



# ***Installation & Operations Manual 2100 Series Wi-Fi VoIP Phone***



Thank you for purchasing RATH's Wi-Fi VoIP Phone. We are the largest Emergency Communication Manufacturer in North America and have been in business for over 35 years.

We take great pride in our products, service, and support. Our Emergency Products are of the highest quality. Our experienced customer support teams are available to remotely assist with site preparation, installation, and maintenance. It is our sincere hope that your experience with us has and will continue to surpass your expectations.

Thank you for your business,

*The RATH® Team*

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# Items Needed

- Static IP addresses (1 for VoIP Phone, 1 for Wireless Module)
- IP address of SIP Server and Authentication ID
- PC with Network Interface Card
- 120v or 12v battery backed up power source (not needed for Towers, Pedestals, or Call Stations)

**Note:** If you provided the IP information at the time of purchase, all devices will be labeled with the IP information used to log into the devices.

# Wireless Set-Up

1. Connect the WAN Port of the Wireless Module to the PC using an ethernet cable
2. Change computer IP address
  - a. Navigate to Control Panel
  - b. Navigate to Network Settings
  - c. Change IP to default IP address range of Wireless Module (recommended is 192.168.16.150)
  - d. Change Subnet Mask (default is 255.255.255.0)
3. Turn off wireless card on computer (if applicable)
4. Log into Wireless Module
  - a. Enter 192.168.16.159 into web browser (Google Chrome or Mozilla Firefox is recommended)
  - b. Log in to Wireless Module using **LOGIN:** admin **PASSWORD:** admin
5. Change IP Address
  - a. Click LAN Settings under Network from the menu options on the left side
  - b. Select Specify an IP address
  - c. Change IP address and subnet mask of wireless unit to a new static IP address in the same network group as wireless router
  - d. Set the Default Gateway to match the router's IP address
  - e. Click Apply
  - f. Click Reboot Device
6. Change Computer IP address to match new Wireless Module IP address
  - a. Navigate to Control Panel
  - b. Navigate to Network Settings
  - c. Change IP to new IP address range of Wireless Module
  - d. Change Subnet Mask to new Subnet Mask of Wireless Module
7. Log into Wireless Module
  - a. Enter new IP address of Wireless Module entered in Step 5 into web browser (Google Chrome or Mozilla Firefox is recommended)
  - b. Log in to Wireless Module using **LOGIN:** admin **PASSWORD:** admin
8. Modify Wireless Settings
  - a. Click on Wireless
  - b. Click on Site Survey
    - i. Select Wireless Network
  - c. Click Connect
  - d. Type in Pre-Shared Key
  - e. Click Apply
9. Log back into the Wireless Module and click on Connection Status to verify the name of the network is displayed and it is connected

# VoIP Phone Set-Up

1. Connect the Ethernet port of the VoIP Interface to the PC using an ethernet cable
2. Change computer IP address
  - a. Navigate to Control Panel
  - b. Navigate to Network Settings
  - c. Change the IP address of the PC to **192.168.1.150**
3. Turn off wireless card on computer (if applicable)
4. Log into the VoIP Interface
  - a. Enter the VoIP Interface IP address **192.168.1.160** into the web browser (Google Chrome recommended)
  - b. Log into the VoIP Interface using **PASSWORD: admin**
5. Change the IP address settings of the VoIP Interface
  - a. Click Basic Settings under the menu options on the top of the screen
  - b. Under IP Address click on the circle next to Statically Configure As
  - c. Enter a new static IP address, subnet mask, and default router for the VoIP Interface
  - d. Select the appropriate time zone from the drop down menu next to Time Zone
6. Click Apply at the bottom of the page
7. Enter the SIP Server information into the VoIP Interface
  - a. Click the FXS Port under the menu options on the top of the screen
  - b. Enter the IP address of the SIP Server in the Primary SIP Server box
  - c. Enter the SIP Extension ID in the SIP User ID box
  - d. Enter the Authentication ID in the Authenticate ID box (can be the same as the SIP Extension ID)
  - e. Enter the Authentication Password in the Authenticate Password box
  - f. Fill in the Name location as it will appear on the phone
8. Click Apply at the bottom of the page
9. Click Reboot to restart the VoIP Interface

**Note:** The reboot may take up to 5 minutes.
10. The VoIP Phone is ready when Registered shows next to the status on the home page of the VoIP Interface

# Connecting Device to Network

1. Connect the WAN port of the Wireless Module to the Ethernet port of the IP Interface
2. Turn the wireless card on the PC back on (if applicable)
3. Connect the PC to the same wireless network being used for the Wi-Fi VoIP Phone
4. Open the Command Prompt
5. Ping the IP address of the Wireless Module on the phone
6. If the ping is successful, plug the analog phone into the FXS port and place a test call
7. After successfully placing the test call, the SmartPhone board can be plugged back in and is ready to be programmed

# Phone Programming

## On-Site Programming:

### Step 1: To Begin Program Mode

- a. Press **Enter**

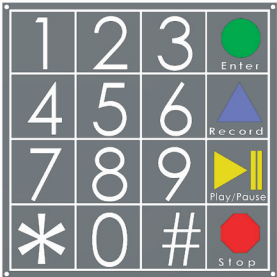
### Step 2: To Program Emergency Numbers

- a. Press **1, Enter, (phone number), Stop**

**Note:** To program numbers 2-5, repeat step 2A

Step 3: To Program Location Message

- a. To turn on message Press **1, 3, Enter, 2**
- b. Press **6, Record** (speak message) **Stop** (to replay message **Press 6, Play**)
- c. Program frequency of message Press **1, 3, Enter, \_\_**
  - 0** = Turn message off
  - 1** = Plays message (1) time
  - 2** = Plays message (2) times (default)
  - 3** = Plays message until receiving party presses \* on their phone



