We Focus · We Deliver

iSpeaker
-C20

Directory

1. Brief Introduction

The SIP based audio system iSpeaker C20 utilizes the built-in intercom and paging capability already inherent in most modern IPPBX systems and enhances this to improve end user experience by providing a dedicated high performance digital amplifier on which to broadcast announcements or play background music.

It is an ideal solution to deploy in all types of environments including schools, offices, airports, and other public spaces. For additional functionality, an ip video camera can be configured to connect to iSpeaker C20 and the resulting high definition images are transmitted to monitors located in assigned rooms.

2. Delivery Contents

- Base Unit
- Pre-assembled Brackets for Wall-mounting
- Pre-assembled phoenix connectors
- Power Supply

3. Safety Precautions

Note: To avoid any device damage and bodily injury caused by improper use, please observe the following rules.

- The device supports POE by default. If the power supply is needed to connect, please use only the power adapter provided by ZYCOO. Other power supplies may damage or even destroy the device, and as such will not be covered by the product warranty.
- Ensure that the supply voltage matches the specifications indicated on the rear panel of iSpeaker.
- The device is for INDOOR use ONLY! and NOT FOR OUTDOOR USE!
- To avoid an electric accident, DO NOT open or remove the cover of iSpeaker when it is powered on.
- DO NOT install the device in rooms with high humidity (such as bathroom, laundry room, damp basement, kitchen). Keep the device far away from the water or other liquid!
- Before cleaning the device, shut off the power supply. DO NOT clean it with a wet cloth and NEVER use any other liquid cleaning method. The most suitable method is to use an anti-static cloth.
- DO NOT install the device in surroundings at risk of explosions (such as gas station, paint store, etc.). Also DO NOT use the device when you smell any fumes with the potential to explode.
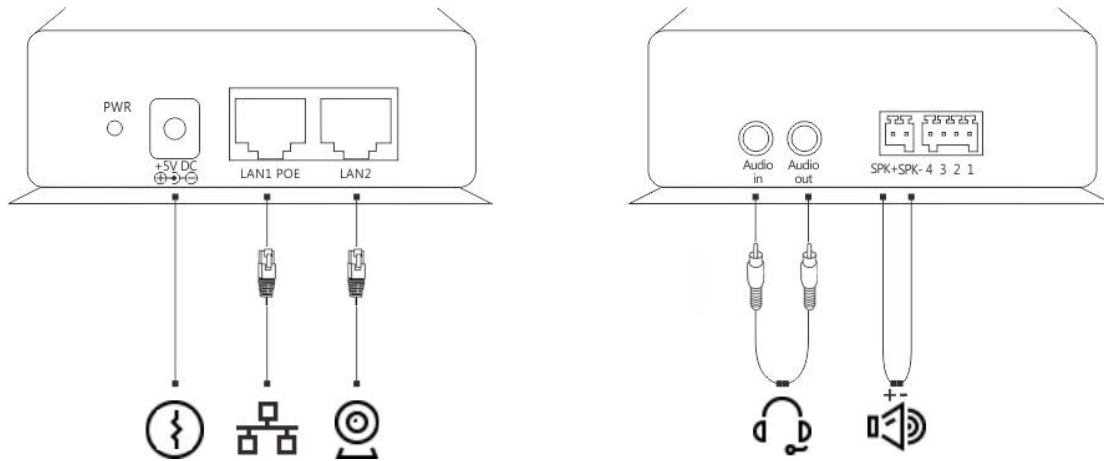
4. Device Installation

4.1 Device Information

Telephony Protocol		SIP 2.0（RFC3261）
CPU		MIPS+DSP
Keypad Expansion		Support 4×6 for a total of 24 keys
LCD Expansion		Support SPI mode (Custom)
Voice	Microphone	1 onboard connector
	Speaker Output	2.5W
	Handset	3.5mm standard input/output interface
	DSP	Support echo cancellation and noise suppression
Voice Flood	Supported protocol	RTP
	Codec	G.711,G.722,G.723,G.726,G.729, etc..
Other Interface	Input Power	5V/1A DC
	PoE	PoE 802.3af (Class 0 - 12.95W)
	LAN	2x10/100BASE-T s Auto-MDIX, RJ45
	RS232	Optional
	GPIO	4 programmable output pins
Environment	Operation Temperature	0℃ to 40℃
	Storage Temperature	-40℃ to 70℃
	Humidity	10% to 95%,No Dew

