

SI-002 User Manual

Version 1.1 , Jul 2018

Service and usage information for



SI-002

Warranty

All products manufactured by ICP DAS are under warranty regarding defective materials for a period of one year, beginning from the date of delivery to the original purchaser.

Warning

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Contact US

If you have any problem, please feel free to contact us.
You can count on us for quick response.

Email: service@icpdas.com

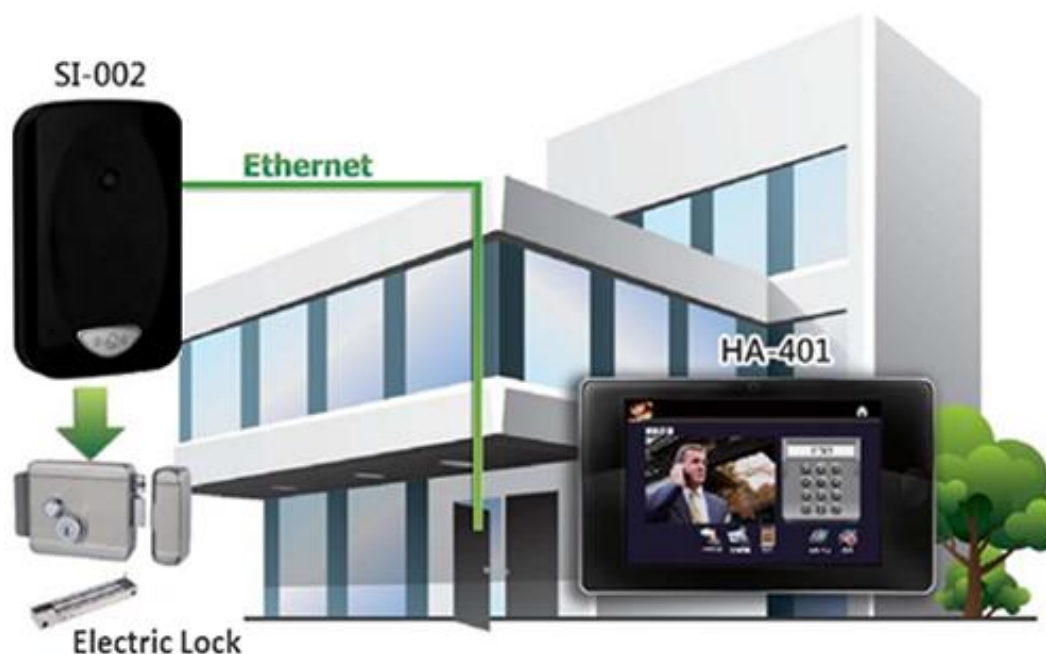
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1. Introduction



SI-002 is a video intercom door station that supports VoIP technology, SIP communication protocol and RFID induction. With the HA-401 product, households can see visitors' image and have a video conversation with them when the doorbell ringing. After the identity confirmation, they can open the door remotely. Also, users can upload an image shot via FTP.

Using high-resolution CMOS camera and advanced echo cancellation technology can show a clearer picture and excellent audio quality and timeliness of transport. It is a compact video intercom solution for residential building.

1.1. Features

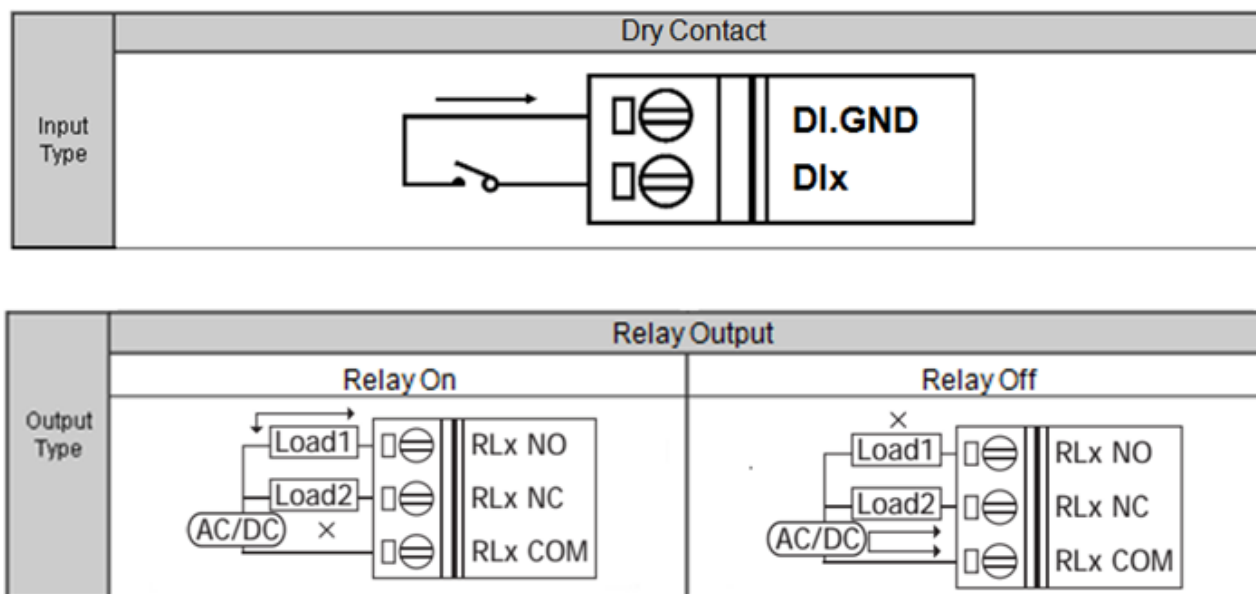
- ✧ Full-duplex voice and video intercom
- ✧ Support for SIP communications architecture
- ✧ Using high-resolution camera 1080P (1920 x 1080)
- ✧ Advanced echo cancellation technology
- ✧ Built-in high sensitivity microphone and speaker
- ✧ Built-in call button
- ✧ Built-in Relay output channel that can be used for door control or alarm output.
- ✧ Built-in Digital input channel that can be used for door magnetic switch detection or an external emergency button.
- ✧ Support Card Type: Mifare Classic, Ultralight, DESFire

1.2. Specification

System	
CPU	Cortex A8 CPU (720 MHz)
SRAM	512 MB
Flash Memory	512 MB
EEPROM	16 KB
Communication	
Ethernet Port	RJ-45 x 1, 10/100 Base-T (Auto-negotiating, Auto MDI/MDI-X, LED indicators)
Digital Input	
Channels	2
Input Type	Dry contact (Source)
Dry Contact Level	Off Voltage Level: Open On Voltage Level: Close to GND

