



Installation & Operations Manual



SmartAlert Software & Wireless System



Made in the USA
3 Year Warranty

N56W24720 N. Corporate Circle • Sussex, WI 53089
800-451-1460 • www.rathcommunications.com

RP8500SA
Ver. 1
12/18



Thank you for purchasing RATH's SmartAlert System. 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

System Installation	Page 3
System Configuration	Page 7
Wireless Components	Page 12
Repeater Installation & Operation	Page 14
Repeater Location	Page 18
Area Control Gateway Installation & Operation	Page 18
License Agreement	Page 21

Installation

RATH® SmartAlert Software is part of an emergency notification system that can be used to notify staff of patient-initiated calls from wired and/or wireless devices in a single facility. RATH® SmartAlert can be connected to a hardwired RATH® SmartCare System and/or a RATH® SmartAlert Wireless Gateway, allowing devices such as Wireless Pull Strings, Wrist or Lanyard Pendants, Smoke Detectors, and Activity Sensors to have immediate activation recognition.

A site survey is recommended before installing the wireless components using a RATH® Site Survey Kit (RC7016). A site survey will help determine how many Repeaters are necessary and the best placement to allow wireless signals to reach all necessary areas of a facility. The site survey will allow for the best possible communication between all wireless devices and the SmartAlert Server.

SmartAlert Server

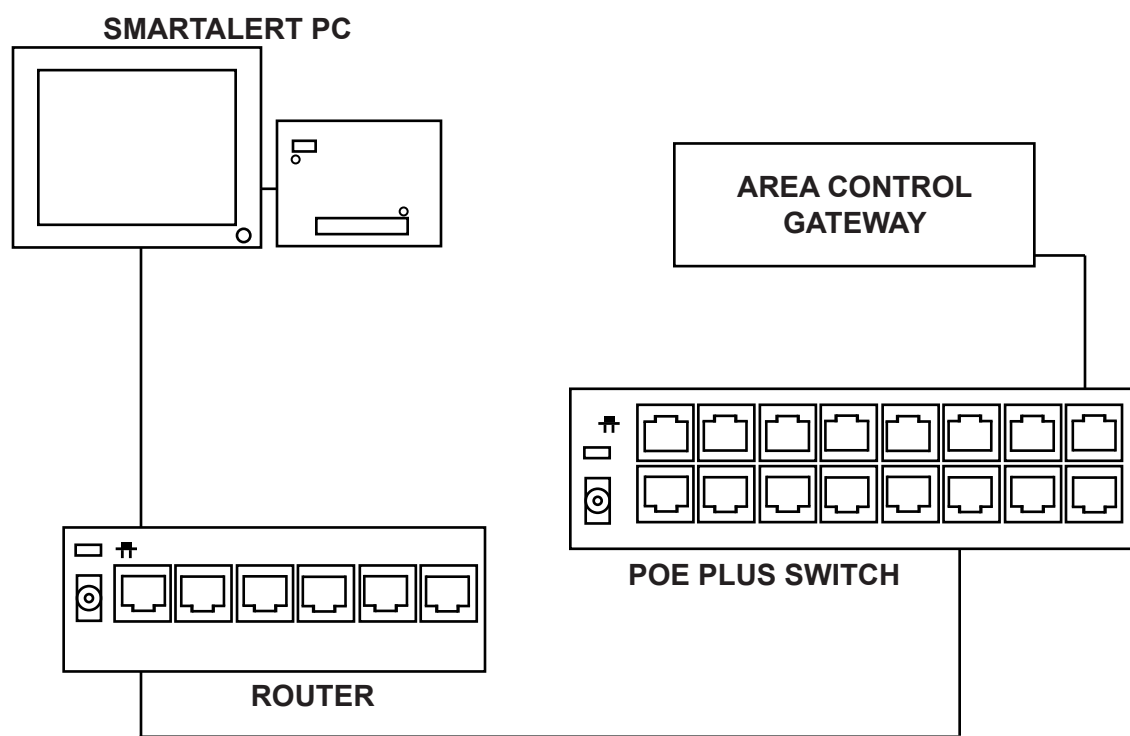
Each SmartAlert Server (RP200PC) can perform any of the following functions:

- Emergency call and device alert display monitor
- Interaction to see emergency call details, view system alerts, or master information
- Access point to configure SmartAlert Software

The SmartAlert Server must be hardwired to the Host Controller and can be deployed on a stand-alone network or connected to an existing local area network (LAN). If using a LAN, it is recommended that you use a STATIC IP address for the server on the network. A network router can be used to accomplish this. You can connect the server to an existing network or set up a stand-alone network.

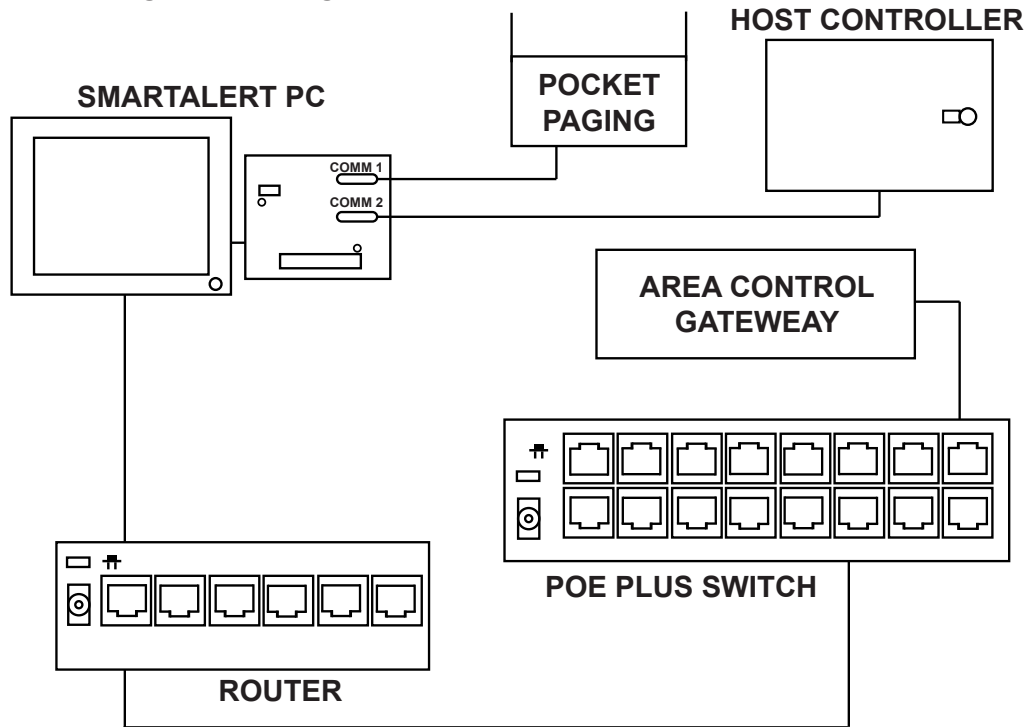
It is highly recommended that the SmartAlert Master PC, the network devices (router and any switches), and any other hardware you are using with your emergency call system are all on battery backup to ensure emergency calls are properly received in the event of a power loss or surge in the facility.

Hardware Connection Configurations (Figure 1)



- The SmartAlert Server connects to the router over an Ethernet cable
- A POE Plus Switch will connect to one of the available LAN router ports
- The Area Control Gateway (RC6080) connects off the POE Switch for power/communication

Hardware Connection Configurations (Figure 2)



- The Pocket Paging System and SmartCare System will connect to the available Comm Ports of the SmartAlert Server PC
- The SmartAlert Server connects to the router over an Ethernet cable
- A POE Plus Switch will connect to one of the available LAN router ports
- The Area Control Gateway (RC6080) connects off the POE Switch for power/communication

Installing a RATH® SmartAlert PC

The SmartAlert PC is preloaded with all the necessary software for your system. Battery backup is required for the SmartAlert PC.

