



# Installation & Operations Manual



## VoIP Pool Phones

624POOLVOIP, 624MPOOLVOIP, 690SYPOOLVOIP,  
690RDPOOLVOIP, 984RIP, 984RIPC1, 970VOIP,  
2100-986DIP, 990SYPOOLVOIP, 990RDPOOLVOIP



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Thank you for purchasing a RATH® VOIP Pool 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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# Mounting

## 624POOLVOIP, 624MPOOLVOIP, 970VOIP

### Items Needed:

- POE port on Network Switch
- Drill
- Drill bit or knockout set
- Mounting screws
- Conduit with water tight connector
- 1/8" Allen wrench (provided)
- Screwdriver
- Mounting feet (provided)



### Installation:

1. After opening door on unit, use the Allen wrench to remove the 4 screws securing the internal plate.
2. Completely remove the internal plate.
3. Using a drill bit or knockout set, drill a hole in the bottom of the enclosure large enough for the water tight connector.  
**Note:** Be sure the hole sits far enough back so it doesn't interfere with the internal plate when it's reinstalled.
4. Turn enclosure over and screw 1 mounting foot onto each mounting hole on the back of the enclosure using provided screws.
5. Using appropriate mounting screws, screw enclosure to the wall using the other side of the mounting feet.
6. Run the Ethernet connection from the POE port on the Network Switch into conduit, bring the cable into the enclosure through the water tight connector, and tighten conduit to connector.
7. Connect the Ethernet cable to "DATA POWER IN" on POE input of phone. See programming section for phone programming.

## 984RIP, 984RIPC1

### Items Needed:

- POE port on Network Switch
- Drill
- Drill bit or knockout set
- Mounting screws
- #10 spanner bit (provided)
- Conduit with water tight connector
- Screwdriver
- Wire nuts



### Installation:

1. Using the spanner bit, remove the 4 screws holding the front cover in place and remove the cover.
2. Using a drill bit or knockout set, drill a hole in the bottom of the enclosure large enough for the water tight connector.
3. Using appropriate mounting screws, screw the enclosure onto the wall.
4. Run the Ethernet connection from the POE port on the Network Switch into conduit, bring the cable into the enclosure through the water tight connector, and tighten conduit to connector.
5. Connect the Ethernet cable to "DATA POWER IN" on POE input of phone. See programming section for phone programming.

## 690RDPOOLVOIP, 990RDPOOLVOIP, 690SYPOOLVOIP (YELLOW), 990SYPOOLVOIP (YELLOW)

### Items Needed:

- POE port on Network Switch
- Drill
- Metal capable drill bit or knockout set
- Mounting screws
- Wall anchors
- Conduit with water tight connector
- 3/32" Allen wrench (provided)
- Screwdriver



### Installation:

1. After opening door on unit, use the Allen wrench to remove the 4 screws securing the internal plate.
2. Completely remove the internal plate.
3. Using a drill bit or knockout set, drill a hole in the bottom of the enclosure large enough for the for the water tight connector.  
**Note:** Be sure the hole sits far enough back so it doesn't interfere with the internal plate when it's reinstalled.
4. Using appropriate mounting screws and anchors, screw enclosure to the wall.
5. Run the Ethernet connection from the POE port on the Network Switch into conduit, bring the cable into the enclosure through the water tight connector, and tighten conduit to connector.
6. Connect the Ethernet cable to "DATA POWER IN" on POE input of phone. See programming section for phone programming.

## 2100-986DIP

### Items Needed:

- POE port on Network Switch
- Drill
- Drill bit or knockout set
- Mounting screws
- #10 spanner bit (provided)
- Conduit with water tight connector
- Screwdriver
- Wire nuts
- Mounting feet (provided)



### Installation:

1. Using the spanner bit, remove the 4 screws holding the front cover in place and remove the cover.
2. Using a drill bit or knockout set, drill a hole in the bottom of the enclosure large enough for the water tight connector.
3. Turn over the back of the enclosure and screw 1 mounting foot onto each mounting hole using the supplied screws.
4. Using appropriate mounting screws, screw enclosure to the wall using the other side of the mounting feet.
5. Run the Ethernet connection from the POE port on the Network Switch into conduit, bring the cable into the enclosure through the water tight connector, and tighten conduit to connector.
6. Connect the Ethernet cable to "DATA POWER IN" on POE input of phone. See programming section for phone programming.

