



***Installation & Operations Manual
2100 Series VOIP Phone***



Thank you for purchasing RATH's 2100 Series 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

Table of Contents

Items Needed	Page 3
Setting-Up VoIP Phone for Static IP	Page 3
Phone Programming	Page 3
Testing	Page 4
Volume Controls	Page 4
Troubleshooting	Page 5

Items Needed

- RATH® 2100 Series VoIP Phone
- Static IP address for VoIP Phone
- IP address of SIP Server
 - Note:** Address for VoIP Phone must be on the same network as SIP Server
- Name, Authentication Password, and Authentication ID for SIP Extension
- PC with Network Interface Card attached to same network as SIP Server
- Battery backed up 12vdc power source
- Standard Analog Telephone

Setting Up VoIP Phone for Static IP

1. Supply power to the VoIP Phone using battery backed up 12vdc source or PoE (using RATH® 2100-VOIPPOE)
2. Connect Ethernet Port of VoIP Phone to network using supplied Ethernet cable
3. Connect analog phone to phone port on VoIP Board
 - a. Lift handset of analog phone (dial tone should be heard)
 - b. Dial * , * , * , to enter menu
 - c. Dial 0 , 2 , to have VoIP Phone playback current IP address (please write down for reference)
 - d. Dial # , 0 , 3 , to have VoIP Phone playback current subnet mask (please write down for reference)
 - e. Hang up analog phone
4. Change IP address of computer to match IP address scheme of VoIP Phone
5. Turn off wireless card on computer (if applicable)
6. Log into VoIP Phone
 - a. Enter VoIP Phone IP address into web browser (Google Chrome or Mozilla Firefox is preferred)
 - b. Log into Phone**LOGIN:** Admin **PASSWORD:** Admin



POE Power Port (if using POE)

7. Change IP address settings of VoIP Phone
 - a. Click **BASIC SETTINGS** under the menu options on the top of the screen
 - b. Under IP address, click on circle next to **Statically Configure As**
 - c. Enter desired IP address, subnet mask, and default router for VoIP Interface
 - d. Select proper time zone from drop down menu next to **Time Zone**
8. Click **APPLY** at the bottom of the page

9. Enter SIP Server information in VoIP Phone
 - a. Click FXS Port under the menu options on the top of the screen
 - b. Enter IP address of SIP Server in Primary SIP Server box
 - c. Enter SIP Extension ID in SIP User ID box
 - d. Enter Authentication ID in Authenticate ID box (can be the same as the SIP Extension ID)
 - e. Enter Authentication Password in Authenticate Password box
 - f. Fill in the NAME location as it will appear on the phone
10. Click **APPLY** at the bottom of the page, then click **REBOOT** to restart unit

Testing:

1. After configuration, place a test call from analog phone connected to phone port
2. If test call is successful, VoIP Phone is ready for programming
3. 2100 Series Phone can be plugged in at this time

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

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

Remote Programming:

Step 1: To Begin Program Mode

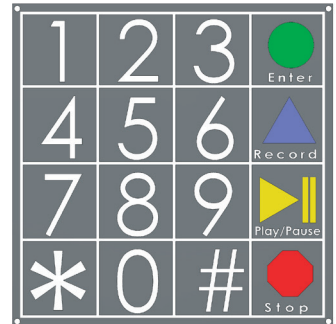
- a. Call into phone by dialing the number of the phone
- b. After first simulated ring, Press **#, #** (Wait for 4 tones)
- c. Key in security code (Default is 1111) (Wait for confirmation tones)

Step 2: To Program Emergency Numbers

- a. Press **1, ***, (Phone number), ***, #** (Wait for confirmation tones)
Note: Emergency numbers (2-5) repeat step 2A pressing (2-5) as needed