4.2 Physical Connection

- iSpeaker supports PoE. If the IP PBX server supports PoE, please plug the Ethernet cable to the RJ45 interface "LAN 1 POE" of iSpeaker. The two Ethernet interfaces of iSpeaker support bridge connection only; LAN2 is used to connect other devices for expanding your network. If your IP PBX server doesn't support PoE then please use the 5V/1A power supply provided by Zycoo to power the iSpeaker.
- The interface of "SPK+" and "SPK-" are used to connect a loudspeaker. If you plan to use headset then please plug the microphone of headset into "Audio in" of iSpeaker and plug the speaker of the headset to "Audio out".

5. Configuration

5.1 Web Login

Step1. Plug the Ethernet cable into either LAN 1 or LAN 2 of iSpeaker C20.
Notice: To avoid network loops, LAN 1 and LAN 2 cannot be connected to the same PBX.

Step2. Open your web browser and normally get the IP by DHCP as default. If failed to get the IP, you can input http://192.168.119.110/, which is the default IP address of iSpeaker C20.
Notice: Please use IE browser(Ver8.0 or higher), Firefox or Chrome.

Step3. Input default username (admin) and password(admin).

Default URL Address: http://192.168.119.110/

Default Username：admin

Default Password：admin

Step4. Go to the home page after successful authentication.

(If you return to http://192.168.119.110 without closing the active browser, authentication is not required as the browser has already recorded login information.)

5.2Network Configuration

Step1. Click【Network Configuration】to show the following display. You can set a static IP address for iSpeaker C20 or alternatively a dynamic IP address by enabling DHCP. When DHCP is enabled, it will take dynamic assigned IP address and "Static IP" cannot be modified.

After configuration, click the【Submit】button.

Step2. After completing configuration, click【Submit】 to display the following window. You must choose 【Continue】to make additional changes, or【Apply Now】to apply changes to the device.

6. SIP Registration

6.1 SIP Basic Configuration

Click 【SIP Configuration】and navigate to 【SIP Basic Configuration】. Here you can configure the Server Address, SIP Extension, Autoanswer, Audio Output Mode(Defaulted Speaker), etc.. After configuration is complete, please click "Submit".

SIP Basic Configuration

Item	Explanation
Server Address	IP Address of IP PBX
Proxy Address	Proxy address of SIP proxy. Normally the proxy server and IP PBX are the same and therefore the IP address is the same.
SIP Extension	Registered SIP extension number provided by IP PBX
Password	Password of registered extension provided by IP PBX
Autoanswer	The time of Auto answer (by second). Default is 1; if set as 0, there is no auto answer.
Audio Output Mode	Output mode of audio (Speaker or Handset). Default is Speaker.

6.2 SIP Advanced Configuration

Click 【Advanced】and go to SIP Advanced Configuration. You can change the configuration based on your requirements, this includes Local SIP Port(Default is 5060) and RTP/RTCP DSCP (Default is 8000/8001). After modification, please click "Submit".

SIP Advanced Configuration

Item	Explanation
Local SIP Port	Local SIP Port. Default is 5060.
T1 Timer	Timer for sending SIP message (by second). Default is 500 ms.
RTP Base Port	RTP base port of voice data. Default is 8000.
RTCP Base Port	RTCP base port for voice data. Default is 8001
Echo Canceller	Set echo cancellation. Default is enabled.
Noise Suppression	Set noise suppression. Default is enabled.
Adaptive Jitter Buffer	Set adaptive jitter buffer when receive/send SIP voice. Default is enabled.
SIP DSCP （Hex）	Set the hex value of SIP DSCP. Default is B8. DSCP（Differentiated Services Code Point）
RTP DSCP(Hex)	Set hex value of RTP DSC. Default is 68.