- Plug the power cord into the back of the PC and the other end into the battery backup
- An HDMI cable will plug into the back of the PC and other end will plug into the monitor
- Plug the AC power cord from the monitor into outlet
- Plug the network cable from the network interface port on the PC into the router or network being used
- The keyboard and mouse can both be plugged into available USB ports on the PC
- Power on the system

Using a Non RATH® PC

If purchasing the software only, your computer must meet the following requirements:

- **Processor Type:** X64 Processor: AMD Opteron, AMD Athlon 64, Intel Xeon with Intel EM64T support, Intel Pentium IV with EM64T support
- **Processor Speed:** X64 Processor 1.4GHz (2.0 GHz or faster is recommended)
- **Memory:** Minimum of 1GB (2GB or more is recommended)
- **Minimum Operating System:** Windows 10 Professional
- **.NET Framework:** 4.6
- **Hard Disk:** Minimum 6GB of available hard disk space
- **COM Ports:** 2 physical COM ports
- **Monitor:** Super-VGA (800x600) or higher resolution
- **Internet:** Requires internet access

Installing PC Software

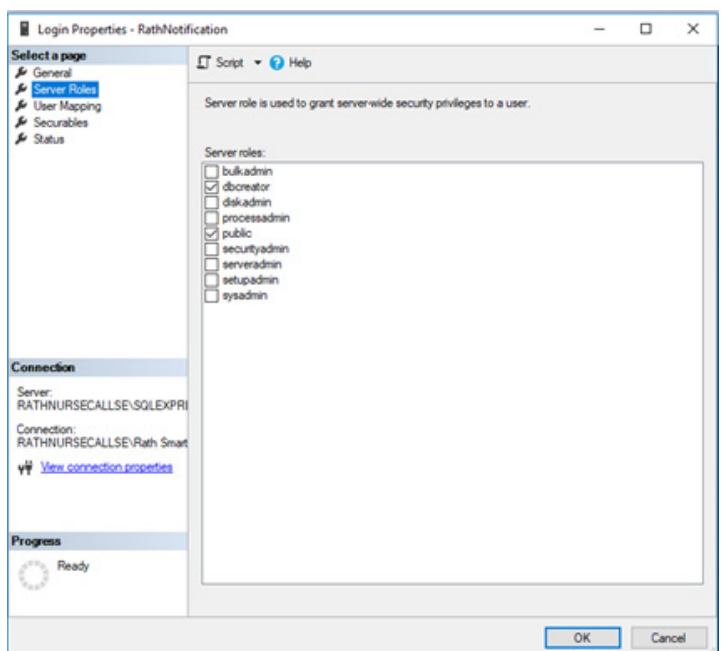
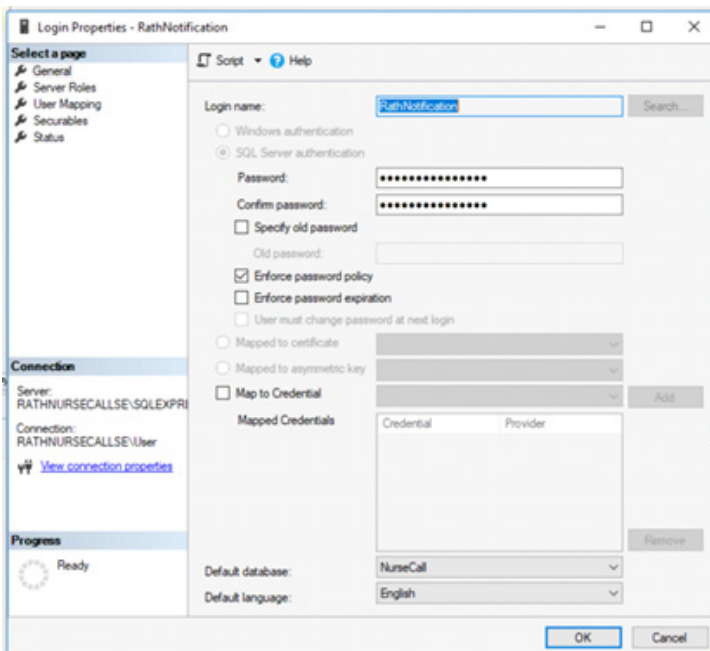
- Make sure the server computer is named: RATHNURSECALLSE
- Move the current version of NurseCall to the root of the C:\ drive on the new computer and name the folder NurseCallUpdates
- Right click on the folder and share the folder with everyone, granting read rights

- Install SQL Server Express 2017 and SQL Server Management Studio
(From <https://www.microsoft.com/en-us/sql-server/sql-server-editions-express>)
- Select Custom and Install
- Click on New SQL Server Stand-Alone Installation or add features to an existing installation
- Install Named Instance (SQLEXPRESS)
- Click Install SQL Server Management Tools and download SQL Server Management Studio 17.9.1



- Open SQL Server Management Studio and sign into the database
- Open the properties page for the database and click on the security option
- Make sure SQL Server and Windows Authentication mode is selected
- Open the SQL Server Configuration Manager
- Click SQL Server Services on the left hand side and stop the SQL Server (SQLEXPRESS) instance, then start it again
- Make sure SQL Server Browser is running (if you cannot start it, go into the properties Service tab and set Start Mode to Automatic, then start the service)
- Make sure the RathNotification account is set up for SQL access

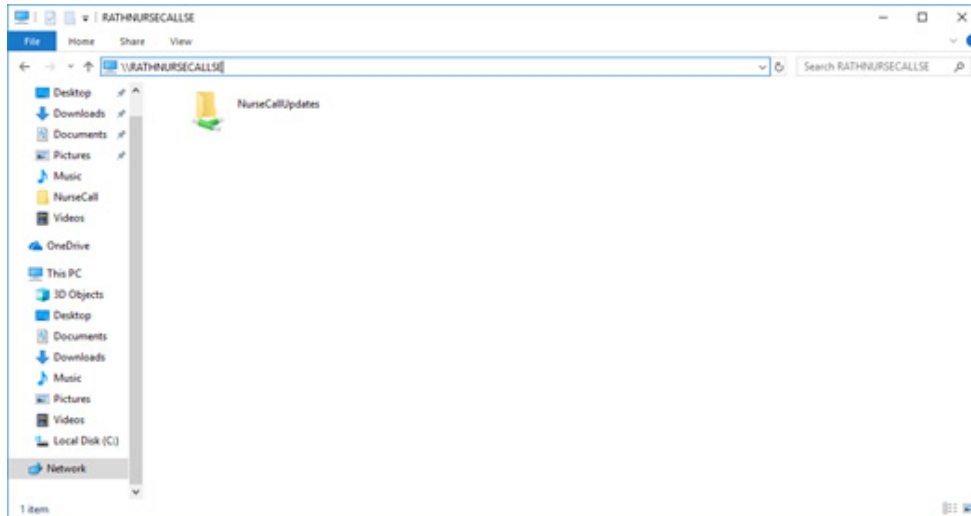
The images below show the settings to use:



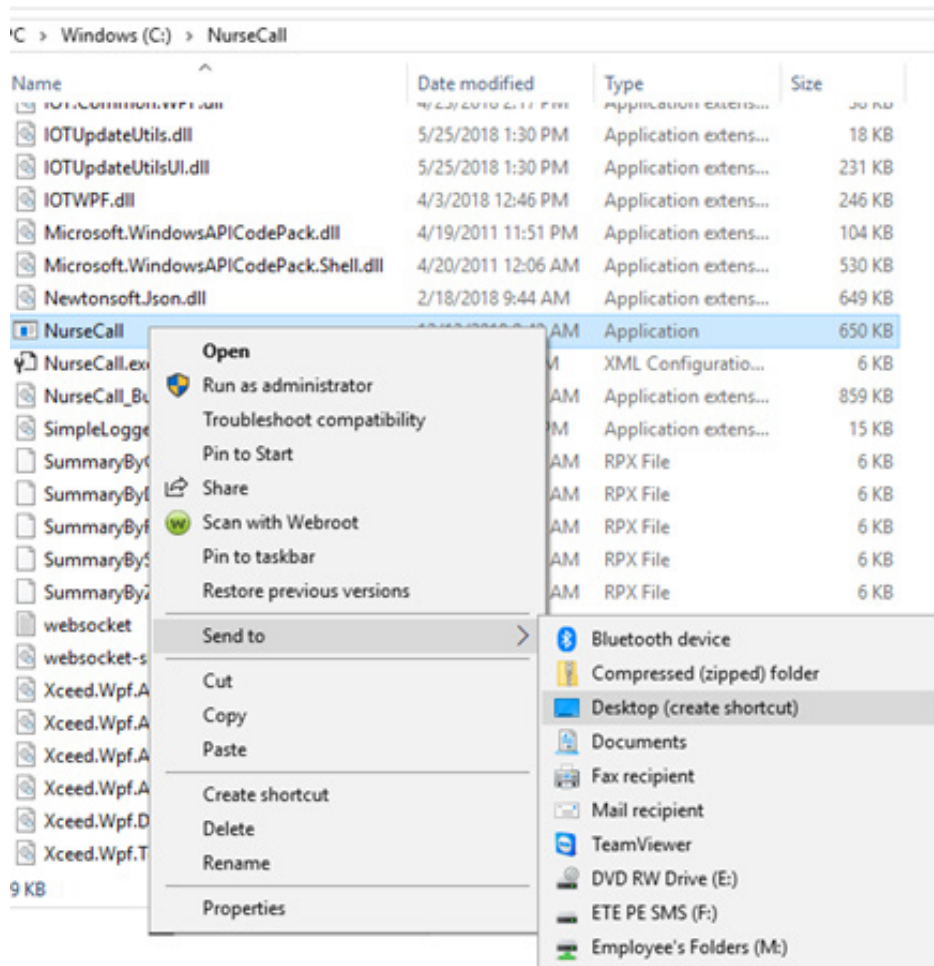
- Create a new folder in the root of C:\ called Nurse Call
- Copy all files except the logs folder from NurseCallUpdates into the new Nurse Call folder
- Create a shortcut for the nursecall.exe file in the Nurse Call folder
- Move the shortcut to the desktop

SmartAlert Software on Non Server PC

- Create a new folder in the root of C:\ called NurseCall (C:\NurseCall)



- Locate \\RATHNURSECALLSE\ Shared folder from the server
- Open NurseCallUpdates and copy all files except the logs folder into the new C:\NurseCall folder
- Right click on NurseCall – Application, go to Send to > Desktop (create shortcut)



- Run NurseCall – Shortcut from Desktop (create shortcut)

RATH® SmartAlert Software

The PC with SmartAlert Software, or Notification Center, displays calls from all connected and programmed devices. It can be integrated with both the SmartCare Hardwired System and the SmartAlert Wireless System. The Notification Center displays each call listed by time and priority. The oldest and highest priority calls are displayed at the top. Each call will display as a separate line item and will include:

- **Location:** The location of a fixed device or location of a mobile pendant only with the Location Feature
- **Device:** The name of the device, resident, or room where the device is located
- **Priority:** The priority level is set in programming as some devices require a higher importance than others
- **Duration:** This indicates how long the call has been active

A tone will sound when a call comes in if the volume on the PC is turned on. This is a code requirement and highly recommended. When the call is cancelled it clears automatically from the Notification Center screen.

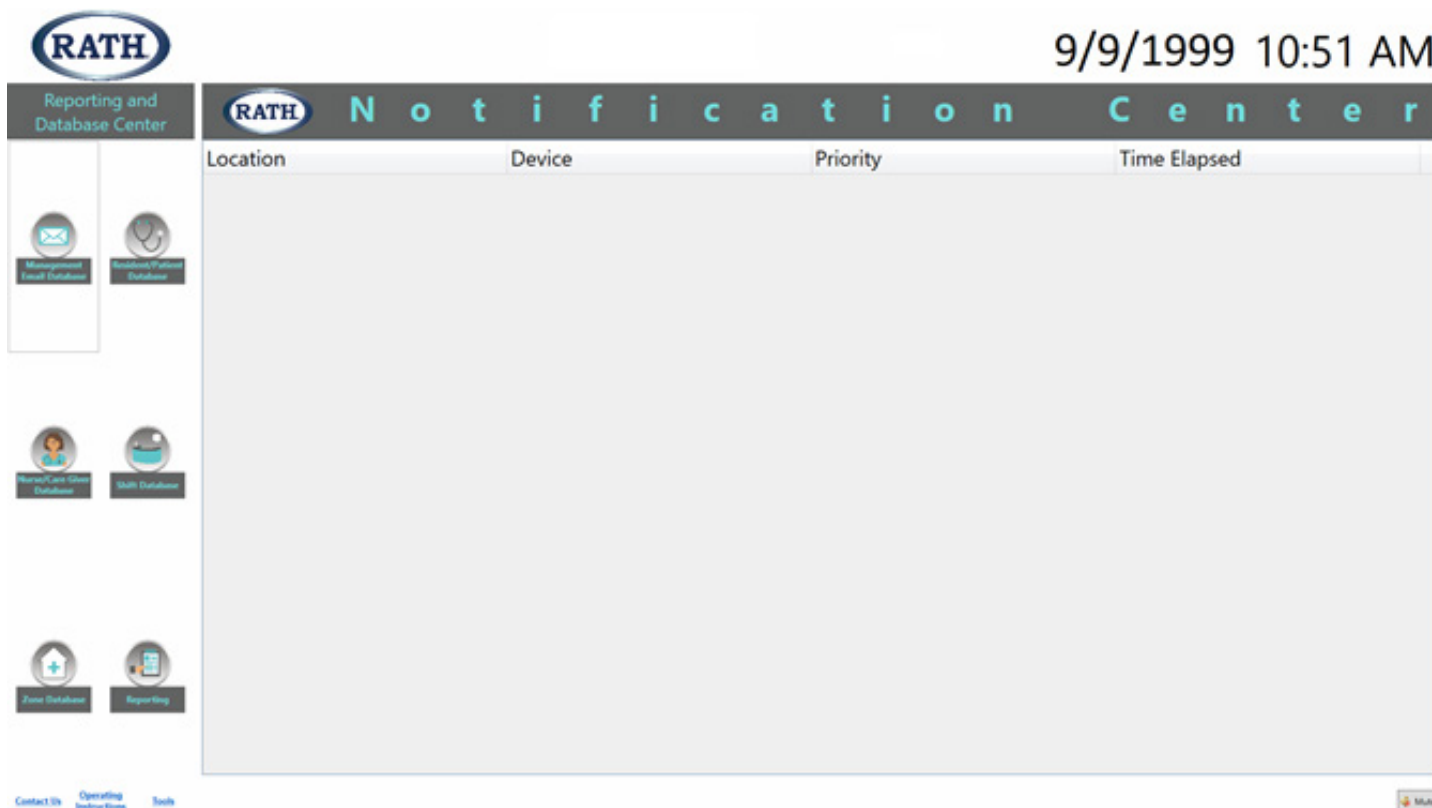
The RATH® Notification Center offers numerous icons for administrators to generate reports, manage staff and resident information, and customize alert notification.

- **Management Email Database:** Customize which care givers are emailed call reports automatically
- **Resident/Patient Database:** Enter important resident information and upload a profile picture
- **Nurse/Care Giver Database:** Enter care giver information and set up email and text alerts
- **Shift Database:** Assign care givers to shifts for custom notification and tracking
- **Zone Database:** Assign care givers to zones for custom notification and tracking
- **Reporting:** Generate and send custom call reports and sort by date, room, response time, shift, resident, zone, care giver, or call priority level

System Configuration

Notification Center

The Notification Center shows all active emergency calls. Information will display showing the device location, device type, call priority, and time elapsed. Once the device has been reset, the call will clear from the Notification Center.



Management Email Database

The Management Email Database is the icon used to schedule automatic email reports as well as manage the list of scheduled automatic email reports. To schedule a new automatic email report, use the Add button at the bottom of the popup window and complete the required fields.

- Fill in the Subject (this will be the subject line of the email)
- Select the desired report from the Report drop down list
- Select the desired frequency from the Frequency drop down list
- Select the desired time (military time) that the email will be sent each time from the Run Time drop down list
- Select the desired recipients by using the arrows to move recipients from the Unassigned window to the Assigned Recipients window

When finished, click the Save button. To see a list of all scheduled reports, use the List tab. To delete a scheduled report, select the desired report from the list, then click the Delete button.

