

SIP Paging Adapter User Manual



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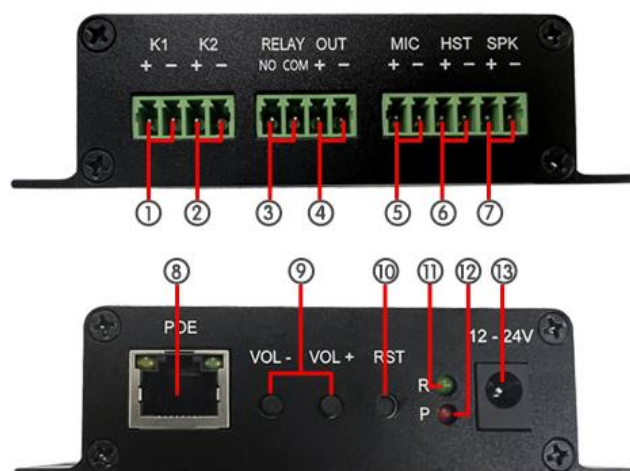


1. Overview

SIP Paging Adapter is a IP based paging adapter that can covert analog to SIP. It's small and portable design with black outlook. The various interfaces (MIC, headset and speaker) make it possible for quickly configure intercom and paging solution. It's compatible with SIP & ONVIF protocol that can be used in VoIP and security field. It supports two-way intercom communication. Flexible Alarm in and out solutions(GPIO, HTTP URL, and relay out) are widely applied in daily life. The 48K OPUS Audio Codec enables excellent sound quality to make announcement, play background music, security alarm in school, factory and hospital, etc.



2. Interface Description



① K1 DSS Key	Connect to: 1. external keys 2. infrared probe and emergency switch 3. door sensor and other switch components
② K2 DSS Key	Connect to: 1. external keys 2. infrared probe and emergency switch 3. door sensor and other switch components
③ Relay NO COM Interface	Control the alarm system on/off
④ IO Onput Interface	Responding to: 1.control the external amplifier power switch 2.the short-circuit input interface 3. login device security page settings 4. control the alarm light, electric locks and other equipment 5. with the adjacent power port connection for external equipment
⑤ Microphone Interface	2.2K Ohm impedance electric condenser microphone is recommended.
⑥ Headset Interface	Speaker audio line signal output impedance 32 Ohm, single ended output voltage 1.2V, used for external headphones or amplifier.
⑦ Speaker Interface	Maximum support 15W speaker.
⑧ Ethernet Interface	WAN port, standard RJ45 interface, 10/ 100M adaptive, support POE input.



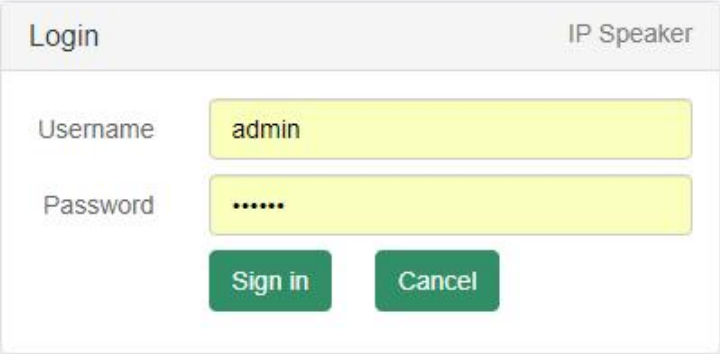
⑨ Volume Control Key	This two keys is to adjust the volume of the device's, bell, phone call and broadcasting, etc.
⑩ System Reset Key	Press Rest key and hold for 3 seconds, the devices will restart to factory setting.
⑪ Run Indicator	The light is on shows that the device is working well.
⑫ Power Indicator	The light on shows that the power is connected.
⑬ Power Input Interface	12V ~ 24V 2A input, according to the input voltage to determine the maximum output power amplifier.

3. Web Configuration

Web configuration includes complete function setting. When the device and your computer are connected to a same network, please open a browser and type in <http://192.168.5.200>, then log in with defaulted username and password as below.

Username: admin

Password: tm1234



Forgot Password?

3.1 Status

You can check out firmware version, free space and two SIP accounts status of SIP-T20, also can locate the current network information here, like MAC, IP address and gateway etc.



IP AUDIO

Status	Status
Basic	Device Time 2022-06-16 11:12:55
ONVIF	Serial Number 50346849A878571C
SIP Account	Firmware Ver T20-V3.2.0N
Audio	Free Space 3900KB
Media File	SIP1 Status NONE
Alarm	SIP2 Status NONE
Http URL	
Schedule	
RTP Multicast	
Firewall	
System	

Network
MAC Address A2:C0:A4:75:3B:99
IP Address 192.168.5.217
Subnet Mask 255.255.255.0
Gateway 192.168.5.1
Primary DNS 218.85.152.99
Secondary DNS 218.85.157.99

Refresh

3.2 Basic

3.2.1 Date/ Time

There are two update modes for time: NTP/ local time, choose one and set the time zones, NTP sever and interval can choose default setting, then save the configuration.