Relay Output	
Channels	1
Output Type	Form C (N.O./COM./N.C.)
Contact Capacity	0.6A @ 125 VAC; 2A @ 30 VDC
Endurance	Mechanical: 2 x 10 ⁸ ops. Electrical: 1 x 10 ⁵ ops.
RFID	
Frequency	13.56 MHz
Supported Card	Mifare Classic, Ultralight, DESFire
HMI	
Camera	1080P (1920 x 1080), CMOS Sensor
Audio	AMP 2.5 W; Digital microphone
Mechanical	
Installation	Wall Mounting (Suitable for the European 86 mm x 86 mm outlet box)
Dimensions	102 mm x 161 mm x 41 mm (W x L x H)
Environment	
Operating Temperature	-10 °C ~ +60 °C
Storage Temperature	-20 °C ~ +70 °C
Humidity	10 ~ 90 % RH, non-condensing
Power Supply	
Input Range	12 VDC ~ 48 VDC
Power Consumption	1.68 W (70 mA @ 24 VDC)
Protection	Reverse Polarity Protection

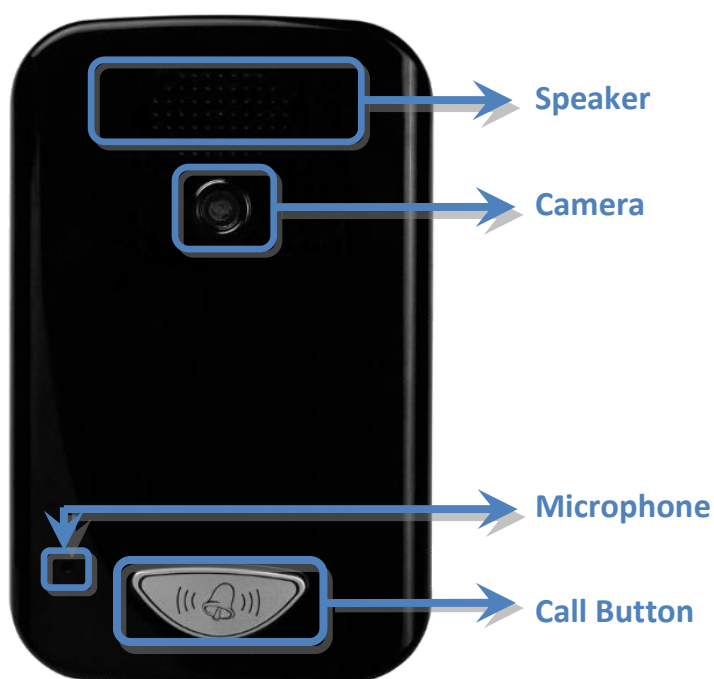
1.3. DIO Wiring Connection



1.4. Overview

Here is a brief overview of the components and its descriptions of module status.

1.4.1. Front Panel



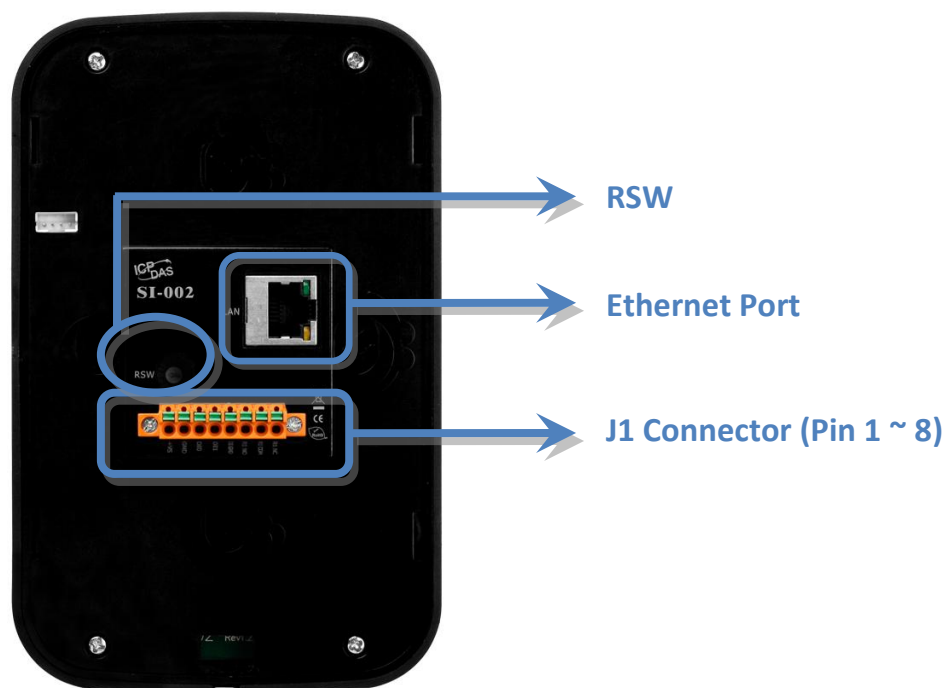
► Call Button with LED Indicator

When the module is **offline** and user push call button, the module will dial to preset sip client.
When the module is **online** and user push call button, the module will end current call.

LED Indicator is used to display the dialing status as shown below.

LED Action	Current status
High brightness	Online
Low brightness	Offline

1.4.2. Back Panel



➤ RSW (Rotary Switch)

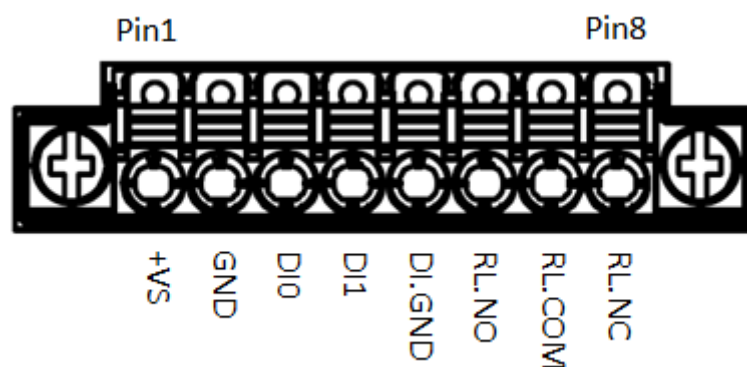
RSW Value	Function
A	Set network interface to DHCP mode
B	Set network interface to static IP mode. IP: 192.168.72.30 Mask: 255.255.0.0 Gateway: 192.168.1.1
E	FW Update Mode
F	Recover system settings
Other	N/A

► Ethernet Port

An Ethernet port is an opening on SIP network equipment that Ethernet cables plug into. Ethernet ports accept cables with RJ-45 connectors.