# Programming

## Items Needed:

1. PC with Network Interface Card attached to same network as SIP Server
2. Static IP Address for IP Interface (provided by building)
3. IP Address of SIP Server or Web Address of ITSP (Internet Telephony Service Provider) (provided by building)
4. Name, Authentication Password, and Authentication IP for SIP Extension (provided by building)

## IP Interface Set-Up:

1. Plug computer being used for programming into the same network switch as the IP Pool Phone
2. Turn off wireless card on computer (if applicable)
3. Change computer IP address
  - a. Navigate to **Control Panel**
  - b. Open **Network and Sharing Center**
  - c. Click **Change Adapter Settings** from left side menu
  - d. Right click on **Local Area Connection (or Ethernet)** then click **Properties**
  - e. Double click on **Internet Protocol Version 4 (TCP/IPv4)**
  - f. Click the dot next to **Use the Following IP Address**
  - g. Set the IP Address to **192.168.1.100**
  - h. Click on **Subnet Mask**, should auto-populate to 255.255.255.0
  - i. Click **OK** at the bottom of the window
  - j. Click **OK** in the **Local Area Connection Properties** window
4. Log into IP interface
  - a. Enter IP address of IP interface (192.168.1.160) into web browser (Google Chrome or Mozilla Firefox preferred)
  - b. Log into interface  
**LOGIN: admin PASSWORD: admin**
5. Under **QUICK SETUP** in Line 1, enter SIP server information
  - a. Enter IP address of SIP server or web address of ITSP into **PROXY** box
  - b. Enter extension name in **DISPLAY NAME**
  - c. Enter authentication ID in **USER ID**
  - d. Enter authentication password in **PASSWORD**
  - e. Click **SUBMIT** at the bottom of the page (unit will automatically reboot)
6. After unit reboots, change IP settings on IP interface
  - a. Click **Network Setup** under the menu options at the top of the screen
  - b. Enter desired **IP Address**, **Subnet Mask**, and **Default Router** for IP interface
  - c. Click **SUBMIT** at the bottom of the page (unit will automatically reboot)
7. After unit reboots, follow the instructions in Step 4 to change IP address of computer to an address in the same network scheme as the IP Pool Phone
8. Log back into the IP interface using the IP address assigned to the unit in Step 6
9. Click on **VOICE** under the menu options at the top of the screen
10. Under Line 1 Status, verify unit shows **Registered** next to **Registration State**. If unit shows Registered, it is ready for use. If unit shows Not Registered please verify SIP information or see Troubleshooting Section.

## RESET Button:

To reset all information entered into the IP Pool Phone, unplug the Ethernet cable from the Ethernet port on the IP interface board then press and hold the red reset button for 20 seconds. **THIS WILL DEFAULT THE UNIT TO DHCP** (you will no longer be able to log into the device using 192.168.1.160). The IP Pool Phone will have to be connected to a network capable of handing out DHCP. Plug Ethernet cable back into the Ethernet port on IP interface board. To log back into the unit, perform one of the following steps:

1. Set the Network Interface Card of the PC to **Obtain an IP Address Automatically** (see Step 4 under IP Interface Set-Up). Use a network scanner loaded onto the PC to search for the device on the network (name of device will display as SPA112 or SPA191). The network scanner should display the address the unit is now using.
2. Plug an analog telephone into the Phone 1 port on the IP interface board:
  - a. Lift up the handset on the analog phone and dial \*, \*, \*, \*
  - b. Dial **110** then # (phone will say IP address of unit)
  - c. Dial **120** then # for Subnet Mask
  - d. Dial **130** then # for Gateway
  - e. Hang up analog phone