The screenshot shows the 'Scheduled Email Maintenance' window. It has two tabs: 'Details' (selected) and 'List'. The 'Details' tab contains the following fields:

- Subject: Weekly Report
- Report: CareGiver
- Frequency: Daily
- Day(s): Sun, Mon (checked), Tue, Wed, Thu, Fri, Sat
- Run Time: 00:15:00

On the right side, there are two lists: 'Assigned Recipients' (empty) and 'Unassigned' (containing Abbott, Mark; Ross, Dallas; Tschimperle, Rob). Between these lists are four arrow buttons: a double left arrow, a single left arrow, a single right arrow, and a double right arrow. At the bottom of the window is a toolbar with buttons: Add, Edit, Delete, Top, Prev, Next, Bottom, and Close.

Resident/Patient Database

The Resident/Patient Database is the icon used enter information pertinent to the facility's residents/patients as well as manage the list of all residents/patients. To add a new resident/patient, use the Add button at the bottom of the popup window and complete the desired fields. The device field is selectable for assigning a wireless pendant to the patient. For additional detail, there are optional fields to add a photo of the resident/patient, important notes, and hobbies. If a resident/patient is no longer at the facility, a discharge date can be added. When finished, click the Save button. To see a list of all residents/patients, use the List tab. To delete a resident/patient from the system, select the desired resident/patient from the list, then click the Delete button.

The screenshot shows the 'Patient Maintenance' window. It has two tabs: 'Details' (selected) and 'List'. The 'Details' tab contains the following fields:

- First Name: Jane, Middle Name: , Last Name: Smith
- Address: N56W24720 N Corporate Circle
- City: Sussex, State: WI, Zip: 53089
- Room Number: Room 1, Device: Waterproof Pendant
- Phone Number: (000) 000-0000, Gender: Female (selected), Male
- Cell Number: , Discharged: On (with a date selector), Update Picture, Clear Picture
- Notes: Diabetic
- Hobbies: Knitting
- Family/Friend Primary Contact: First Name: John, Middle Name: , Last Name: Smith, Phone Number: (000) 000-0000, Cell Number:
- Record Created: 6/12/2018 2:40:47 PM, Last Updated: 6/18/2018 2:23:42 PM

At the bottom of the window is a toolbar with buttons: Add, Edit, Delete, Top, Prev, Next, Bottom, and Close.

Nurse/ Caregiver Database

The Nurse/Caregiver Database is the icon used enter information pertinent to the facility's nurses/caregivers, manage nurse/caregiver profiles, and configure email and text notifications to go to individual nurses/caregivers based on specified parameters. To add a new Nurse/Caregiver, use the Add button at the bottom of the popup window and complete the desired fields. When finished, click the Save button.

The 'Nurse Maintenance' window has tabs for 'Details', 'Operational Details', 'Shift/Zones', and 'List'. The 'Details' tab is active, showing fields for: First Name (Mark), Middle Name, Last Name (Abbott), Address, City, State, Zip, Phone Number, Cell Number, Hire Date (9/5/2018), Notes, and Hobbies. There is a placeholder for a profile picture with 'Update Picture' and 'Clear Picture' buttons. At the bottom are buttons for Add, Edit, Delete, Top, Prev, Next, Bottom, and Close.

Tools

Clicking Tools gives you access to Company Maintenance fields. The Details tab gives you the ability to fill out company info, set a password and update your own logo to the software. (Note: The uploaded logo file will be displayed on the main display screen and will also be incorporated into the header on any reports.)

The 'Company Maintenance' window has tabs for 'Details', 'Email Server Configuration', 'Hardware Configuration', and 'Additional Configuration'. The 'Details' tab is active, showing fields for: Company Name (Nurse Call Company), Address1, Address2, Address3, Zip, City, State, Phone, Phone 2, Fax, E-mail, and Web Address. There is a logo placeholder for 'RATH' with 'Update Logo' and 'Clear Logo' buttons. At the bottom are 'Edit' and 'Close' buttons.

Email Server Configuration

You will have to enter in your SMTP (Outgoing) Mail Server, User Name, Password, and sending email address in these fields to send email notifications.

The 'Company Maintenance' window is shown with the 'Email Server Configuration' tab active. It contains fields for: Mail Provider (Custom), SMTP Mail Server (data.bmgmail.com), UserName (smartalert), Password, Sender (smartalert@rathcommunications.com), Port (25), and a checkbox for 'Use SSL/TLS'. There is a 'Test Recipient' field and a 'Test Settings' button. On the right, there is a section for 'Send Texts for priorities / after x seconds elapse' with a table of priority settings.

Priority	Text After
<input checked="" type="checkbox"/> 1	5
<input checked="" type="checkbox"/> 2	10
<input checked="" type="checkbox"/> 3	15
<input type="checkbox"/> 4	
<input type="checkbox"/> 5	
<input type="checkbox"/> 6	
<input type="checkbox"/> 7	
<input type="checkbox"/> 8	

At the bottom are 'Edit' and 'Close' buttons.

To configure email and text notifications, use the Operational Details tab. Make sure the checkbox next to Active is selected to ensure notifications are sent. Enter an email address and check the box next to Send Reports to email address to have reports emailed to the nurse/caregiver. To configure text notifications, enter the phone number in an email format as shown below and select the desired criteria.

- **AT&T:** phone#@txt.att.net
 - **T-Mobile:** phone#@tmomail.net
 - **Sprint:** phone#@messaging.sprintpcs.com
 - **Verizon:** phone#@vtext.com
 - **US Cellular:** phone#@mms.uscc.net
- When finished, click the Save button.

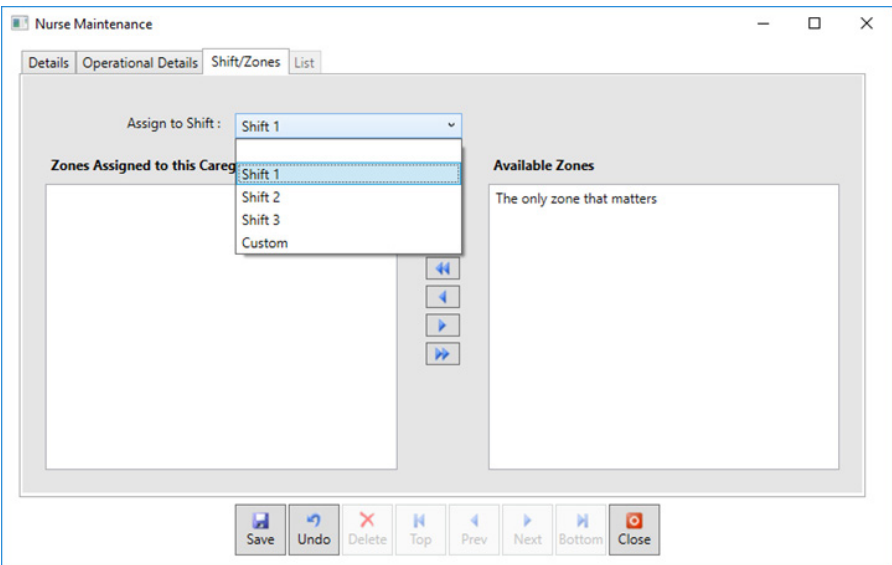
Hardware Configuration

This tab has the settings for any serial devices (Host Controller and Paging Device) and it has the information for logging into the Wireless Gateway.

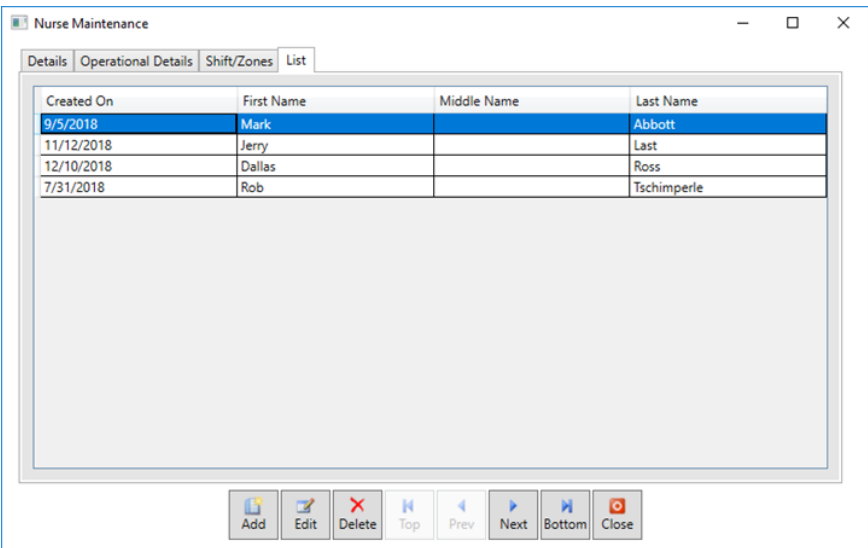
Additional Configuration

This will allow you to edit Device Descriptions of wireless devices.

