

# SIP Paging Adapter SIP-T20 User Manual



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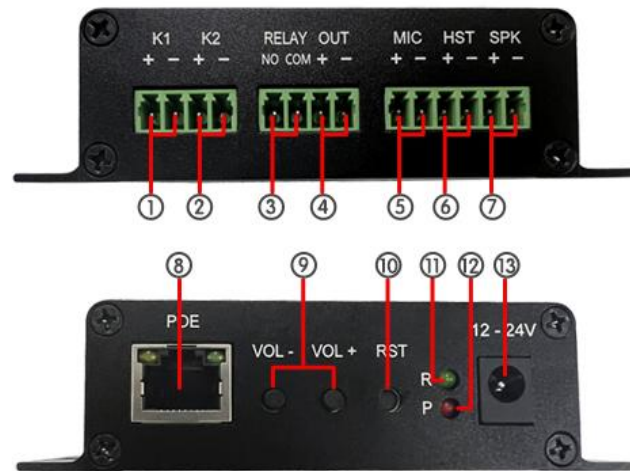
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## 1. Overview

SIP-T20 is an IP based paging adapter that can convert 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 Output 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	These two keys are 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

The screenshot shows a web browser window displaying the login page for an IP Speaker. The page has a light gray background. At the top, there is a header with 'Login' on the left and 'IP Speaker' on the right. Below the header is a white form area. Inside the form, there are three input fields: 'Username' (empty), 'Password' (empty), and 'Language' (set to 'English' with a dropdown arrow). At the bottom of the form are two green buttons: 'Sign in' and 'Cancel'. Below the form is a link that says '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
- Basic
- ONVIF
- SIP Account
- Audio
- Media File
- Alarm
- Http URL
- Schedule
- RTP Multicast
- Firewall
- Auto Provision
- System

Status

Device Time	2025-08-12 11:09:39
Device ID	45034515C085881C
Firmware Ver	T20-V3.4.1N
Free Space	3836KB
SIP1 Status	NONE
SIP2 Status	NONE

Network

MAC Address	F8:7A:39:D1:0B:AA
IP Address	192.168.2.108
Subnet Mask	255.255.255.0
Gateway	192.168.2.1
Primary DNS	192.168.5.1
Secondary DNS	192.168.2.1

Refresh

Web Calling Support: Click the microphone logo in the top right corner. You will be redirected to an HTTPS page. Click again on the new page to initiate the call.

🎤
English ▼
Logout

Status

Device Time	2025-08-12 11:09:39
Device ID	45034515C085881C
Firmware Ver	T20-V3.4.1N
Free Space	3836KB
SIP1 Status	NONE
SIP2 Status	NONE

Status

Device Time	2025-08-12 11:13:59
Device ID	45034515C085881C
Firmware Ver	T20-V3.4.1N
Free Space	3836KB
SIP1 Status	NONE
SIP2 Status	NONE

Network

MAC Address	F8:7A:39:D1:0B:AA
IP Address	192.168.2.108
Subnet Mask	255.255.255.0
Gateway	192.168.2.1
Primary DNS	192.168.5.1
Secondary DNS	192.168.2.1

Voice Intercom
✕

🎤

50

🔊

50

Start
Stop

## 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 2025-08-12 11:18:19

Update Mode

TimeZone

NTP Server

NTP Interval  Minutes

Date/Time

Device Time 2025-08-12 11:18:19

Update Mode

LocalTime 2025-08-12 19:19:18

### 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.X.XXX.

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

Network

DHCP

Static IP Address

IP Address

Subnet Mask

Gateway

Primary DNS

Secondary DNS

### 3.2.3 Network Advanced

Allows manual configuration of HTTP and HTTPS port settings.

Network Advanced (\*Take effect after device is restarted!)