## Speaker Phones

Pool Phones are pre-programmed to call 911. Only perform the following if you want the phone to call somewhere other than 911. Please choose one of the options below that matches the SIP Extension that the phone is installed on:

### 1. Programming Telephone Numbers or Extensions

- a. Press **ENTER** to begin programming
- b. Press **1, ENTER, (phone number or extension), STOP**
- c. Press and hold **STOP** for 3 seconds to exit programming

### 2. Programming Phone to Dial Outside Phone Number

- a. Press **ENTER** to begin programming
- b. Press **1, ENTER, key in access code (usually 8 or 9), PLAY/PAUSE, (phone number), STOP**
- c. Press and hold **STOP** for 3 seconds to exit programming

## Handset Phones

Pool Phones are pre-programmed to call 911. Only perform the following if you want the phone to call somewhere other than 911. Please choose one of the options below that matches the SIP Extension that the phone is installed on:

### 1. Programming Telephone Numbers or Extensions

**Note:** When programming, ignore messages or busy tones in the background.

- a. Start with phone handset hung up
- b. Press and hold **Program** button, lift handset off hook, then release **Program** button
- c. Press the # key 10 times (you will hear confirmation tones in the handset)
- d. Press **3, #**, then the phone number or extension you want the phone to dial
- e. Press \*, # to exit Programming Mode, then hang up the handset

### 2. Programming Phone to Dial Outside Phone Number

**Note:** When programming, ignore messages or busy tones in the background.

- a. Start with phone handset hung up
- b. Press and hold **Program** button, lift handset off hook, then release **Program** button
- c. Press the # key 10 times (you will hear confirmation tones in the handset)
- d. Press **3, #**, then the access code for an outside line (usually 8 or 9)
- e. Press #, \*, then enter the number to be dialed
- f. Press \*, # to exit Programming Mode, then hang up the handset

# Wiring

Network  
Connection  
"DATA POWER IN"



## Adjusting the Volume

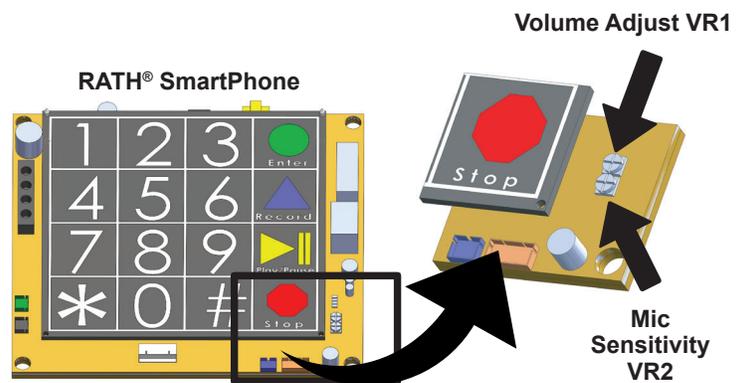
### Speaker Phones

#### 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.



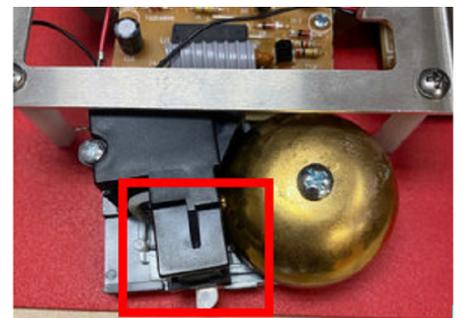
### Handset Phones

On underside of handset, turn volume wheel to increase or decrease volume.

## Turning Ringer On/Off

### 624MPOOLVOIP

1. Open door on unit and remove 4 screws securing the red internal plate. Lift the plate out and flip it over to expose the keypad.
2. Under the keypad, locate the brass ringer bell.
3. Next to the bell is a plastic slide hammer. Slide the hammer to the left about halfway to enable the ringer. To disable the ringer, slide the hammer all the way to the right
4. Screw internal plate back into place and shut the door on the unit.