Use the Shift/Zone tab to assign a shift and/or zone to the nurse/caregiver. When finished, click the Save button.

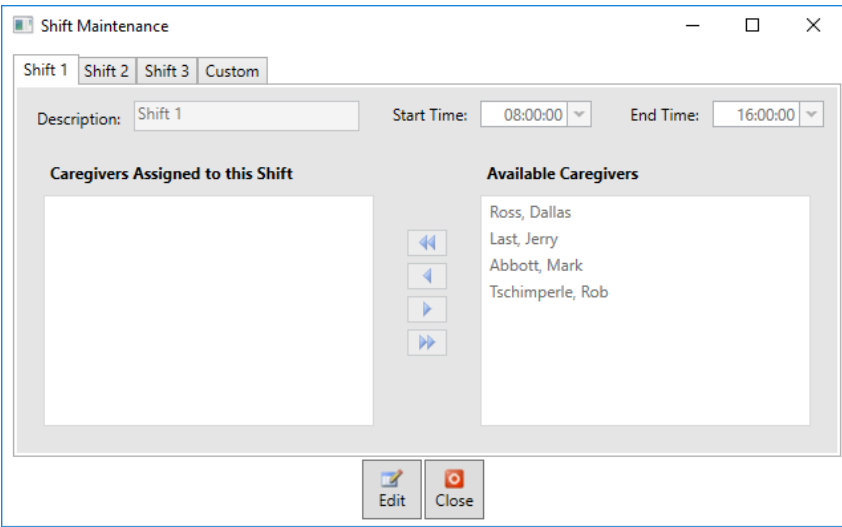


To see a list of all nurses/caregivers, use the List tab. To delete a nurse/caregiver from the system, select the desired nurse/caregiver from the list, then click the Delete button.



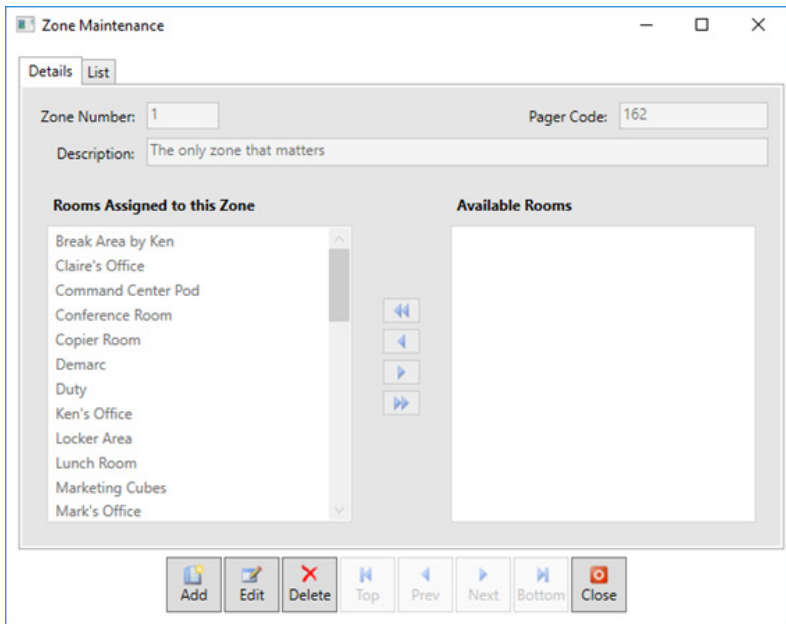
Shift Database

The Shift Database is the icon used to define shift times and assign nurses/caregivers to shifts. To define the start and end time for a shift, select the desired shift tab and enter the appropriate times in to the Start Time and End Time boxes. Nurses/Caregivers can be assigned to specific shifts by using the arrows to move the desired nurse/caregiver from the Available Caregivers list to the Caregivers Assigned to this Shift list. When finished, click the Save button.



Zone Database

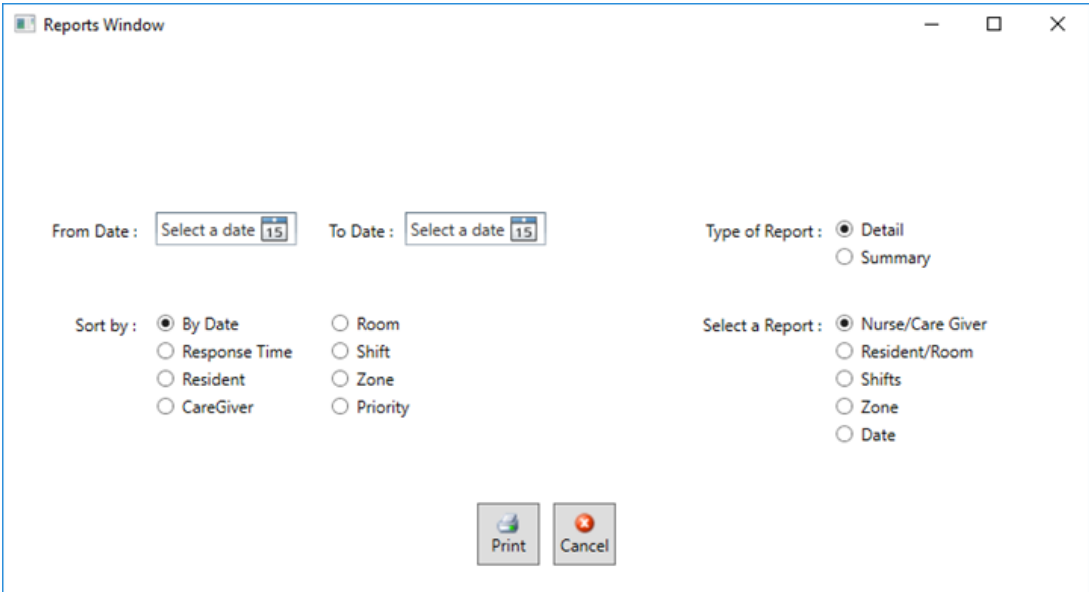
The Zone Database is the icon used to assign rooms to zones. Additional rooms can be added by using the Add button at the bottom of the popup window. To assign a room to the zone, select the desired room from the Available Rooms list and use the arrows to move it to the Rooms Assigned to this Zone list. When finished, click the Save button.



Reporting

Reporting is the icon used to generate reports of call history. Reports can be generated by selecting a date range, sorting criteria, report type, and the desired report information. Once the parameters are selected, click the Print button to generate the report.

Two report types, Detail and Summary, can be selected. Detail Reports display the call details of every call that has been placed within the specified time frame. The information displayed includes caregiver, resident, room, shift, zone, priority, date, time the device was activated, time the call was answered, and the response time. Summary Reports display the total number of calls for the selected criteria within the specified time frame as well as the average response time.



Wireless Components

All wireless signals are sent redundantly across multiple channels to avoid interference from obstacles. The wireless network is comprised of intelligent High Power Repeaters (RC5040-20T) and Transmitters.