6.3 SIP Voice Codec

Click 【Codecs】to configure the priority order of SIP codecs. After configuration, click 【Submit】.

6.4 SIP Auto Provision (Hidden by default)

Step1. Open the IP PBX GUI, click【Phone Provisioning】to make configuration changes to phone provisioning.

Notice: please make sure that your IP PBX supports auto provision of iSpeaker. If not then please download the patch and update your PBX.

Step2. Click 【PnP Settings】 to configure your PnP settings including input URL. Use the default multicasting address: 224.0.1.75 and the default port of 5060.

Plug and Play(PnP) Settings

Step3. Click 【Phone Settings】 → 【New Phone】 to configure iSpeaker information.

New Phone:

Item	Explanation
Enable	Enable to make the phone provisioning effective
Manufacturer	Select the manufacture of iSpeaker: Zycoo
Type	Select device type: iSpeaker
MAC	MAC of iSpeaker device
Extension	Select extension number of iSpeaker
Speaker Name	If iSpeaker supports LCD, the speaker name will be displayed on the LCD. However, iSpeaker does not support this feature at this time.
Speaker IP	Define the fixed IP of iSpeaker C20
Subnet Mask	Define the subnet mask of iSpeaker C20
Gateway	Define the default gateway of iSpeaker C20

Step4. Click【Save】→【Active Changes】to make the settings effective.

Step5. Reboot iSpeaker C20, and visit the device with the previous defined IP in Phone Provisioning, e.g.: http://192.168.2.24, input default username and password "admin/admin", you will then see the device information which confirms iSpeaker is registered.

7. Volume Settings

Click【Volume】 to set the output volume and input volume. Output volume is for speaker and "Audio out". Input Volume is for "Audio in". After configuration, please click【Apply Now】.

Volume Configuration		
	Output Volume 6	(1-9)
	Input Volume 1	(1-9)

Apply Now

8. PIN Settings

8.1 Pin Configuration

Click【Pin Function】to go to Pin Name Configuration and define the name from Pin 2to Pin 4.
Pin 1 is named "GND" by default for connecting to ground.
Notice: Space are not permitted in the Pin Name; please use "_" to replace space.
After configuration, please click【Submit】.

Pin Name	Pin Active

Pin Name Configuration	
Pin 1 Name	GND
Pin 2 Name	
Pin 3 Name	
Pin 4 Name	

Submit

8.2 Pin Active

Click【Pin Active】to apply the function of Pin2 to Pin 4(Pin 1 is for GND by default). Enable the Pin function by ticking the check box.

Pin Name	Pin Active

Pin Function Active	
Pin 1 GND	
Pin 2 Active	☐
Pin 3 Active	☑
Pin 4 Active	☑

Apply Now

9. System Management

9.1 Time Setting

Click 【Administration】→【Time Setting】 to configure the time. If NTP is enabled, the system will configure the system time by NTP mode (NTP is enabled by default). If NTP is not enabled, time should be set manually in "Manual Time Setting".
"Daylight Saving Time" is available to choose (Not enabled by default). You can also choose the time zone, default is "(UTC+08:00)Beijing".

9.2 Change Login Password of Web

Click【Administration】→【Change Password】, input new password and confirm, then submit to make it effective.

9.3 Firmware Upgrade

Click 【Administration】→【Firmware Upgrade】 to upgrade the firmware. Download the firmware from Zycoo's official website. To Ensure a successful upgrade, please modify the

firmware name to "iSpeaker_C20".

Notice: Please DO NOT power off or reboot the device during the upgrade; the system will reboot automatically after firmware upgrade completes successfully.

9.4 Restore to Factory Default

Click 【Administration】→【Factory Default】, and click the button "Restore to Factory Default". The system will be reset after 3~5 seconds, all settings will be cleared and reset to factory default.

9.5 Reboot

Click 【Administration】→【Reboot】 and click the button "Reboot", the system will reboot after 3~5 seconds.