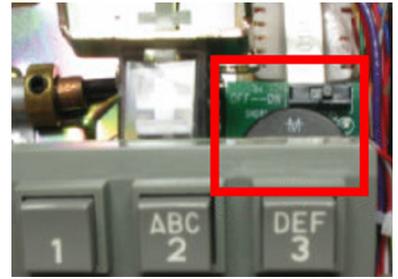


### 984RIP, 984RIPC1, 970VOIP, 2100-986DIP, 990SYPOOLVOIP, 990RDPOOLVOIP

These models do not have ringer option. When unit is called, it will auto-answer and allow for two-way communication instantly.

## 624POOLVOIP, 690SYPOOLVOIP, 690RDPOOLVOIP

1. Open door on unit and remove 4 screws securing the red internal plate. Lift the plate out and flip it over to expose the keypad.
2. Above and slightly underneath the keypad will be a small dipswitch labeled "ON" and "OFF". Slide dipswitch to "ON" to enable the ringer or "OFF" to disable the ringer.
3. Screw internal plate back into place and shut the door on the unit.



## Troubleshooting

Problem	Possible Cause & Solutions
<b>Device won't show as Registered:</b>	<ul style="list-style-type: none"><li>• Verify that the SIP extension settings entered into the IP Pool Phone match the SIP server or ITSP.</li><li>• Double check the authentication password (verify password meets complexity requirements).</li><li>• Verify that the IP address isn't being blacklisted or blocked by network.</li><li>• Verify that nothing else on the network is sharing the same IP address as the IP Pool Phone.</li><li>• Verify that you can PING the SIP server or ITSP from the same network switch the IP Pool Phone is connected to.</li><li>• Verify the Firewall on network isn't blocking device</li><li>• If using an ITSP, verify they do not require any additional information to be entered into the device.</li><li>• Power down the unit by unplugging the power plug then waiting 30 seconds before reconnecting it.</li><li>• Verify SIP server or ITSP allows for third party SIP devices to be registered.</li><li>• Verify SIP server or ITSP allows devices to register via SIP authentication ID and password.</li></ul>
<b>Can't Login to Device:</b>	<ul style="list-style-type: none"><li>• Verify the Ethernet port on computer is set to an address that is in the same network scheme as the IP Pool Phone and is connected to the same network.</li><li>• Verify the Ethernet port on computer isn't set to same IP address as IP Pool Phone.</li><li>• Plug an analog telephone into the Phone 1 port on the IP interface board and perform the following to verify IP information entered into the device:<ol style="list-style-type: none"><li>1. Lift up the handset on the analog phone and dial *, *, *, *</li><li>2. Dial <b>110</b> then # (phone will say IP address of unit)</li><li>3. Dial <b>120</b> then # for Subnet Mask</li><li>4. Dial <b>130</b> then # for Gateway</li><li>5. Hang up analog phone</li></ol></li></ul>
<b>Device was working, now it's not:</b>	<ul style="list-style-type: none"><li>• Verify nothing was changed on the network (such as IP scheme or network equipment).</li><li>• Verify the network switch port that the IP Pool Phone is connected to doesn't have a power save mode that disabled the port.</li><li>• Verify SIP server can be pinged from same network switch that the IP Pool Phone is connected to.</li><li>• Verify device is not being blocked by the building's firewall.</li><li>• Verify device was not blacklisted or blocked by the SIP server.</li></ul>
<b>Phone won't Call Out:</b>	<ul style="list-style-type: none"><li>• Verify IP interface is registered.</li><li>• Verify line cord is plugged into Phone 1 port on IP interface board (port closest to red reset button).</li><li>• Verify number being programmed into the phone doesn't require an access digit (an 8 or 9).</li><li>• Follow instructions under the Speaker Phone or Handset Phone in the Programming section to verify number programmed into phone.</li></ul>