- RC5040-20T Repeaters are used to amplify wireless signals for large facilities such as multi-floor buildings. Repeaters are not required in all wireless networks. If you have a small location and you are using only fixed devices, Repeaters may not be needed. Conduct a site survey to determine how many Repeaters you may need and where they should be located.
- Transmitters can be Pendants (RC1221S-60N or RC1221S-60W) or Universal Transmitter Devices (RC1210-60) that receive a contact closure from a fixed Pull String (RC1PSWH), fixed Push Button (RC1PBWH), or other types of wireless devices such as a Motion Sensor (RC1241-60) or Smoke Detector (RC1244-60). There is no limit to the number of Transmitters that can be used with a wireless network. All wireless Transmitters are battery powered by lithium batteries that have a long battery life. An alert will display on the SmartAlert Server when their batteries lives are depleted. For a complete list of compatible wireless devices please see: <https://www.rathnursecall.com/>.
- The Area Control Gateway (RC6080) bridges the proprietary commercial mesh network to a standard TCP-IP over Ethernet LAN, adding unique capabilities to IP enabled software applications.

Pager Transmitter and Pagers

The RATH® Pocket Paging System can be integrated with the SmartAlert as a secondary notification for emergency calls. Messages can be sent to Pocket Pagers within a building using the RATH® Paging System (2900-PPS) along with Pocket Pagers (2900-PP1). When an emergency call comes in, with a priority level of 6 or higher, the paging system will immediately notify all connected pagers. Additionally, if a call duration reaches 5 minutes, a reminder page is sent. A page is also sent when a call is cancelled.

Programming Wireless Devices

To register a wireless device:

1. Open a web browser on any PC
2. Type 192.168.16.60 into the navigation bar (Mozilla Firefox or Internet Explorer required)
3. Enter
 - a. User Name: Admin
 - b. Password: Rath7284!
4. Navigate to the Device Setup tab
5. Enter the device information
 - a. TX ID
 - b. Description
 - c. Type
 - d. Supervision Window
6. Click Register

Note: To remove a device, select the desired device from the list of Registered Devices and click the Unregister button.

Home ACG Setup Wireless Setup Partitions **Device Setup** Logs File Management

Manual Administration Automatic Administration Upload Administration

Manual Administration Devices In Alarm: 0

Register a Device

TX ID: Description: Type:

Supervision Window: (s) ☐ Locatable ☐ Fixed Point ☐ Soft Pointer

Endpoints: 5 registered of 150 allowed

ID	TX ID	Type	Description	Supervision (s)	Locatable	Fixed Point	Soft Pointer
1	10770109	EN6080 ACG	base receiver	3600	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
2	10465417	EN1223SK Survey Kit Pendant	Gray Pendant	36000	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
3	11224313	EN1221S-60 Pendant	Pen 313	36000	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
4	11224325	EN1221S-60 Pendant	Pen 325	36000	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
5	11224333	EN1221S-60 Pendant	Pen 333	36000	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
6	12806468	EN1210 Universal	Red PB	43200	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
8	13149566	EN5040 Repeater	Repeater Back Warehouse	43200	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9	13149582	EN5040 Repeater	Repeater West Production Wall	2000	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10	13149548	EN5040 Repeater	Repeater Front East Corner	2000	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12	13231164	EN5040 Repeater	Prod - S. Wall	43200	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

High Power Repeater (RC5040-20T) Installation & Operation

Overview

The RC5040-20T High Power Repeater receives, decodes, and retransmits signals at enhanced power from RATH® devices. It acts as a range expander for any valid transmission, including signals from other High Power Repeaters. Repeaters can be layered as necessary, allowing systems to scale from small commercial sites to complete campuses consisting of several buildings. The repeater features AC power loss and jam detection, as well as case tamper and wall tamper detection. Input power is provided by listed UL1310 class 2 transformer, MPI-NEO Co., Ltd. W48A-J1000-2T.

Installing a Security System

The EchoStream survey kit measures the signal strength of repeaters and sensor messages to help optimize the EchoStream system.

Signal Level

The signal level is the measurement of the overall decibel level of the message.

Signal Margin

The signal margin is the measurement of the decibel level of the message, minus the decibel level of any interfering signals. RATH® wireless equipment should be placed within a facility such that all end-devices produce signal margin readings of at least 4 decibels. Both the signal level and signal margin are measured in decibels. Because signal strength and signal margin are measured on a logarithmic scale, the difference between a decibel level of 3 (weak) and a decibel level of 4 (good) is a much larger difference than it would be on a linear scale.

Note: The system should be tested regularly to ensure operation. To test, place the system in test mode, activate an end device, and ensure an appropriate response.

RF Signal Propagation

While wood, drywall, and glass usually let the RF signals pass, some materials may inhibit or attenuate radio frequency (RF) signal propagation by blocking, reflecting, deflecting, or absorbing RF signals. Consider anything between transmitters and repeaters and/or the receiver. Is there concrete and steel construction? Are there earthen berms or hills? Are there a lot of trees? Devices should be mounted such that they are least affected by these elements. For best results, transmitters and repeaters should be mounted at the optimal height to achieve line of sight to repeaters and/or the receiver. Usually this means they will be mounted as high as possible. The following are some typical obstacles to RF signal propagation:

Material	Affect	Recommendation
Metal construction, including ductwork; pipes; studs; stucco, plaster or concrete with wire mesh; satellite dishes, metal-lined rooms such as walk-in coolers or freezers; metal siding, safes, etc.	Can reflect, absorb, and/or disrupt RF signals.	Perform a site survey using a survey kit to verify the RF signal is acceptable, and, when necessary, to determine where to locate repeaters.
Completely enclosed metal boxes/enclosures	Can restrict RF signals.	Same as above.
Solar panels, cinder block walls, windows with built-in solar tinting	Can absorb and/or reflect RF signals.	Same as above.
Vegetation	Can attenuate RF signals. The RF environment can alter as trees shed or sprout leaves.	Add repeaters as issues arise.
Automobile and truck traffic	Can disrupt RF signals.	Mount devices at a height sufficient to achieve line of sight above traffic.

Installation Notes

- These products are designed to be maintained by professional security technicians
- Products are tested for indoor use
- All products should be manually tested weekly

Items Included

- One 120vac @ 20VA/12vac @ 1000mA power transformer
- Three drywall anchors
- Three mounting screws

Select the Frequency Band

EchoStream devices are able to use a range of radio frequencies, and must be configured for your geographic area. This device ships with a default frequency range of 902-928 MHz for use in North America.

1. Use a small screwdriver to press the top housing release tab and separate the housing
2. Place a selection jumper on the frequency band selection pins appropriate to your geographic area

Choose Messaging Mode

The EchoStream commercial mesh network includes two kind of messaging: broadcast messaging and directed messaging. The Repeater includes a messaging selection option to protect the integrity of the system. The Repeater ships with a default setting of broadcast messaging. If you are installing the Repeater in a directed messaging network, you will need to configure it.

Note: For UL 2560 installations, directed messaging must be selected.

Note: If directed messaging is selected, you will need to configure the network ID (NID).

3. To set the Repeater to directed messaging, remove the selection jumper installed on the messaging mode selection pins.

Connect Power Cabling

Power must be connected to the Repeater. To connect power:

4. Use a small screwdriver to press the housing release tab on the top or bottom of the Repeater; separate the housing.
5. Connect power cabling
 - Wire should be two conductor 20AWG (or larger) stranded-tinned copper with PVC insulation rated to 300 volts at 80°F (26°C). Wire length should not exceed 328 feet (100 meters).

Note: For all UL installations, cabling must be UL Listed or Recognized, Class 2 wire suitable for the application. Use two conductor 20 AWG (or larger) stranded-tinned copper, rated 300 volts, 60°C minimum. Wire length should not exceed 328 feet.

- Route the cable from the transformer to the unit through the left side of the Repeater, or through the oval knock-out section in the rear.
- Torque screw terminal to 0.25 N-m (2.18 inch-pounds).

Note: Do not secure transformer for Canadian installations.

Connect Battery Power

The repeater is shipped with a fully-charged backup battery. You will need to connect the battery:

6. Plug the connector cable from the backup battery into the battery connector.

Register the Repeater

Although the Repeater is functional upon startup, RATH® strongly recommends that you register it. RATH® recommends all Repeaters be supervised. When supervised, the RC5040-20T Repeater will send a check-in message every 20 minutes.

Note: In UL 2560 installations, the Repeater sends a check-in message every 20 minutes.

Note: Registration and supervision are required for UL installations.

Caution: The reset bit will not be sent when the Repeater has a low battery. Before registering the repeater, ensure the battery is fully charged.