Keypad

Step 4: To Program Auto Disconnect Time (Default is 5 minutes, lowest interval is 1 minute)

- a. Press **8, Enter**, (3 digit number in minutes)  
**Ex:** 2 minutes = 002

Step 5: To Exit Program Mode

- a. Press **Stop** for 3 seconds

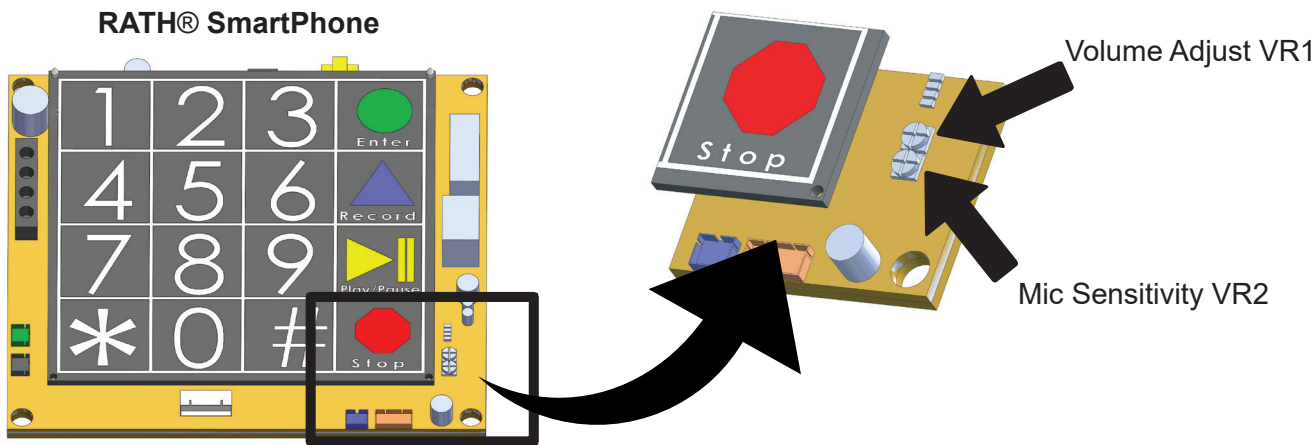
Testing

Push the emergency button to activate the phone:

	YES	NO
Did you hear a dial tone?		
Did red LED become a solid light when you pushed the button?		
Did red LED flash and someone started talking to you?		
Could you hear the other party clearly? (If no, see "Adjust Speaker" below)		
Could the other party hear you clearly? (If no, see "Adjust Microphone" below)		
If you have answered YES to all questions, you have successfully installed and tested the phone. If you answer NO to any question, proceed to the Troubleshooting Section.		

Adjusting the Volume

If the volume is too low or high, adjust it by referring to the diagram and instructions below.



Adjusting the Microphone:

If the person you are calling reports your voice is not loud enough, increase the Microphone Sensitivity by adjusting VR2 a 1/4 turn clockwise (requires a small Phillips screwdriver).

Adjusting the Speaker:

If the voice of the person you call is not loud enough in the phone speaker, increase the volume by adjusting VR1 a 1/4 turn clockwise.

# Troubleshooting

Problem	Possible Cause & Solutions
No dial tone when the button is pushed:	<ul style="list-style-type: none"> <li>• Check to make sure SmartPhone is connected to FXS port on VoIP board.</li> <li>• Verify network connection going into unit and wireless connectivity.</li> </ul>
Audio is low from the speaker:	<ul style="list-style-type: none"> <li>• Speaker control needs to be adjusted. Go to “Speaker Adjustment” on page 5.</li> <li>• Make sure the speaker holes are not blocked.</li> </ul>
Audio is distorted from the speaker:	<ul style="list-style-type: none"> <li>• Speaker control needs to be adjusted. Go to “Speaker Adjustment” on page 5.</li> <li>• Check connections on all components in unit and network cable.</li> </ul>
Called party says audio is low:	<ul style="list-style-type: none"> <li>• Microphone control needs to be adjusted.</li> <li>• Make sure the microphone holes are not blocked.</li> </ul>
When the called party hangs up, the call stays connected:	<ul style="list-style-type: none"> <li>• Phone system is not providing a disconnect signal.</li> <li>• Verify open-loop disconnect settings on VoIP Interface by logging into unit. Click on FXS port, scroll down to Loop Current Disconnect, change it to 1000, then click Submit to save changes.</li> </ul>
Phone appears non-functional. LED does not flash and no audio is heard from the speaker when button is pushed:	<ul style="list-style-type: none"> <li>• Check to make sure SmartPhone is connected to FXS port on VoIP board.</li> <li>• Push button may be non-functional. Remove black switch JST connector from SmartPhone board and short across the 2 pins to check board.</li> <li>• Verify 12v or POE power to SmartPhone circuit board.</li> </ul>
Unit will not call out. LED by push button goes on, then immediately off:	<ul style="list-style-type: none"> <li>• Check to make sure phone line is connected to FXS port on VoIP board.</li> <li>• VoIP phone may not be recognized on network.</li> <li>• Take a laptop on the same IP scheme of VoIP phone and PING IP address of VoIP phone through command prompt. Verify VoIP phone is showing on network.</li> <li>• Settings on VoIP phone may differ from SIP Server and need to be changed.</li> </ul>