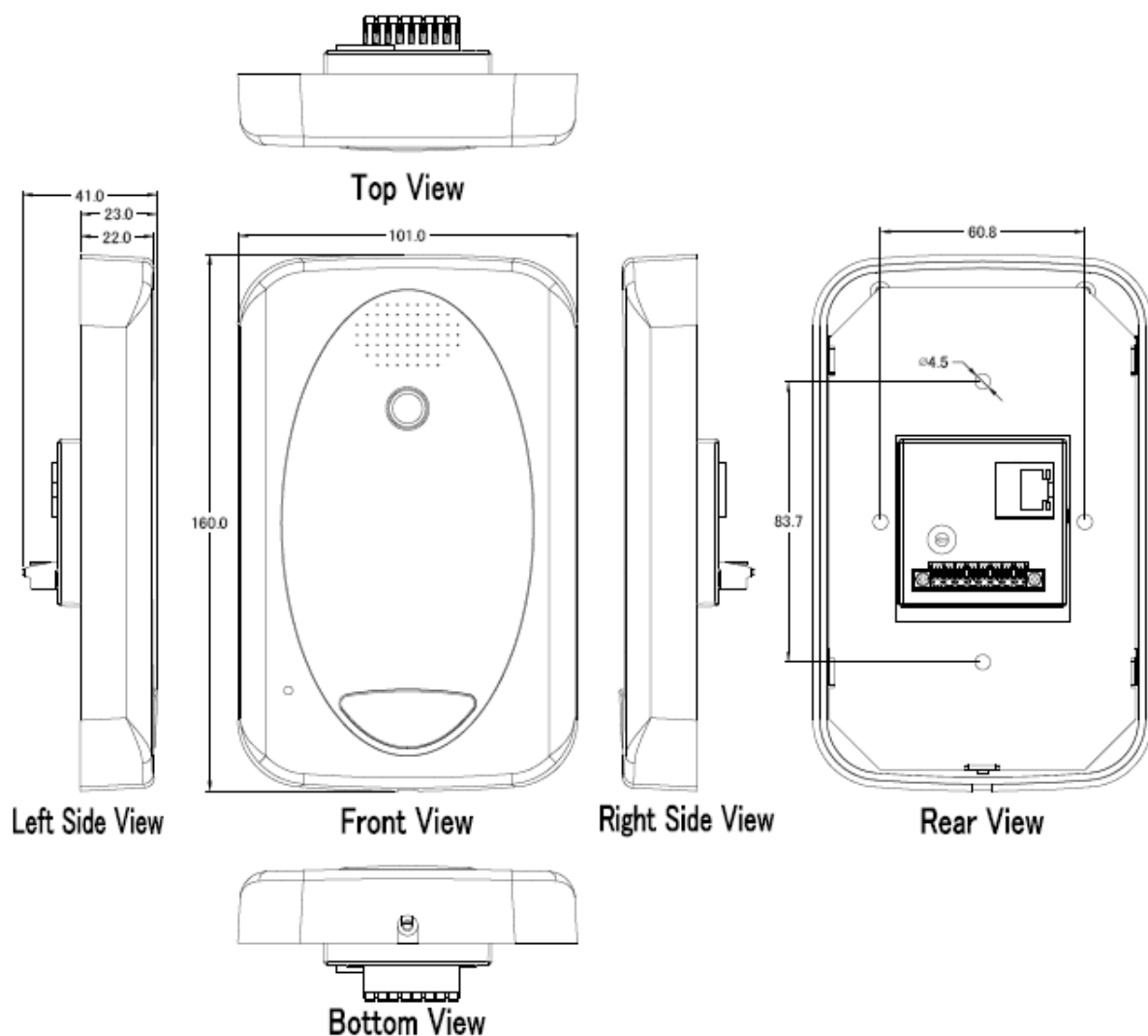
► J1 Connector



Pin	Name	Description
1	+Vs	V+ of Power Supply
2	GND	GND of Power Supply
3	DI0	Digital Input CH0
4	DI1	Digital Input CH1
5	DI.GND	Digital Input GND
6	RL.NO	Relay Normally-Open
6	RL.COM	Relay Common
7	RL.NC	Relay Normally-Closed

1.5. Dimensions

All dimensions are in millimeters.

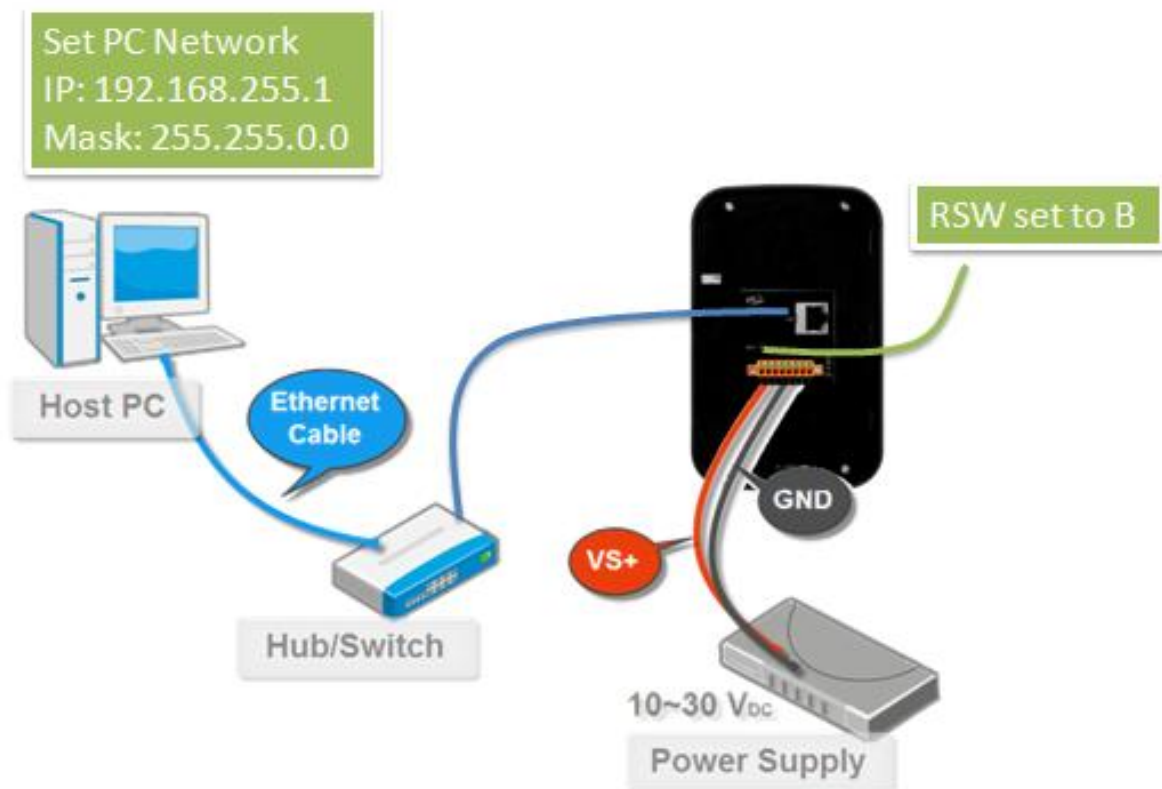


2. Getting Started

If you are a new user, begin with this chapter, it includes a guided tour that provides a basic overview of installing, configuring and using the SI-002.

