IP cameras with RTSP support can be integrated with the IP Audio Center. Simply inputting the camera's RTSP address, and the system fetches the real-time streaming when an intercom call is initiated.



## Unlimited Paging Groups

Expansion of the paging zone when using the analog system can be difficult and costly. Users can create unlimited number of paging zones, users can create any number of paging zones to achieve zone-based paging, emergency alarms, background music, etc.



## Dispatch User Privilege

ZYCOO IP Audio Solution supports an unlimited number of dispatch users, and more than one dispatch user can access the same paging group. With the flexibility of group permission and access level control, the administrator can easily assign different levels of authority to dispatch users. Each dispatch user can operate separately without interfering with other dispatch users, including paging, music broadcasting, conferencing, etc.



## Multiple Task Types

By using ZYCOO IP Audio Solution, users are provided with three (3) different types of tasks, including immediate, timetable, and dial-number. As the name suggested, the immediate task would be toggled immediately after the task is set. Timetable tasks can be repeatedly played within the specified time range. While the dial-number task is a pre-set task, user may set the task to play background music, emergency alarms, etc., and use a phone to toggle the task.



## No Server Needed

All ZYCOO IP Audio Solution's devices support Multicast and Peer-to-peer (P2P) to share data between devices without the need for a central server. While the devices are used in the same local network, multicast can distribute a single copy of data to an entire group of devices to achieve the broadcasting and paging features. In contrast, P2P provides the ability to call from a single device to another, achieving the feature.



## Standard SIP

ZYCOO combines its years of experience in developing communication products, constantly innovates and breaks communication barriers, and integrates different communication products such as telephone, broadcasting, and intercom into the IP Audio Solution. Based on standard SIP protocol, ZYCOO IP Audio Solution is compatible with third-party endpoints or system products.

# Network Speakers



ZYCOO SC10&SC15 Network Ceiling Speaker and SW15 Network Cabinet Speaker are high efficient, full-range drive units SIP-enabled speakers. Specially designed for indoor purposes, to provide premium sound quality, enhance the audience experience.

SH10 and SH30 are SIP-enabled horn speakers that provide exceptional voices for SIP paging, notification/tone broadcasting, and background music. They are suitable to be deployed in outdoor and other open spaces for public notifications and public safety purposes.

SL30 Network Column Speaker is PoE+ supported, it could cover a wide frequency band to provide high sensitivity, beautiful sound, and a unique listening experience for listeners. As well as the IP65-Enclosure makes the SL30 perfect to work in any outdoor environment.



- **BM11 is a Push-to-Talk Button with Mic. Users need to connect the BM11 to the SW15 or SC15, and then configure the corresponding functions on the web interface of the endpoint device.**



SIP Protocol



ONVIF



HD Voice



PoE (802.3at/af)



Built-in Amplifier



Auto Provisioning

	SC10 Network Ceiling Speaker	SC15 Network Ceiling Speaker	SW15 Network Cabinet Speaker	SH10 Network Horn Speaker	SH30 Network Horn Speaker	SL30 Network Column Speaker
Dimension	Ø150*205(mm)	Ø240*210(mm)	240*180*150(mm)	Ø220 x 235(mm)	Ø276*277(mm)	100*100*331(mm)
Weight	1.4KG	3.45KG	3.29KG	2KG	2.68KG	2.5KG
Speaker Component	4" woofer unit + 1" tweeter unit	5.25" woofer unit + 1" tweeter unit	5.25" woofer unit + 1.5" tweeter unit	1.5" midrange driver unit	2" midrange driver unit	2* 3.25" woofer units + 1" tweeter unit
Power Input	PoE IEEE802.3at or DC 12V-2A	PoE IEEE802.3at or DC 24V-2A	PoE IEEE802.3at or DC 24V-2A	PoE IEEE802.3af/at or DC 24V-1A	PoE IEEE802.3at or DC 24V-2A	PoE IEEE802.3at or DC 24V-2A
Rate power	8Ω 10W	8Ω 15W	8Ω 15W	8Ω 15W	8Ω 30W	4Ω 30W
Sensitivity	90dB/1m/1W	85dB/1m/1W	85dB/1m/1W	105dB/1m/1W	105dB/1m/1W	82dB/1m/1W
Max sound pressure level	100dB	100dB	100dB	115dB	117dB	97dB
Frequency range	70Hz – 20KHz	70Hz – 20KHz	70Hz – 20KHz	400Hz – 8KHz	400Hz – 8KHz	100Hz – 20KHz
IP Rating	/	/	/	IP65	IP65	IP65