Http/Https	<input type="text" value="Http&amp;Https"/>	
Http Port	<input type="text" value="80"/>	(80, 1025~65534)
Https Port	<input type="text" value="443"/>	(443, 1025~65534)
RTSP Port	<input type="text" value="554"/>	(554, 1025~65534)
VLAN Enable	<input type="checkbox"/>	

## 3.3 ONVIF

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

ONVIF credentials match the device credentials; changing the device credentials will also update the ONVIF credentials.

Default user name: admin, password:tm1234.

## IP AUDIO

Status

Basic

ONVIF

SIP Account

Audio

ONVIF

ONVIF Enable

WAN NAT

## 3.4 SIP Account

### 3.4.1 SIP Set

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
Ringtone	5 system ringtones and 10 users upload media files
Auto Answer	answer immediately and answer delay when a calling income

## IP AUDIO

- Status
- Basic
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- System

SIP Set

Account	<input type="text" value="Account 1"/>	NONE	
User Name	<input type="text"/>		
Auth ID	<input type="text"/>		
Password	<input type="text"/>		
Display Name	<input type="text"/>		
Server Host	<input type="text"/>		
Server Port	<input type="text" value="5060"/>		
Outbound Proxy	<input type="text" value="Disable"/>		
Expire Time	<input type="text" value="180"/>	Seconds	
Ringtone	<input type="text" value="bell1"/>		
Auto Answer	<input type="text" value="Answer Immediately"/>		
Auto Hangup	<input type="text" value="NO"/>		
Incoming Notify	* Please set incoming notify at Alarm In		
Answer Notify	* Please set answer notify at Alarm In		
Close Notify	* Please set close notify at Alarm In		

### 3.4.2 SIP Advanced

SIP Protocol: Select from UDP, TCP, or TLS.

SIP Advanced

SIP Protocol	UDP
Encryption	UDP
SIP P2P Enable	TCP
	TLS

Save

Encryption: Choose either None or SRTP.

SIP Advanced

SIP Protocol	UDP
Encryption	None
SIP P2P Enable	None
	SRTP

Save

SIP P2P Enable: Check to activate SIP peer-to-peer functionality

SIP Advanced

SIP Protocol	UDP
Encryption	None
SIP P2P Enable	<input checked="" type="checkbox"/>

Save

### 3.5 Audio

Codec: Four audio codes to compatible with major audio sources.

Codec	
Codec Setting	<input checked="" type="checkbox"/> OPUS
	<input checked="" type="checkbox"/> G.722
	<input checked="" type="checkbox"/> G.711U
	<input checked="" type="checkbox"/> G.711A

Speaker:

Volume: Adjust output volume at 0-100.

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

Jitter buffer: To make the audio more stable.

HPF: High Pass Filter.

NR: Noise Reduction.

Speaker	
Volume (0-100)	<input type="text" value="60"/>
Amp Auto OFF	<input type="text" value="YES"/> ▼
Jitter Buffer (60 - 2000)	<input type="text" value="360"/> ms
HPF	<input type="checkbox"/>
NR	<input type="checkbox"/>

MIC:

Gain: Options: None, Low, Middle, High.

Volume: Adjust MIC volume at 0-100.

AEC: Acoustic Echo Cancellation.

AGC: Automatic Gain Control.

HPF: High Pass Filter

NR: Noise Reduction

**MIC**

Gain	<input type="text" value="None"/>	▼
Volume (0-100)	<input type="text" value="80"/>	
AEC	<input checked="" type="checkbox"/>	
AGC	<input checked="" type="checkbox"/>	
AGC Gain Level	<input type="text" value="High"/>	▼
HPF	<input type="checkbox"/>	
NR	<input checked="" type="checkbox"/>	
NR Level	<input type="text" value="1"/>	▼

Save

### 3.6 Media File

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

#### IP AUDIO

- Status
- Basic
- ONVIF
- SIP Account
- Audio
- Media File**
- Alarm
- Http URL
- Schedule
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- System

**System File**

#	Name	
1	bell1	<input type="radio"/> <input type="checkbox"/>
2	bell2	<input type="radio"/> <input type="checkbox"/>
3	bell3	<input type="radio"/> <input type="checkbox"/>
4	bell4	<input type="radio"/> <input type="checkbox"/>
5	bell5	<input type="radio"/> <input type="checkbox"/>