Date/Time
Device Time 2022-04-28 13:47:36
Update Mode NTP
TimeZone GMT+08:00
NTP Server pool.ntp.org
NTP Interval 10 Minutes

Save



Date/Time

Device Time

2022-06-16 10:43:09

Update Mode

LocalTime

LocalTime

2022-06-16 10:43:09

Save

3.2.2 Network

When you choose DHCP and save it, IP address will be created automatically by a DHCP server, then you need to login again with the new IP address on browser: 192.168.5.XXX.

Status IP address: it is a default IP and will not be changed as following.

Network

☒ DHCP

☐ Static IP Address

IP Address

192.168.5.200

Subnet Mask

255.255.255.0

Gateway

192.168.5.1

Primary DNS

192.168.5.1

Secondary DNS

218.85.152.99

Save

3.3 ONVIF

Select Enable ONVIF, then the device be searched by ONVIF VMS.

Default user name: admin, password:tm1234.



3.4 SIP Account

Each device has two SIP accounts, put SIP extension messages into the blanks and save the configuration, then you can check if it registers successfully or not on status.

Expire time	Set the expire time of registered account information
Ringing tone	5 system ringtones and 10 users upload media files
Auto Answer	answer immediately and answer delay when a calling incomes

3.5 Audio

ACE(acoustic echo canceling): to make a perfect sound quality.

Mic / out volume: adjust mic and output volume at 0-100.

Jitter buffer: to make the audio more stable.



Amp auto off: It's set defaulted as ON, then there is no noise when not broadcasting.

Code setting: four audio codes to compatible with major audio sources.

Audio

AEC Enable

☒

Mic volume (0-100)

80

Out Volume (0-100)

29

Jitter Buffer (60 - 2000)

360

ms

Amp Auto OFF

YES

Codec Setting

☒ OPUS

☒ G.722

☒ G.711U

☒ G.711A

Save

3.6 Media File

There are five system ringtones, and you can upload 10 media files as customers' demands: music, announcement, bells, etc.

3.7 Alarm

We can set 2 DSS keys and 2 SIP accounts to realize alarm function, to ready the combination with alarm system.

Status

Basic

ONVIF

SIP Account

Audio

Media File

Alarm

Http URL

Schedule

Alarm In

Input

Key 1

File Enable

☐

Sip Enable

☐

Url Enable

☐

Output Enable

☐

Relay Enable

☐

Save

3.7.1 DSS Key Setting

- Enable the file, you select a action type(start/ stop), play file and cycle mode, save the configuration, then press buttonK1 & K2, the bell will ring/close.

Alarm In

Input: Key 1

File Enable: ☒

Action Type: Start

Play File: bell1

Cycle Mode: Once only

Sip Enable: ☐

Url Enable: ☐

Output Enable: ☐

Relay Enable: ☐

Save

- SIP enable: choose a SIP account you register, SIP action: call out/hang up, you can put the SIP number, eg: 8112, make sure it's the extensions which connected to the same IP sever with SIP account 1&2.

If you select call out, and press K1/K2 button, then extension 8112 will receive a call.

Alarm In

Input: Key 1

File Enable: ☐

Sip Enable: ☒

Sip Account: Account 1

Sip Action: Call Out

Sip Number: 8112

- Enable URL: put the HTTP URL, after pressed K1/K2, the URL will be working.
- Output enable: turn on/off the output, press K1/K2, the output succeeds.
- Relay enable: turn on/off the output, press K1/K2, the relay succeed.

Alarm In

Input	Key 1 ▼		
File Enable	☐		
Sip Enable	☐		
Url Enable	☒		
Http URL			
Output Enable	☒		
Output Action	On ▼	10	S
Relay Enable	☒		
Relay Action	On ▼	10	S

Save

3.8 HTTP URL

User can control the alarm by HTTP URL:

- (1) Enable the selection;
- (2) Open any browser you have in computer;
- (3) Put the URL as the following examples, enter it.