# Ei Series Network Safety Intercom



Ei-D05 Network Safety Intercom



Ei-V05 Network Safety Intercom



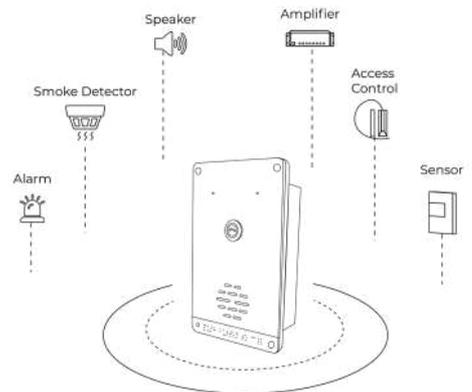
Ei-W05 Network Safety Intercom



Ei-A05 Network Safety Intercom

Ei Series Safety Intercom is available in four models designed to address the needs and requirements of various applications and installation types. All models deliver full-duplex communication and secure access control for your VoIP system. Ideal for any setting such as commercial facilities, schools and universities, medical facilities, warehouses, and retail establishments.

There are multiple ways of installing the Ei Safety intercom. It can be flush-mounted and installed alone on any style of cavities, or using an optional accessory of surface mount box is also available. You can use it on any model of Ei Series intercom to surface mount on the wall.



Gesture Activation



Dual Destinations



Video Intercom



Access Control



ONVIF



Audio Out



PoE (802.3at/af)

	Ei-V05	Ei-W05/Ei-D05/Ei-A05
Sensitivity	96±3dB/1M/1W	
Distortion	<1%	
Amplifier	5W Single Channel D-class	
Rate Power	8Ω 5W	
Frequency Range	100Hz~20KHz	
Microphone	-36±2dB	
Music Streaming	MP3 sampling rate 8-48KHz, bit rate 64-320kbps, mono or stereo	
Camera	1280*720@20fps,640*360@20fps	N/A

# SQ10 Series Network Square Speaker



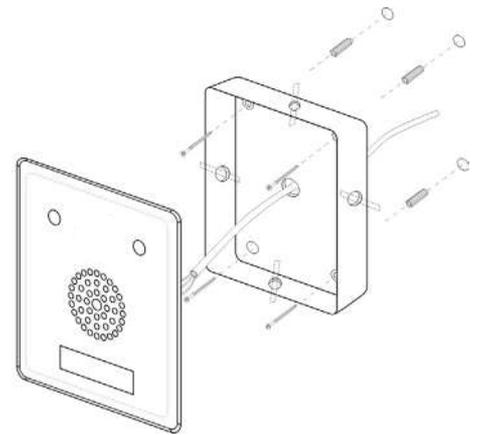
Network Square Speaker SQ10-B



Network Square Speaker SQ10-T

ZYCOO SQ10 Network Square Speaker has SQ10-B and SQ10-T two models.

Two LED flashers are located on the SQ10-T's top surface and can be used to alert room occupants of an incoming audio message or emergency notices. The LED display can show real-time time and eliminates the need for a separate clock system. Meanwhile, both of them have built-in microphones which can support two-way communication. They are perfect to use in scenarios like classrooms, libraries, and offices.



SIP Protocol



ONVIF



PoE (802.3at/af)



HD voice



Flasher



Clock



Peripheral Integration

	SQ10 Network Square Speaker
Speaker Size	4.5 inch
Amplifier	Single-Channel Class D Topology
Rated Power	8Ω 10W
Average Sensitivity	91dB/1m/W
Max SPL at 1m(Passive)	101dB
THD	<0.1%
Frequency Range	70Hz-20KHz
Coverage Pattern	90°H 50°V 30m <sup>2</sup>

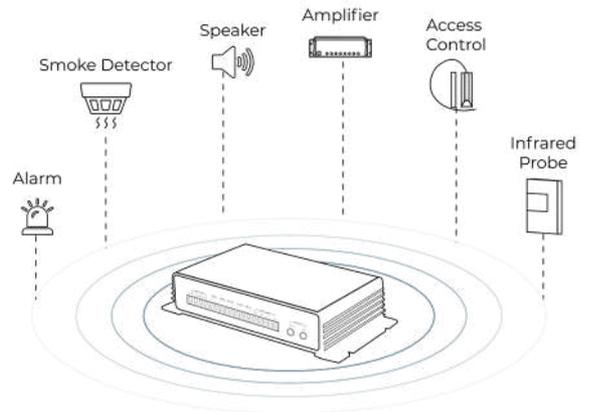
# SIP Paging Gateway



X10  
SIP Paging Gateway

ZYCOO X10 SIP Paging Gateway is a SIP enabled multifunctional intelligent IP voice communication terminal device. It can convert IP voice signal to analog audio signal and playout through the user's optional speaker output to achieve broadcast or two-way intercom and other IP voice communication functions.

X10 supports access to sensors, sound and light alarms, door magnets, and other peripheral devices to achieve a level of automatic control, security, and other functions, which can be widely used for smart and safe city applications, to increase the efficiency of communication and information sharing, as a result, to improve public safety and citizen welfare.