2.1. Connecting to the Network, PC and Power

The SI-002 is equipped with an RJ-45 Ethernet port for connection to an Ethernet hub/switch and PC. Please set RSW of SI-002 and PC Network as below.



2.2. Installing the MicroSIP Utility

The MicroSIP Utility is an open source portable SIP softphone based on PJSIP stack for Windows OS. Users can use this Utility to test the network connection status of SI-002.

Step 1: Get the MicroSIP Utility tool



The MicroSIP Utility can be obtained from below link:

<http://www.microsip.org/downloads>

Step 2: Follow the prompts to complete the installation



2.3. Using SI-002 connects to MicroSIP Utility

When RSW of SI-002 set to “B”, SI-002 will use a default IP settings to connect PC.

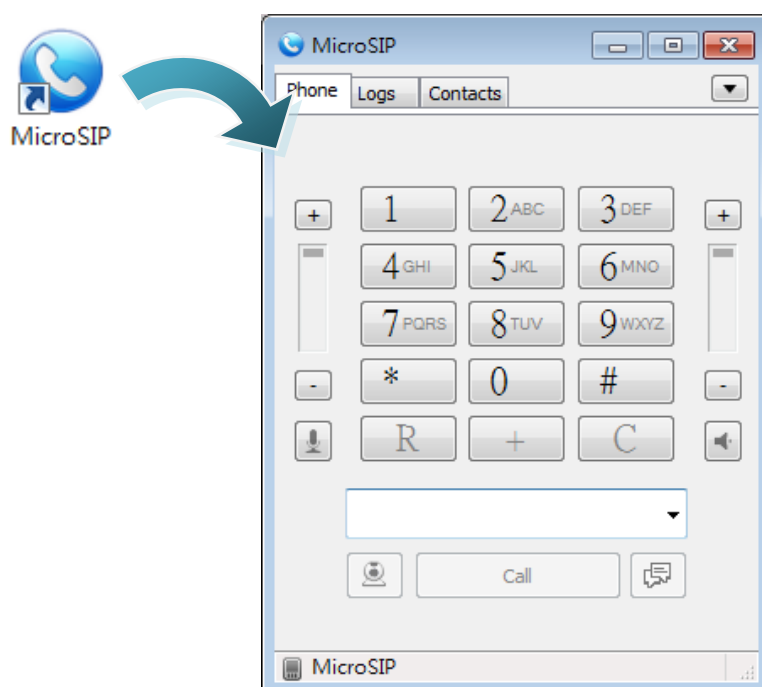
The default IP settings are as follows:

SI-002	
IP Address	192.168.72.30
Subnet Mask	255.255.0.0

PC side	
IP Address	192.168.255.1 (See Section 3.2.4 Standard Config)
Subnet Mask	255.255.0.0

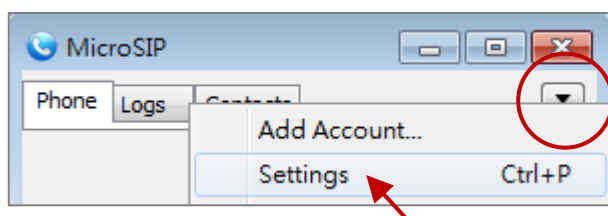
Step 1: Run the MicroSIP Utility

Double-click the MicroSIP Utility (v3.18.5) shortcut on your desktop.



Step 2: MicroSIP settings

- Click the Menu button, and click **Settings**.
- Select the **Audio Codec** such as PCMA (G.711A), PCMU (G.711U), and GSM.
- Select the **Video Codec** (i.e., H.263).

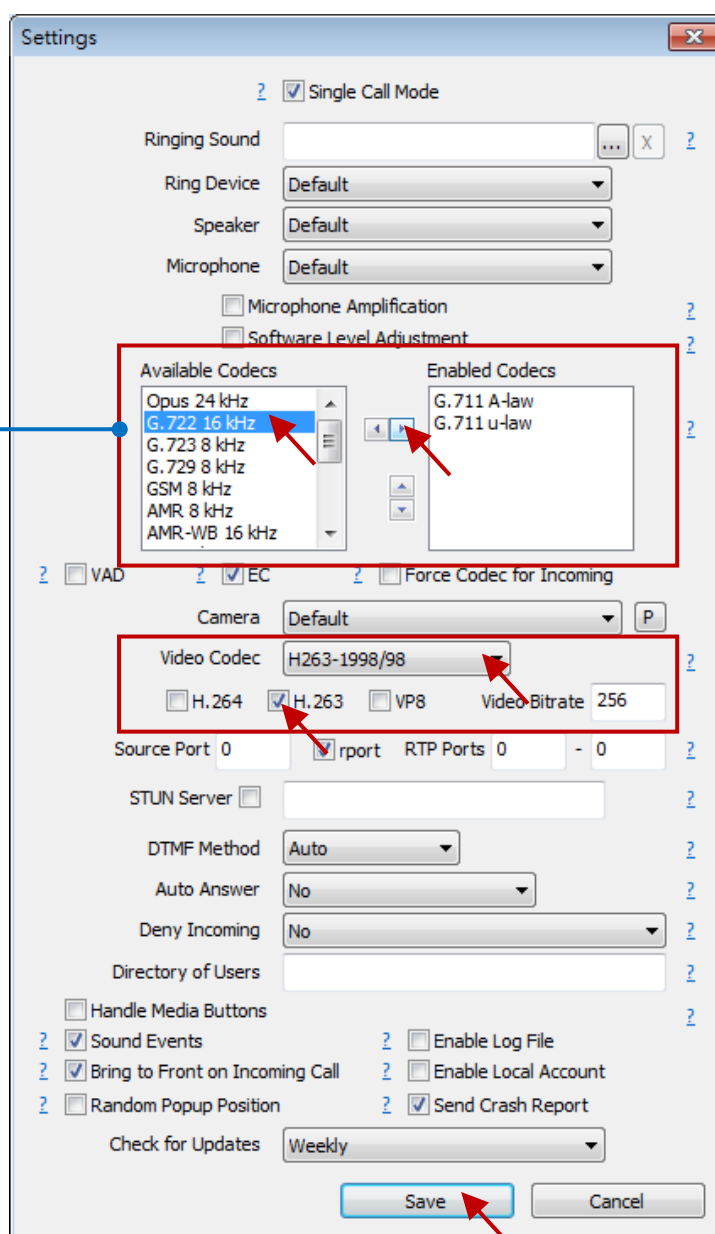


SI-002 support the following audio codec:

SI-002

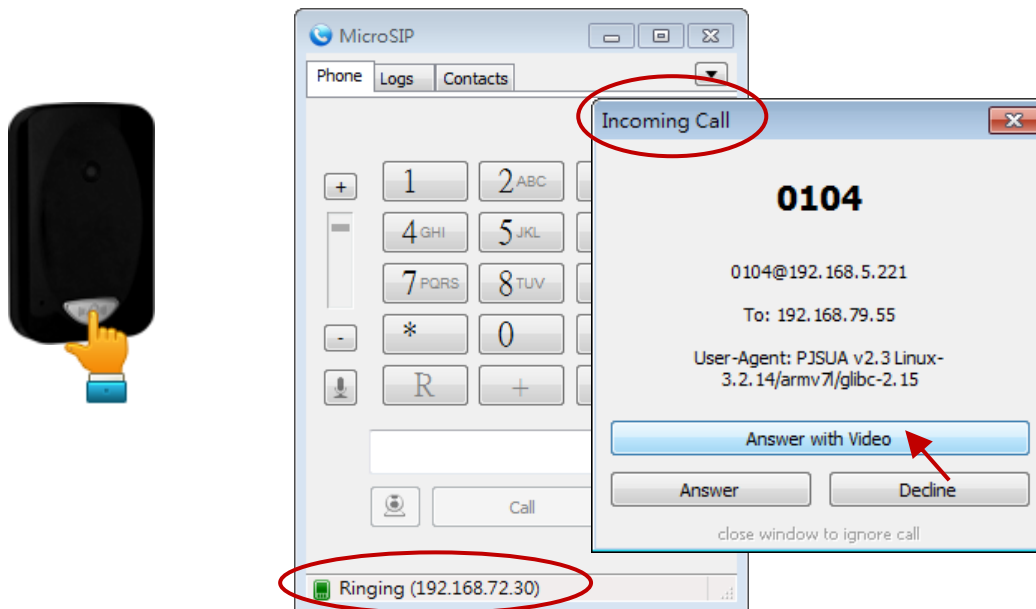
Audio Codec:

G.711 A-law, G.711 u-law,
G.722 16 kHz, GSM 8 kHz,
Speex 32 kHz, 16 kHz, 8 kHz



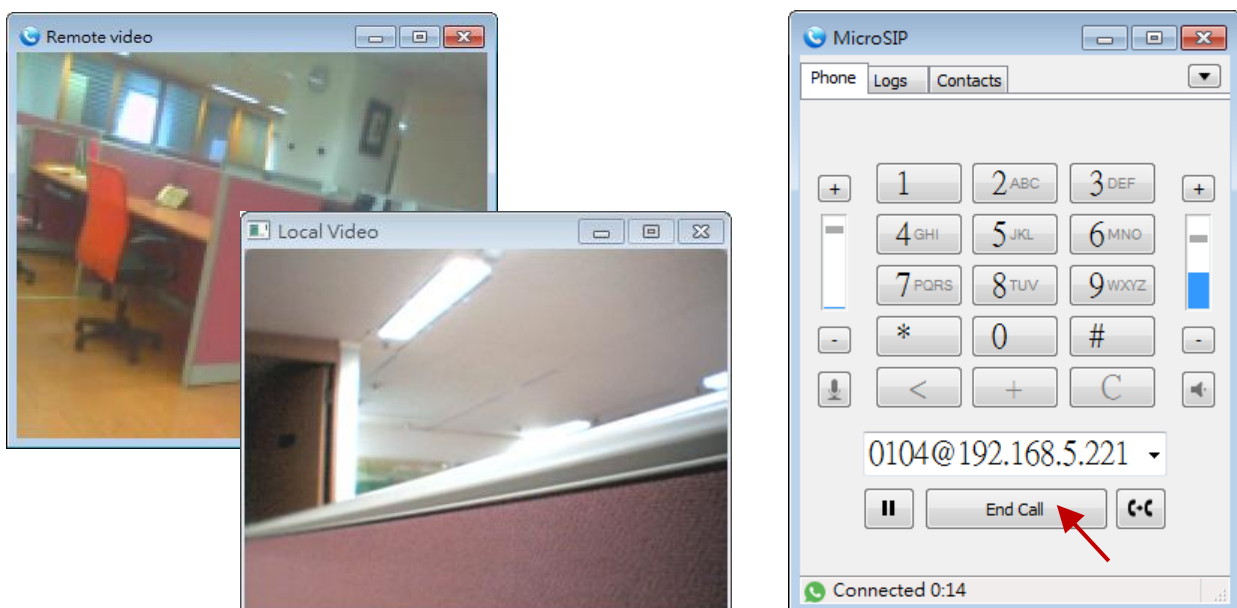
Step 3: Making a Phone call by SI-002

Press the call button of SI-002 to call MicroSIP and then the MicroSIP will display the Incoming Call dialog box. Click the "Answer with video" button of MicroSIP to answer a call.



Step 4: Answer and End a call on PC

PC will show video (e.g., Local: PC and Remote: SI-002) and hear voices from SI-002. Click the "End call" button to hang up.



3. Web Applications

The SI-002 contains an advanced web configuring system that provides users to configure SI-002 through a standard web browser, e.g., Google Chrome, Mozilla Firefox, IE, and so on.

3.1. Connect to the SI-002 web site

3.1.1. Installing the eSearch Utility

Users can get the current IP address of SI-002 by eSearch (or [VxComm](#)) Utility.

Step 1: Get the eSearch Utility tool



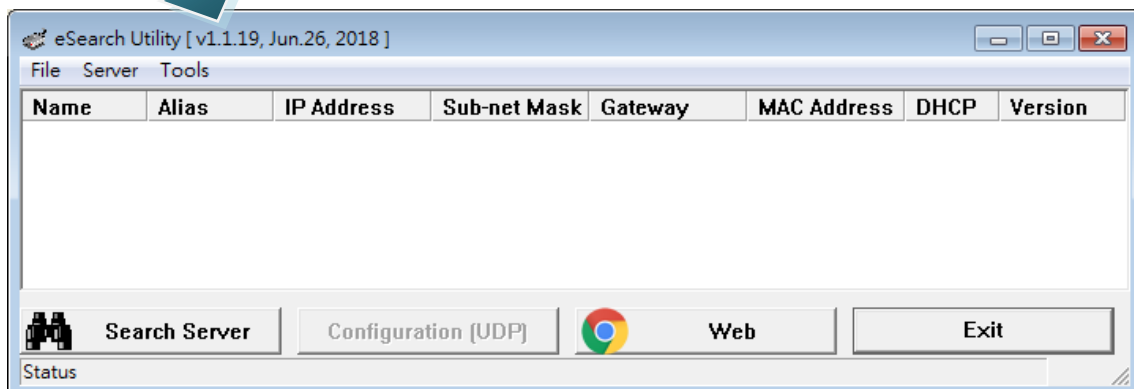
The eSearch Utility can be obtained from below link:

<http://ftp.icpdas.com/pub/cd/tinymodules/napdos/software/esearch/windows/>

Step 2: Run the eSearch Utility

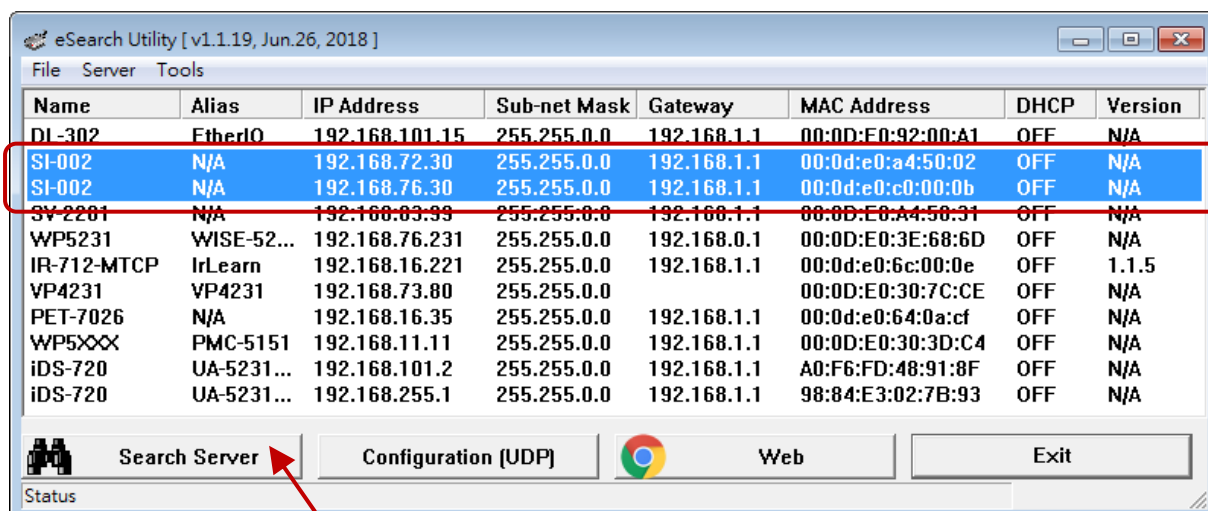


Double-click the eSearch Utility shortcut.



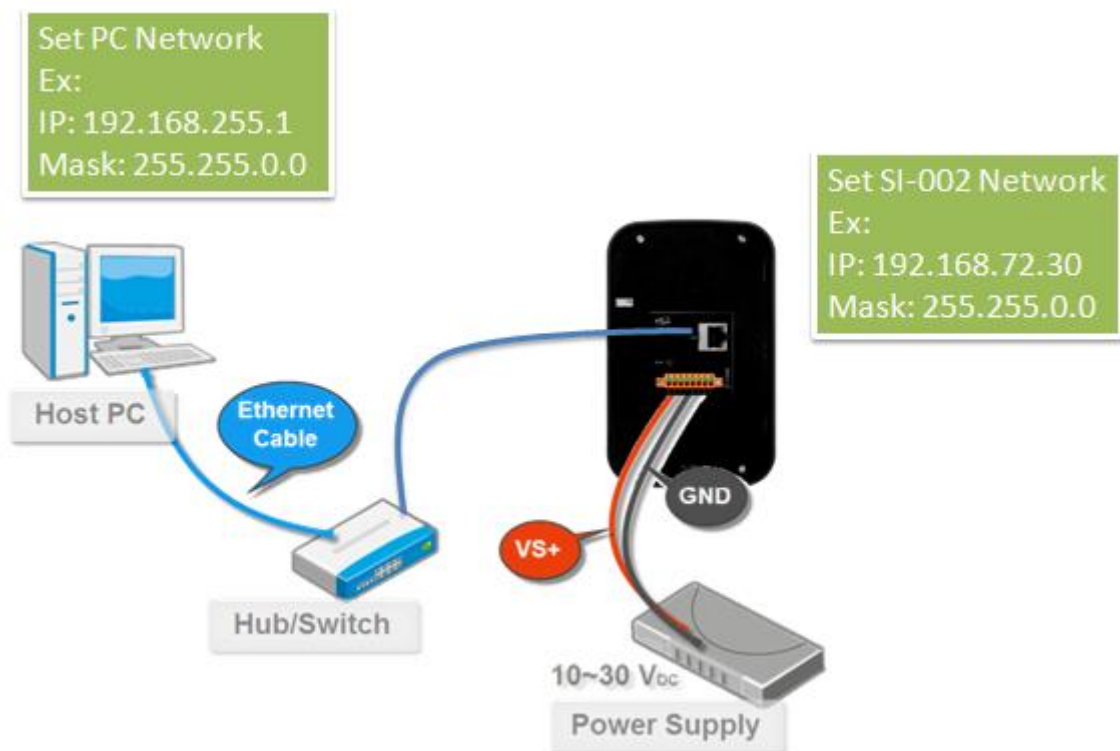
Step 3: Click the "Search Servers" button

After clicking the "Search Servers" button, all the searched SI-002 will be displayed on the list. Next, users can view the IP settings of SI-002.



3.1.2. Connecting

Users can log in to the SI-002 web site from any computer by web browser. Before configuring SI-002 with a web browser, make sure the IP addresses of the SI-002 and the PC are in the same sub network, as shown below.



Step 1: Open a web browser

The commonly used web browsers, including Google Chrome, Mozilla Firefox, Microsoft Edge, Opera, and Internet Explorer.

Step 2: Type the URL address of the SI-002

The URL format is `http://IP/` (e.g., `http://192.168.72.30/`). If users haven't changed the default IP address of SI-002, it will be 192.168.72.30.