Mount the Repeater

Caution: Mount the Repeater in a location removed from metal. Metal objects (duct work, wire mesh screens, boxes) will reduce RF range.

Caution: In UL 2560 installations, the unit must be mounted with the cable opening facing downward.

7. Use the provided anchors and screws to mount the Repeater in a location accessible for future maintenance.
 - In large installations, Repeaters should be mounted so that every transmitter has multiple transmission paths to the RF gateway. This redundancy preserves system integrity in the event of temporary interruptions of any transmission path in the system.
 - For maximum efficiency, Repeaters should be mounted with as few obstacles as possible between them and the RF gateway.
 - Always perform a walk test after mounting, activating each transmitter, and ensuring an appropriate response.

Enable the Wall Tamper

The wall tamper must be enabled. If the Repeater is removed from the wall, the cutout on the back of the housing will detach, activating a tamper alarm. To enable the wall tamper:

8. Attach one of the mounting screws to the wall through the tamper mounting hole.

Close the Housing

The housing must be closed and the tamper spring in place to ensure the security of the system.

9. Check that the tamper spring is in place and makes contact with the Repeater housing.
10. Close the housing.

Specifications

Housing: 6.5" x 3.5" x 1"

Weight: 7.14 oz

Operating Environment: All UL installations 32 to 140°F (0 to 60°C), 90% relative humidity, non-condensing; all other installations: -4 to 140°F (-20 to 60°C), 90% relative humidity, non-condensing

Power Requirement: 14vac, 60 Hz, 250 mA

Power Supply: 120vac @ 20VA/12vac @ 1000mA

Battery Capacity: 3.6vdc nominal, 2900 mAh

Typical Backup Battery Life: 24 hours

Operating Frequency: 902-928 MHz (USA)

Battery Charger Operating Environment: 32 to 140°F (0 to 60°C), 90% relative humidity, non-condensing

Note: For UL 2560 installations, Repeaters must have 20 minute check-in times. Transmitters must have a minimum of 60 minute check-in times.

Note: For UL 2560 installations Repeaters may be used with completed emergency call systems for assisted living and independent living facilities.

Note: For UL 2560 certified system installations, the RC6080 Area Control Gateway and RC5040-20T Repeater are approved for installation within maximum system configuration limits.

Television and Radio Interference

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult an experienced radio/TV technician for help

5 FCC Part 15 and Industry Canada Compliance

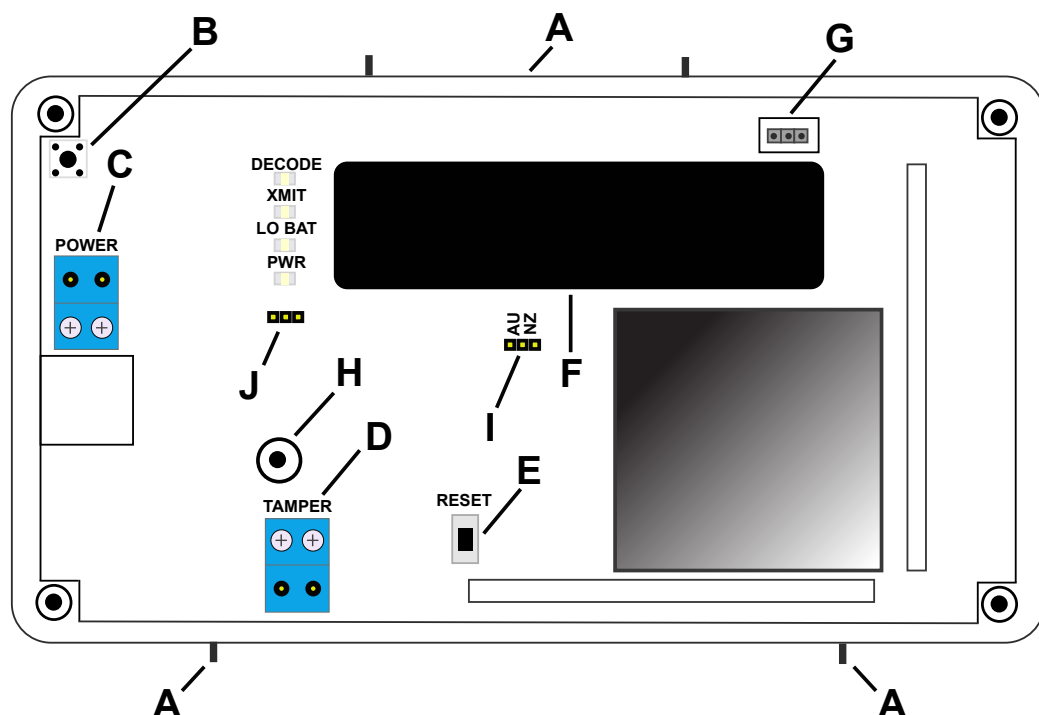
This device complies with part 15 of the FCC Rules and Industry Canada license-exempt RSS standard(s).

Operation is subject to the following two conditions:

(1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

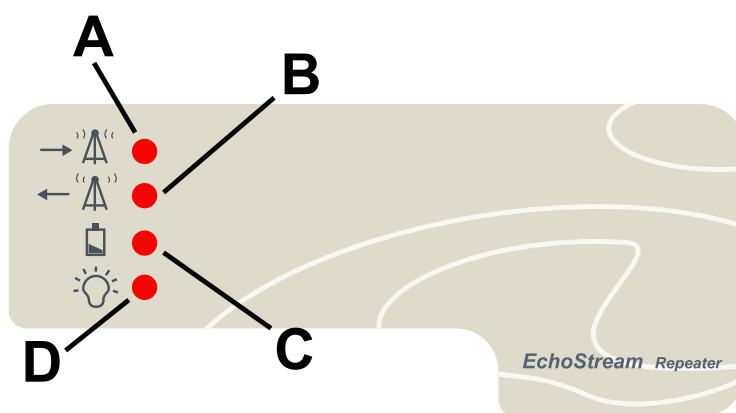
Caution: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Internal Components:



- A: Housing Release Tabs
- B: Tamper Button Spring
- C: Power
- D: Tamper Input
- E: Reset Button
- F: Backup Battery
- G: Battery Connector
- H: Tamper Mounting Hole
- I: Frequency Selection Pins
- J: Messaging Mode Selection Pins

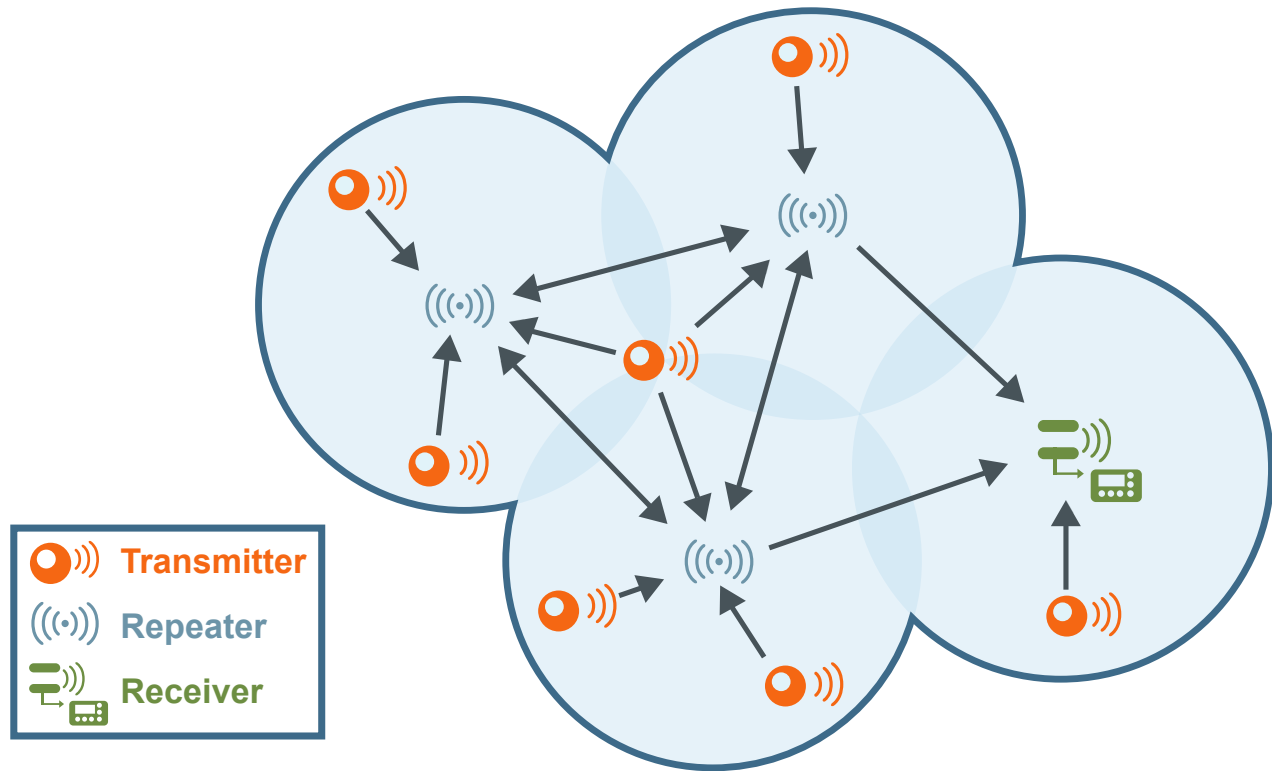
Front Panel:



- A: Decode LED** = Flashes when any recognizable RF transmission is received
- B: Transmit LED** = Lit when transmitting RF transmission
- C: Low Battery Fault LED** = Lit when the repeater has a low battery
- D: Power LED** = Lit when receiving power. The LED lights green when the unit is receiving line power, red when receiving battery power.

Repeater Location

Repeaters (RC5040-20T) provide the backbone of the SmartAlert Wireless System. To ensure adequate coverage, Repeaters may need to be placed strategically throughout the facility. When mounting Repeaters, it is important to mount them away from any immediate obstacles, large metal objects, and as high as possible so they can receive messages easily. It is recommended that Repeaters are arranged in triangle patterns, to promote signal strength, as shown below. If mounting Repeaters in a building with more than one floor, use offset triangles from floor to floor to maximize signal strength efficiency.



Area Control Gateway (RC6080) Installation & Operation

Installation Notes

- These products are designed to be maintained by professional security technicians
- Products are tested for indoor use
- All products should be manually tested weekly
- **Up to 3,000 end devices and 500 Repeaters can be added to a single RC6080, depending on the type of license purchased**

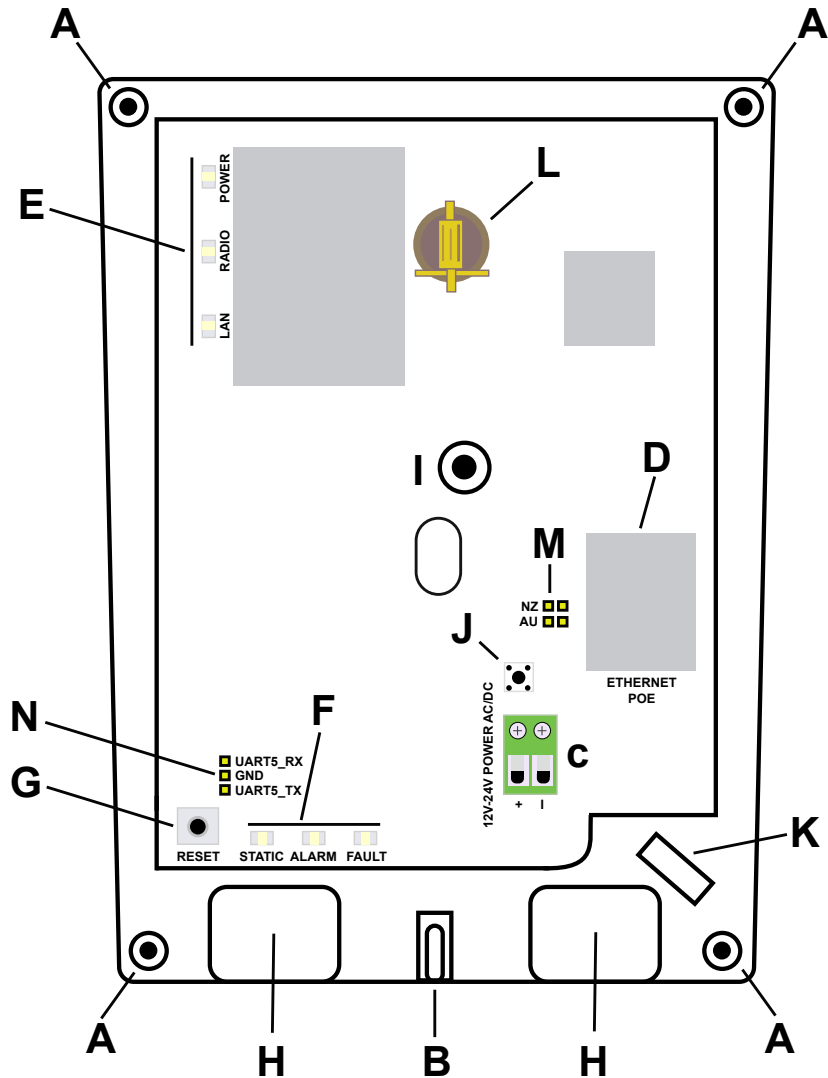
Power, Connections & Mounting

The RC6080 is powered by Power over Ethernet (PoE) on any network supporting the IEEE 802.3at-2009 PoE plus standard, and using a PoE switch.

1. Connect one end of an RJ45 Ethernet cable to the RJ45 Ethernet jack on the RC6080
2. Route the Ethernet cable through the cabling ports on the bottom of the housing
3. Connect the other end of the RJ45 Ethernet cable to an RJ45 Ethernet jack connected to your LAN

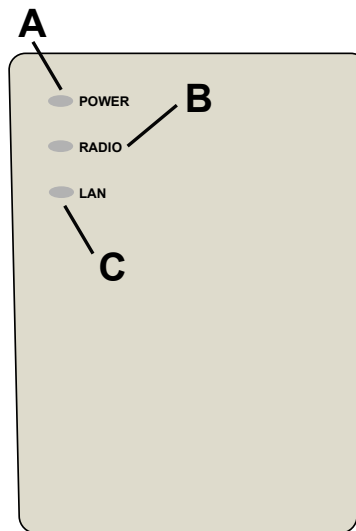
4. To relieve stress on the Ethernet and power cabling, secure it to the cabling tie loop with a tie
5. If mounting the RC6080 to drywall, install the drywall anchors included in the installation packet
6. Use four of the provided screws to mount the RC6080, making sure it is flush with the wall
7. Attach one of the provided screws to the wall through the wall tamper mounting hole
8. Check that the housing tamper spring is in place and makes contact with the top of the housing
9. Close the housing
10. Tighten the housing cover release screw

Internal Components:



- | | |
|---|---|
| A: Wall Mount Holes | H: Cabling Port |
| B: Housing Cover Release Screw | I: Wall Tamper Mounting Hold |
| C: Power Connection Terminal Block | J: Housing Tamper Switch |
| D: RJ45 Ethernet Jack | K: Cabling Tie Loop |
| E: Operation LEDs | L: Battery Holder |
| F: Diagnostic LEDs | M: Frequency Band Selection Pins |
| G: Reset Button | N: Factory Reset Pins |

Front Panel:



A: Power LED = Green indicates the presence of line power or power over Ethernet

B: Radio LED = Green indicates that the device is decoding messages from the EchoStream wireless network

C: LAN LED = Green indicates Ethernet link, flashing indicates Ethernet activity

Diagnostic LEDs

Static LED:

- **Yellow** indicates that the RC6080 is using a static IP address other than the default
- **Green** indicates that the RC6080 is using a dynamic IP address obtained from the network
- **No illumination** indicates that the RC6080 has been configured to use a dynamic IP address but has not obtained one from the network, is using the default static IP address, or there is no Ethernet connection

Alarm LED: Red indicates an alarm in the wireless network

Fault LED: Yellow indicates a tamper, low battery, or repeater line power loss fault in the wireless network

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