Step 3: To Program Location Message

- a. To turn on message press **1, 3, *, 2** (Wait for confirmation tones)
- b. Press **6, ***, (Speak message) **#, *, #** (Wait for confirmation tones)
 - i. To replay message Press **6, #** (Wait for confirmation tones)
- c. For NO message Press **1, 3, *, 0** (Wait for confirmation tones)



Keypad

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

a. Press 8, *, (3 digit number in minutes)

Ex: 2 minutes = 002

Step 5: To Exit Program Mode

a. Press *, #, 0 (You will hear a beep, beep) *, # (You will hear a buzz)

Testing

Push the button to activate the VoIP Phone:

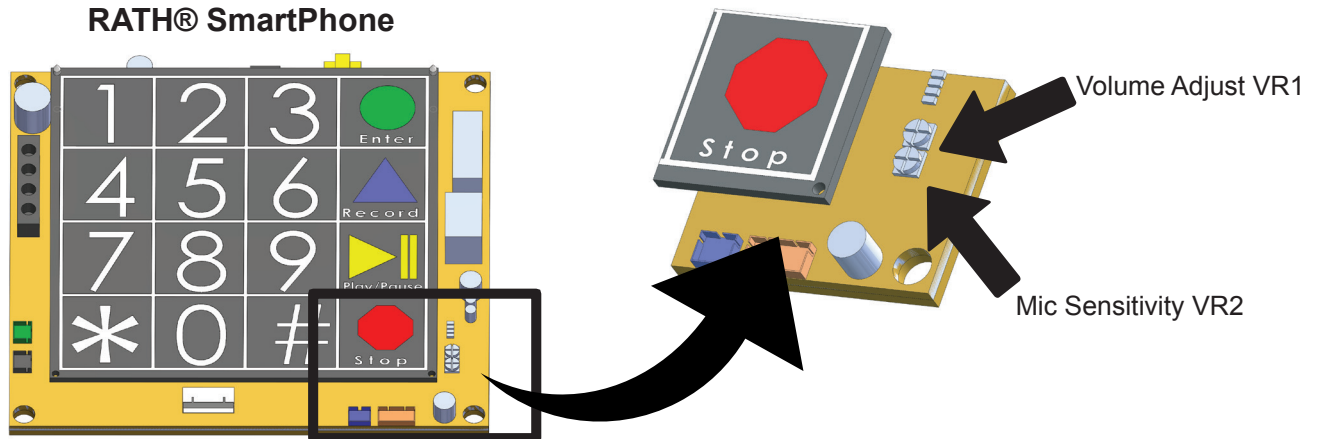
YES

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)		
<i>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.</i>		

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">• Check to make sure the VoIP Phone is connected to Ethernet port on VoIP board.• Verify network connection going into unit.
Audio is low from the speaker:	<ul style="list-style-type: none">• Speaker control needs to be adjusted. Go to “Speaker Adjustment” on page 5.• Make sure the speaker holes are not blocked.
Audio is distorted from the speaker:	<ul style="list-style-type: none">• Speaker control needs to be adjusted. Go to “Speaker Adjustment” on page 5.• Check connections on all components in unit and network cable.
Called party says audio is low:	<ul style="list-style-type: none">• Microphone control needs to be adjusted.• Make sure the microphone holes are not blocked.
When the called party hangs up, call stays connected:	<ul style="list-style-type: none">• Phone company or phone system is not providing a disconnect signal.• Operator needs to press *, # to disconnect the call.• Disconnect time on phone needs to be lowered (see page 4).
VoIP 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">• Check to make sure VoIP Phone is connected to FXS port on VoIP board.• Push button may be non-functional. Remove black switch JST connector from VoIP Phone board and short across the 2 pins to check board.• Verify 12v or POE power to VoIP Phone circuit board.
VoIP Phone will not call out. LED by push button goes on, then immediately off:	<ul style="list-style-type: none">• Check to make sure phone line is connected to Ethernet port on VoIP board.• VoIP Phone may not be recognized on network.• 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.• Settings on VoIP Phone may differ from SIP Server and need to be changed.