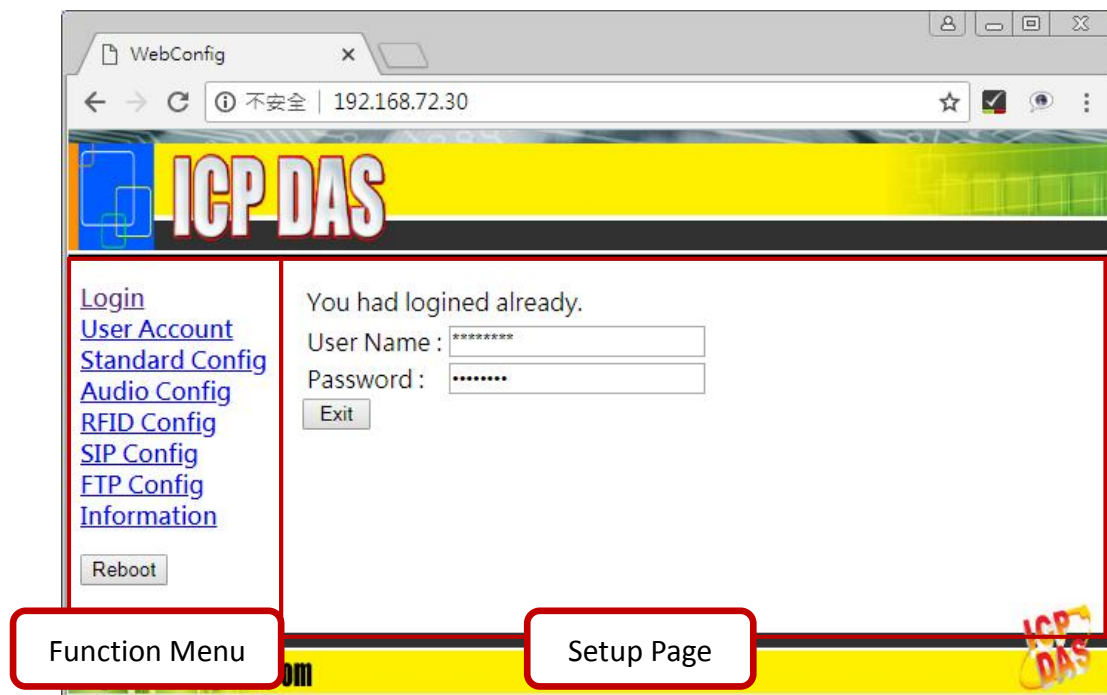
Step 3: Connect to SI-002

After PC connect to SI-002, it will display the login screen and it means communication has been established.



3.2. Web Configuration

When the browser connects with the SI-002, the first page will display, as shown below. The left side is the function menu and the other side is the setup page.



3.2.1. Function menu

The function menu has below function.

- Login (root/icpdas)
- User Account
- Standard Config
- Audio Config
- RFID Config
- SIP Config
- FTP Config
- Information
- Reboot

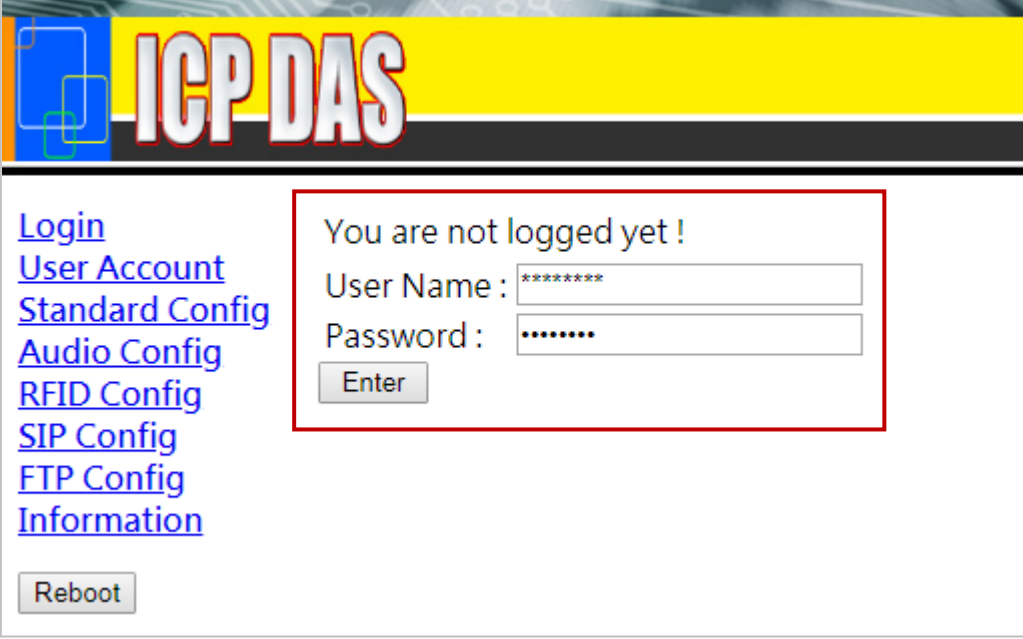
The “Reboot” button can provide users to restart the SI-002 module.

3.2.2. Login

The user login and logout interface.

Login

Enter the username and password (defaults: root/icpdas) to log in.

The image shows the ICP DAS login interface. At the top is a yellow banner with the ICP DAS logo on the left. Below the banner, on the left, is a vertical list of blue links: Login, User Account, Standard Config, Audio Config, RFID Config, SIP Config, FTP Config, and Information. Below these links is a grey 'Reboot' button. On the right, a red-bordered box contains the text 'You are not logged yet !'. Below this text are two input fields: 'User Name : *****' and 'Password : *****'. Below the password field is a grey 'Enter' button.

ICP DAS

[Login](#)
[User Account](#)
[Standard Config](#)
[Audio Config](#)
[RFID Config](#)
[SIP Config](#)
[FTP Config](#)
[Information](#)

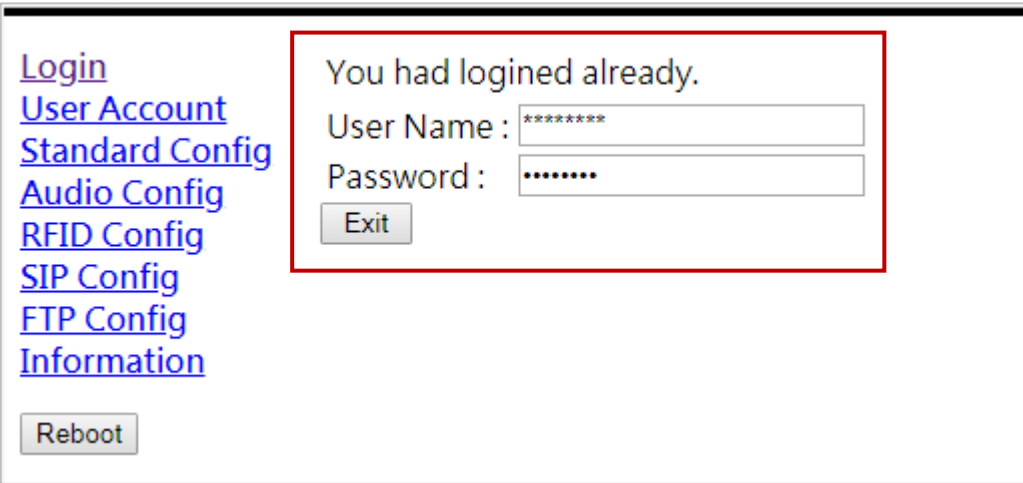
You are not logged yet !

User Name :

Password :

Logout

Click the "Exit" button to log out.

The image shows the ICP DAS logout interface. It has the same layout as the login page, with the same list of links and 'Reboot' button on the left. On the right, a red-bordered box contains the text 'You had logined already.' (note the typo). Below this text are the same two input fields: 'User Name : *****' and 'Password : *****'. Below the password field is a grey 'Exit' button.