**User File (3836KB free)**

#	Name	File	
1	userfile1	<input type="button" value="选择文件"/> 未选	<input type="radio"/>
2	userfile2	<input type="button" value="选择文件"/> 未选	<input type="radio"/>
3	userfile3	<input type="button" value="选择文件"/> 未选	<input type="radio"/>
4	userfile4	<input type="button" value="选择文件"/> 未选	<input type="radio"/>
5	userfile5	<input type="button" value="选择文件"/> 未选	<input type="radio"/>
6	userfile6	<input type="button" value="选择文件"/> 未选	<input type="radio"/>
7	userfile7	<input type="button" value="选择文件"/> 未选	<input type="radio"/>
8	userfile8	<input type="button" value="选择文件"/> 未选	<input type="radio"/>
9	userfile9	<input type="button" value="选择文件"/> 未选	<input type="radio"/>
10	userfile10	<input type="button" value="选择文件"/> 未选	<input type="radio"/>

### 3.7 Alarm

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

The screenshot shows the 'Alarm In' configuration page. On the left is a sidebar with menu items: Status, Basic, ONVIF, SIP Account, Audio, Media File, Alarm (highlighted), Http URL, and Schedule. The main area is titled 'Alarm In' and contains the following settings:

- Input:** A dropdown menu currently showing 'Key 1'. A dropdown menu is open below it, listing 'Key 1', 'Key 2', 'Sip 1', and 'Sip 2'.
- File Enable:** A checkbox that is currently unchecked.
- Sip Enable:** A checkbox that is currently unchecked.
- Url Enable:** A checkbox that is currently unchecked.
- Output Enable:** A checkbox that is currently unchecked.
- Relay Enable:** A checkbox that is currently unchecked.

A green 'Save' button is located at the bottom right of the configuration area.

#### 3.7.1 DSS Key Setting

- Enable the file, you select an action type (start/ stop), play file and cycle mode, save the configuration, then press button K1 & K2, the bell will ring/close.

The screenshot shows the 'Alarm In' configuration page with the following settings:

- Input:** Key 1
- File Enable:**
- Action Type:** Start
- Play File:** bell1
- Cycle Mode:** Once only
- Sip Enable:**  (Dropdown menu is open showing: Once only, Multiple times, Duration)
- Url Enable:**
- Output Enable:**
- Relay Enable:**

A green 'Save' button is located at the bottom right of the configuration area.

- SIP enable: Choose a SIP account you register, SIP action: call out/hang up, you can put the SIP number, e.g.: 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

<b>Input</b>	<input type="text" value="Key 1"/>
<b>File Enable</b>	<input type="checkbox"/>
<b>Sip Enable</b>	<input checked="" type="checkbox"/>
<b>Sip Account</b>	<input type="text" value="Account 1"/>
<b>Sip Action</b>	<input type="text" value="Call Out"/>
<b>Sip Number</b>	<input type="text" value="8112"/>
<b>Uri Enable</b>	<input type="checkbox"/>
<b>Output Enable</b>	<input type="checkbox"/>
<b>Relay Enable</b>	<input type="checkbox"/>

- 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

<b>Input</b>	<input type="text" value="Key 1"/>
<b>File Enable</b>	<input type="checkbox"/>
<b>Sip Enable</b>	<input type="checkbox"/>
<b>Uri Enable</b>	<input checked="" type="checkbox"/>
<b>Http URL</b>	<input type="text"/>
<b>Output Enable</b>	<input checked="" type="checkbox"/>
<b>Output Action</b>	<input type="text" value="On"/> <input type="text" value="10"/> S
<b>Relay Enable</b>	<input checked="" type="checkbox"/>
<b>Relay Action</b>	<input type="text" value="On"/> <input type="text" value="10"/> S