PoE (802.3at/af)



ONVIF



Built-in  
Amplifier



Two-way Voice



Peripheral  
Integration



Stereo Audio

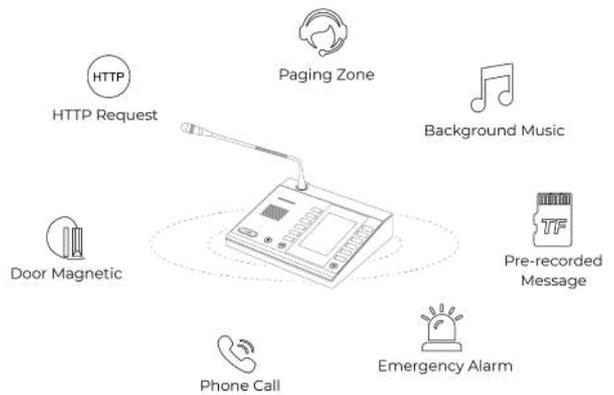
X10 SIP Paging Gateway	
Headset Output	3.5mm Jack
Microphone	3.5mm Jack
Volume Control	VOL+ and VOL-, press both to announce IP address
Power Input	DC 12V-3A Jack
Ethernet	ETH0+ETH1, 10/100Mbps, ETH0 with PoE IEEE 802.3at enabled
Dry Contact	NO/NC contacts, max AC 125V-1A, DC 60V-1A
Audio Codecs	G.722, G.711 A-law, G.711 U-law, Opus
Music Streaming	MP3 sampling rate 8 – 48KHz, bit rate 64 – 320kbps, mono or Stereo

# Dispatch Microphone Console



Dispatch Microphone Console M100

The M100 Dispatch Microphone Console is a versatile and high-performance SIP-enabled device for seamless communication. It features 30 programmable fast keys that can be used for paging, intercom, music playback, outbound phone calls, and emergency alarm activation. With multicast and peer-to-peer technology, it serves as a standalone serverless console for individual and group paging, internal calls, and more. The console also allows users to save music and prerecorded messages in the local storage TF card, ensuring reliable and efficient communication capabilities.



Server-less Paging  
up to 30 Zones



External Music  
Collection



Music and  
Pre-recorded  
Message



Standard SIP  
Integration



Versatile  
Functionality



Easy Installation  
with PoE

	Dispatch Microphone Console M100
Dimension	210*190*46 mm
Weight	1.2KG
TF Card	32GB
Power Input	DC 12V 1A or PoE IEEE 802.3af/at
Speed Dial Key	10 physical buttons (Use with the screen, support 10*3 rows of programmable buttons)
RS485	Half duplex
Speaker Max Sound Pressure Level	100dB
Speaker Sensitivity	95±3dB / 1W / 1m
Gooseneck Microphone Max Sound Pressure Level	110dB
Gooseneck Microphone Sensitivity	36±2dB
LCD Display Size	4.3 inches
LCD Display Resolution	480p*272p

# IP Audio Server



IP Audio Server  
IAS-L100

IAS-L100 is a hardware server that pre-installed the ZYCOO IP Audio Center system, providing users the out-of-the-box feature to be ready to use. It can be used with ZYCOO speakers, intercoms, paging gateways, and other equipment to realize IP audio endpoints auto-provisioning and centralized management, mass notifications, background music, audio & video intercom, emergency broadcasting, audio conferencing, IP phone calling more features. In addition, with the use of SIP protocol, it supports third-party SIP-enabled endpoints and SIP system integrations.



## HD Music

320Kbps superior quality MP3 music files and streamed media music supported, click to play music or scheduled music playing can be achieved. And different music for different zones is also supported.



## SIP Paging

Support multiple ways for live paging by dialing a single device or a group number from an IP phone or a SIP microphone to initiate a live SIP paging and/or using the ZYCOO IP Audio Dispatch Console click and trigger paging.



## Auto Provisioning

Using the MQTT IoT protocol, the IP Audio Center can auto-provision, manage, and control local or remote ZYCOO IP audio endpoints within one single system.



## SIP Trunk

The IP Audio Center supports SIP trunks for integration and as a result, inbound and outbound phone calls are supported.



## Video Linkage

IP cameras with RTSP support can be integrated with the IP Audio Center. Simply inputting the camera's RTSP address, and the system fetches the real-time streaming when an intercom call is initiated.



## Audio Conferencing

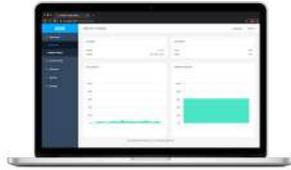
ZYCOO IP Audio Center supports audio conferencing, and it can manage the conference using the IP Audio Dispatch Console. Invite, mute/unmute, kick out participants options are supported.