ICP DAS

[Login](#)
[User Account](#)
[Standard Config](#)
[Audio Config](#)
[RFID Config](#)
[SIP Config](#)
[FTP Config](#)
[Information](#)

You had logined already.

User Name :

Password :

3.2.3. User Account

The **User Account** setting is used to limit which user can configure the SI-002. Only the Super User (i.e., Account 1, User Name = "root", Password = "icpdas") can edit this page.

All the default user name and password are shown in the diagram below. Users can click the "Save Setting" button to save the changes.

[Login](#)
[User Account](#)
[Standard Config](#)
[Audio Config](#)
[RFID Config](#)
[SIP Config](#)
[FTP Config](#)
[Information](#)

Account 1 (Super User)
User Name :
Password :

Account 2
User Name :
Password :

Account 3
User Name :
Password :

Account 4
User Name :
Password :

Account 5
User Name :
Password :

3.2.4. Standard Config

Users can set the network settings for SI-002. Click the “Save Setting” button to save the changes. Remember to click the “**Reboot**” button to apply the new settings.

Login	NetWork
User Account	Intercom number (IP) 192.168.255.1
Standard Config	Boot Protocol Static IP
Audio Config	Local IP Config
RFID Config	IP Address 192.168.72.30
SIP Config	Net Mask 255.255.0.0
FTP Config	GateWay 192.168.1.1
Information	
Reboot	Save Setting Default Setting

➤ Network

a. Intercom number (IP):

Users can set the Intercom number that the SI-002 wants to connect to. The format can be an IP address (e.g., 192.168.255.1) or an Intercom number with PBX IP (e.g., 0101@192.168.255.1).

b. Boot Protocol: Static IP / DHCP Connection

SI-002 supports “Static IP” and “DHCP” mode. If choosing the “DHCP” mode, the IP address of SI-002 will be automatically set after rebooting.

➤ Local IP Config

a. IP Address:

Set the IP address of SI-002 after choosing the “Static IP” mode.

b. Net Mask:

Set the subnet mask of SI-002 after choosing the “Static IP” mode.

c. Gateway:

Set the gateway address of SI-002 after choosing the “Static IP” mode.

3.2.5. Audio Config

Users can set the output or input volume for SI-002. Click the "Save Setting" button to save the changes. Remember to click the "**Reboot**" button to apply the new settings.

[Login](#)
[User Account](#)
[Standard Config](#)
[Audio Config](#)
[RFID Config](#)
[SIP Config](#)
[FTP Config](#)
[Information](#)

Audio Config

Output Volume

Input Volume

- **Output Volume:** 0 ~ 10, the maximum output volume is 10.
- **Input Volume:** 0 ~ 10, the maximum input volume is 10.

3.2.6. RFID Config

Users can click the "Setup White List" button to configure the RFID White list, and click the "RFID Log" button to view the RFID history list.

[Login](#)
[User Account](#)
[Standard Config](#)
[Audio Config](#)
[RFID Config](#)
[SIP Config](#)
[FTP Config](#)
[Information](#)

If you would like to edit RFID white list, click on the Setup White List button.

If you would like to check RFID log, click on the RFID Log button.

➤ RFID White List

Users can enter Tag ID of RFID in the RFID White list and click the “Save” button to save the settings. When SI-002 detects the correct Tag ID, the status of the Relay will be triggered from OFF to ON.

[Login](#)
[User Account](#)
[Standard Config](#)
[Audio Config](#)
[RFID Config](#)
[SIP Config](#)
[FTP Config](#)
[Information](#)

Reboot

RFID White List

1180602754
1180782754
1181267634

Save

Note: Fill TagID of RFID in the text box, if SI-002 detect the same TagID, it will drive the relay from off to on status.

➤ RFID Log

Users can view RFID historical records in the RFID Log list, which allows to show the time and Tag ID. Users can click the “Refresh” or “Clear” button to update or remove records.

[Login](#)
[User Account](#)
[Standard Config](#)
[Audio Config](#)
[RFID Config](#)
[SIP Config](#)
[FTP Config](#)
[Information](#)

Reboot

RFID Log

[DateTime]	[TagID]
[20000101 00:58:23]	1181267634
[20000101 00:58:31]	1180782754
[20000101 00:58:35]	1180602754
[20000101 00:58:47]	1180782754
[20000101 00:58:58]	1181267634
[20000101 00:59:11]	1180602754

Refresh Clear

3.2.7. SIP Config

Users can turn on the camera to take a photo or configure the dialing settings for SI-002, and click the “Save” button to save the settings.. Remember to click the “**Reboot**” button to apply the new settings.

[Login](#)
[User Account](#)
[Standard Config](#)
[Audio Config](#)
[RFID Config](#)
[SIP Config](#)
[FTP Config](#)
[Information](#)

SIP Config

Camera Shots
Current State : OFF

Ring Timeout
Timeout sec(s)

Function	Description
Camera Shots	<u>ON:</u> To enable the image shot function after dialing by SIP protocol. After the user tap the call button on SI-002, the photo will be sent to HA-401. Note: If the function is enabled, the user will receive the dial tone after calling for 3 seconds. <u>OFF:</u> Disable the image capture function
Ring Timeout	SI-002 will send the dial tone after the user tap the call button. If users do not answer or hangs up the call after a timeout, the SIP will automatically end the call and stop ringing. Note: If the input value is less than “2”, the timeout value will be set to the default value “180”.
Save	Click the “Save” button to save the settings

3.2.8. FTP Config

Users can upload the photo to WISE-5231 via FTP. Remember to click the “**Reboot**” button to apply the new settings.

Function	Description
Publish to FTP	<u>ON:</u> To enable the FTP functions. After tapping the RFID card on SI-002, it will upload an image shot to WISE-5231. <u>OFF:</u> Disable the FTP upload function
Login	<u>IP Address:</u> Enter the IP address of WISE-5231 <u>Username:</u> Enter the FTP username of WISE-5231 <u>Password:</u> Enter the FTP password of WISE-5231
Save Setting	Click the “Save Setting” button to save the settings

3.2.9. Information

User can view information about SI-002.

Login	Information
User Account	OS Version : 3.2.14 (1.10)
Standard Config	Firmware Version : 1.20
Audio Config	Current IP : 192.168.72.30
RFID Config	Subnet Mask : 255.255.0.0
SIP Config	Mac Address : 00:0D:E0:A4:50:02
FTP Config	Licence Verify : OK
Information	
Reboot	

- **OS Version:**
Show OS version of SI-002.
- **Firmware Version:**
Show application program version.
- **Current IP:**
Show the current IP address of SI-002.
- **Subnet Mask:**
Show the current subnet mask of SI-002.
- **Mac Address:**
Show the current Mac address of SI-002.
- **License Verify:**
Show the result of the license verification. If it shows "OK" which means the license is passed.