Status	Http URL
Basic	
ONVIF	
SIP Account	
Audio	
Media File	
Alarm	
Http URL	Play File Enable ☐
Schedule	Example1: http://192.168.5.200/api/play?action=start&file=bell1
RTP Multicast	Example2: http://192.168.5.200/api/play?action=start&file=userfile1&mode=once&volume=10
Firewall	Example3: http://192.168.5.200/api/play?action=start&file=userfile1&mode=multiple&count=10&volume=20
System	Example4: http://192.168.5.200/api/play?action=start&file=userfile1&mode=duration&count=10&volume=30
	Example5: http://192.168.5.200/api/play?action=stop
	Sip Call Enable ☐
	Example1: http://192.168.5.200/api/sipcall?action=call&number=100&line=auto
	Example2: http://192.168.5.200/api/sipcall?action=call&number=100&line=1
	Example3: http://192.168.5.200/api/sipcall?action=hangup
	Output Enable ☐
	Example1: http://192.168.5.200/api/output?action=on
	Example2: http://192.168.5.200/api/output?action=on&duration=10
	Example3: http://192.168.5.200/api/output?action=off
	Relay Enable ☐
	Example1: http://192.168.5.200/api/relay?action=on
	Example2: http://192.168.5.200/api/relay?action=on&duration=10
	Example3: http://192.168.5.200/api/relay?action=off

3.9 Schedule

This function is widely use in school, factory and office projects. Making a regular bell, announcement and alarm.

Enable the schedule, you can name the schedule. then setting it step by step.



Status
Basic
ONVIF
SIP Account
Audio
Media File
Alarm
Http URL
Schedule
RTP Multicast
Firewall
System

Schedule Add/Edit

Schedule Enable ☒

Schedule Name

Start Date 2022/01/01

End Date 2099/12/31

Allowed Days ☒ Mon ☒ Tue ☒ Wed ☒ Thu ☒ Fri ☒ Sat ☒ Sun

Action Time 08:00

Action Type

Play File

Cycle Mode

Times (1-1000)

Duration (1-60000) Seconds

3.10 RTP Multicast IP

There are 10 RTP addresses can be received for each device, please note that: port numbers do not use continuous numbers when setting the same RTP addresses. Use discontinuous numbers. eg:

239.255.1.2:8000, 239.255.0.1:8001, 239.255.0.1:8002 (×)

239.255.0.1:8000, 239.255.0.1:8002, 239.255.0.1:8004 (√)

- Multicast address range: 224.0.0.0-239.255.255.
- Ports range: 1024-65536
- Use IP Tool, Audio manager and PA System to make RTP multicast.

Status
Basic
ONVIF
SIP Account
Audio
Media File
Alarm
Http URL
Schedule
RTP Multicast
Firewall
System

RTP Multicast

Priority	IP Address (e.g. 239.255.0.1:5004)
1	239.255.1.2:8000
2	239.255.1.2:8002
3	239.255.1.2:8004
4	239.255.1.2:8006
5	239.255.1.2:8008
6	239.255.1.2:8010
7	239.255.1.2:8012
8	239.255.1.2:8014
9	239.255.1.2:8016
10	239.255.1.2:8018

3.11 Firewall

This function is use to protect your network safety. You can edit the firewall automatic defence rules as you need as follows.

The screenshot shows the 'Firewall' configuration page. The left sidebar has a menu with the following items: Status, Basic, ONVIF, SIP Account, Audio, Media File, Alarm, Http URL, Schedule, RTP Multicast, **Firewall**, and System. The main content area is divided into two sections: 'Firewall Rules' and 'Automatic Defense Rules'.

Firewall Rules

#	Name	Type	IP/MAC	Action
1				
2				
3				
4				
5				

Automatic Defense Rules

#	Name	Protocol	Port Range	Rate
1		-		
2		-		
3		-		
4		-		
5		-		

3.12 System

3.12.1 Upgrade

When reboot and reset the system, system will turn to original setting, and you need to re-login the web page.

How to upgrade SIP-T20 firmware version in web interface?

- (1) Select the latest version firmware T20-xxx-bin.
- (2) Click upgrade to refresh, it would require about 20s.
- (3) Re-login the web interface, latest version has upgraded.

3.12.2 Security

Set a new user name and password as you need, save the configuration and restart login.



Status
Basic
ONVIF
SIP Account
Audio
Media File
Alarm
Http URL
Schedule
RTP Multicast
Firewall
System

Upgrade

Reboot Reboot Device Now
Reset Reset to Factory Setting
Upgrade 选择文件 未选择任何文件

Security

User Name
Password
New User Name
New Password
Confirm Password

Save

4. IPTool Configuration

Apart from Web configuration, IPTool is the other option that configure quickly basic information such as SIP account setting, volume setting, RTP Multicast setting, upgrade. Please follow below steps.

- (1) Download IPTool(contact sales or support to get one).
- (2) Enter IPTool, scan local network, the device will appear and then start setting.

IPToolCS20

Network Search RTP Multicast Settings

No.	UID	Name	MAC	IP address	Netmask	Gateway	SIP Settings	RTP Settings	Version	Audio	System
☐ 1	5023428330897A1C	CS20	a2:c0:a4:26:a0:ce	192.168.5.192	255.255.255.0	192.168.5.1	☒	239.255.0.0:5008	CS20-V2.8.1N	12,7	admin

Current Device CS20-5023428330897A1C

SIP Account 1
User Name
Password
Display Name
Server Host
Server Port

SIP Account 2
User Name
Password
Display Name
Server Host
Server Port

Set Set All