### 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.

The screenshot shows the 'Http URL' configuration page. The sidebar on the left includes: Status, Basic, ONVIF, SIP Account, Audio, Media File, Alarm, **Http URL**, Schedule, RTP Multicast, Firewall, and System. The main content area is titled 'Http URL' and contains the following sections:

- Play File Enable** 
  - Example1: `http://192.168.5.200/api/play?action=start&file=bell1`
  - Example2: `http://192.168.5.200/api/play?action=start&file=userfile1&mode=once&volume=10`
  - Example3: `http://192.168.5.200/api/play?action=start&file=userfile1&mode=multiple&count=10&volume=20`
  - 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.

The screenshot shows the 'Schedule Add/Edit' configuration page. The sidebar on the left includes: Status, Basic, ONVIF, SIP Account, Audio, Media File, Alarm, Http URL, **Schedule**, RTP Multicast, Firewall, and System. The main content area is titled 'Schedule Add/Edit' and contains the following fields:

- 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** Start
- Play File** bell1
- Cycle Mode** Once only
- Times (1-1000)** 1
- Duration (1-60000)** 1  Seconds

Buttons: Save, Cancel

### 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. e.g.:

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

Relay Enable: When Relay Enable is checked, the relay action will be activated during RTP playback, and its duration can be set.

Priority	IP Address (e.g. 239.255.0.1:5004)
1	<input type="text"/>
2	<input type="text"/>
3	<input type="text"/>
4	<input type="text"/>
5	<input type="text"/>
6	<input type="text"/>
7	<input type="text"/>
8	<input type="text"/>
9	<input type="text"/>
10	<input type="text" value="238.255.0.0:20002"/>

Relay Enable

Relay Action   S

### 3.11 Auto Provision

Configures DHCP Option, PnP, and Static Provisioning Server parameters for automatic device configuration.



- Status
- Basic
- ONVIF
- SIP Account
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DHCP Option

DHCP Option Setting Option 66 ▾

---

PnP

Enable PnP

PnP Server

PnP Port

PnP Transport UDP ▾

PnP Interval  (1~99)Hour

---

Static Provisioning Server

Update Mode Disabled ▾

Update Interval  (1~99)Hour

Server Address

Protocol Type TFTP ▾

Username

Password

Save

### 3.12 Firewall

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

- Status
- Basic
- ONVIF
- SIP Account
- Audio
- Media File
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- System

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 Maintenance

Log: Click to view or download system logs.

Reboot: Click to restart the device. Automatically redirects to login page after reboot.

Reset: Click to restore factory settings. Automatically redirects to login page after reset.

Pcap Function: Start: Begin packet capture; Stop: Halt packet capture; Download: Retrieve captured data

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.

The screenshot shows the 'Maintenance' section of the web interface. It features a green header with the text 'Maintenance'. Below the header, there are several rows of controls:

- 'Download log file' with a 'Log' button.
- 'Reboot Device Now' with a 'Reboot' button.
- 'Reset to Factory Setting' with a 'Reset' button.
- 'Pcap Function' with three buttons: 'Start', 'Stop', and 'Download'.
- 'Firmware Upgrade' with an 'Upgrade' button, a '选择文件' (Select File) button, and the text '未选择文件' (No file selected).

### 3.12.2 Auto Reboot

Checked Reboot Enable option and set Reboot Date/Time to trigger automatic device restart at the scheduled time.

The screenshot shows the 'Auto Reboot' section of the web interface. It features a green header with the text 'Auto Reboot'. Below the header, there are three rows of controls:

- 'Reboot Enable' with a checked checkbox.
- 'Reboot Date' with a dropdown menu set to 'Every Day'.
- 'Reboot Time' with a text input field set to '00:00' and a clock icon.

A green 'Save' button is located at the bottom right of the form.

### 3.12.3 Security

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

Security

User Name	<input type="text"/>
Password	<input type="password"/>
New User Name	<input type="text"/>
New Password	<input type="password"/>
Confirm Password	<input type="password"/>

Save