	IP Audio Server IAS-L100
CPU	2.41GHz Intel Processor
RAM	4GB DDR3L
Storage	16GB EMMC + 240GB SSD
Ethernet Interface	2 x 10/100/1000Mbps
USB Interface	1 x USB3.0 + 1 x USB2.0
Dimension	440*232*44mm, Standard 1U Rack
Weight	3.00KG
Color	Black
Rate power	100~240V/50Hz
SIP Endpoints	100 (Max)

# Software

## ○ IP Audio Center

• ZYCOO IP Audio Center is the engine of ZYCOO IP Audio Solution. It is a software solution which can be installed on dedicated hardware or cloud-based servers.



• The IP Audio Center manages all IP audio endpoints, including network speakers, intercoms, IP phones, SIP paging gateways, etc. Paging groups (zones), paging schedules, intercom calls, meetings, music/audio files are also managed by the IP Audio Center.

• For simplified control and distributed management, the IP Audio Center provides integration with ZYCOO IP Audio Dispatch Console and the IP Audio Dispatch App for users to manage different paging groups (zones) with different IP audio applications.

### Key Features and Specifications

SIP Accounts	4000 (Max)
Simultaneous Calls	500 (Max)
Simultaneous Conference Attendees	500 (Max)
SIP Paging	500 (Max)
MP3 Files	Unlimited
Playlists	128(Max)
Triggered Paging Tasks	Unlimited
Paging Groups (zones)	Unlimited
Recording Time	Unlimited (Wav format, 1MB/min)

## ○ IP Audio Dispatch Console

• ZYCOO IP Audio Dispatch Console is a multi-platform (Windows, MacOS and Linux) application dedicated for ZYCOO IP Audio Solution dispatch users.



• With the IP Audio Dispatch Console, dispatch users can broadcast background music, make live SIP paging, create scheduled paging tasks, start and manage audio conference calls, initiate emergency broadcast, monitor IP audio endpoints status and more.

• Multiple dispatch user login is supported and they can work separately without interfering with each other's paging zones. This feature makes the distributed multi-site IP audio system possible.

### Key Features and Specifications

Endpoints Status Monitoring	Supported
Paging	Supported
Alarm	Supported
Alarm List	Supported
Text-to-Speech (TTS) Paging	Supported
Prerecorded Message Paging	Supported
Volume Control	Supported
Tasks	Supported
Music Player	Supported
Log	Supported
Intercom	Supported
Meeting	Supported
Video Intercom Window	Supported

## ○ IP Audio Dispatch APP

• IP Audio Dispatch App is a simple and easy to use mobile application developed for ZYCOO IP Audio dispatch users. The APP allows users of iPhone or Android based devices a mobile alternative to the PC based dispatch console.



• With the IP Audio Dispatch App, background music, pre-recorded message paging, emergency broadcasting and IP audio endpoint status monitoring can be configured and maintained.

• IP Audio Dispatch App is perfect for users who are on the go. It allows users to do the work instantly anywhere and any time.

### Key Features and Specifications

Endpoints Status Monitoring	Supported
Paging	Supported
Alarm	Supported
Alarm List	Supported
Text-to-Speech (TTS) Paging	Supported
Prerecorded Message Paging	Supported
Volume Control	Supported
Tasks	Supported
Music Player	Supported
Log	Supported

# Use Scenarios



## Security

Industrial facilities, national parks, office buildings, schools, and some other public places, emergency help point, is always required. Voice intercom or video intercom can immediately connect the helpers with the security personnel to get help in the first time first place. Simply by clicking the button on the intercom, and it will directly dial the preset destination, video linkage is also available with IP cameras.

## Ambient Background Music

To create a comfortable and pleasant environment for the customers and visitors, background music would always be the best choice for the shopping centers, retail stores, hotels, restaurants and other commercial premises. ZYCOO IP Audio Solution provides the most desirable solution of high-definition sound quality speakers and more than one hundred music playlists to bring a superior auditory experience to the public.



## Tone and Notification

Daily announcements are required in many places, such as school needs to play school bells at a specific time of the day, a museum needs to play the entrance notices and regulations throughout the day, and a shopping mall that needs to play closing time announcements, etc. ZYCOO IP Audio Solution satisfies all needs for announcements tasks, with an unlimited number of repeated timetable tasks, and it can store an unlimited number of audio files upon the server's capacity.

## Alarm Linkage

Leverage the alarm capabilities in our IP audio solutions in public places such as offices, hospitals, schools, etc. In the event of an emergency such as a fire, the smoke detector connected to the equipment can quickly identify and trigger a signal, thereby activating our speakers to sound the alarm and ensuring the rapid communication of critical alarms.



**FOCUS ON SECURITY, INNOVATION, AND BRILLIANCE**



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