



Quick Response® Premiere Wireless Call System

Hardware Installation Guide





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Warnings / Cautions / Compliance

It is important for your facility to implement and enforce the following WARNINGS and CAUTIONS in order to keep all equipment functioning properly. Disregarding the information and instructions in this document is considered abnormal use and may result in injury or system failure.

Warnings



ACCESSORIES (SUPPLIES)—To ensure resident safety and proper operation of equipment, use only parts and accessories manufactured or recommended by RF Technologies, Inc. Parts and accessories not manufactured or recommended by RF Technologies, Inc. may not meet the requirements of the applicable safety and performance standards.

Failure to use the components and supplies specified by RF Technologies, Inc. may result in equipment and/or system failure.

EXPLOSION HAZARD—These devices should not be used in the presence of flammable gas mixtures. It should also not be used in oxygen enriched atmospheres.

INSTALLATION AND CONFIGURATION—It is the responsibility of the facility to follow the installation instructions carefully, as outlined in the applicable system guides, and to use the components and supplies specified by RF Technologies, Inc. for all installations.

Failure to use the components and supplies specified by RF Technologies, Inc. may result in equipment and/or system failure.

INSTRUCTIONS FOR SET UP AND USE—It is the responsibility of the facility to follow the instructions for set up and use carefully, as outlined in this manual, and to use the components and supplies specified by RF Technologies, Inc. for set up and use. Do not attempt to use extension cords or other equipment not supplied by RF Technologies, Inc.

Failure to use the components and supplies specified by RF Technologies, Inc. may result in equipment and/or system failure.

STATIC DISCHARGE—Do not touch the conductor portion of any conductor or port. Damage to the device may result.

STRANGULATIONS AND TRIPPING HAZARD—Due to the possibility of strangulation, all cables and cords should be routed away from the resident's throat. Cables and cords must be routed in a way to prevent tripping hazards.

SYSTEM INSPECTION—It is the responsibility of the facility to establish and facilitate a regular inspection schedule for your system. RF Technologies, Inc. recommends quarterly inspections of your system for safety and performance by a qualified RF Technologies, Inc. representative.

To arrange for a quarterly inspection by RF Technologies, Inc., call our Technical Support Department at (800)-669-9946 or (262) 790-1771.

Failure to provide regular inspection of these products may result in equipment and/or system failure.

SYSTEM MAINTENANCE AND TESTING—It is the responsibility of the facility to establish and facilitate a regular maintenance schedule for your system, as outlined in the applicable system guides. This includes regular inspection, testing, and cleaning. RF Technologies, Inc. recommends monthly maintenance and testing of your system. It is also recommended that your facility keep records of maintenance and test completions.

Failure to provide regular maintenance and testing of these products may result in equipment and/or system failure.

SYSTEM WIRING—All permanent supply connections must be done in accordance with National Electric Code, NFPA 70.

USER TRAINING—Only users who have received adequate training on the use of the system, as outlined in this manual, should use the system. It is the responsibility of the facility to ensure all users have been trained.

Failure to adequately train employees may cause system failure due to user error. In addition, incorrect use of the equipment may also result in system failure.



MR UNSAFE

All RF Technologies transmitters, pendants and banding material “PRODUCT” have been determined to be MR Unsafe as defined by ASTM F 2503-05. Use of “PRODUCT” in a Magnetic Resonance Imaging system will cause injury to residents and staff, MR system malfunction or “PRODUCT” malfunction. Do not bring “PRODUCT” into the MR system area and follow your facilities policies to classify and label “PRODUCT” as MR Unsafe.

Cautions



WORN OR DAMAGED PARTS—If the control unit pads or cables are worn or damaged, you must have the product serviced. For more information, see the section entitled “Service and Return.”

DISPOSAL—At the end of their service life the products described in this manual, as well as accessories (i.e. lithium batteries, banding material, disposable pads, etc.), must be disposed of in compliance with all applicable federal, state and local guidelines regulating the disposal of products containing potential environmental contaminants. Dispose of the packaging material by observing the applicable waste control regulations.

RESIDENT GENERATED ALARMS—Do not rely exclusively on resident generated alarms for resident care and safety. The alarm function of equipment in the possession of residents must be verified periodically and regular resident surveillance is recommended.

RESIDENT MONITORING—The most reliable method of resident monitoring combines close personal surveillance with correct operation of monitoring equipment. It is the responsibility of the facility to periodically check on residents in possession of RF Technologies, Inc.'s equipment (i.e. Pendants, Pull Cords, Control Units) to mitigate risk of inappropriate use of equipment or strangulation and stumbling hazards from cables and cords.

PRODUCT WARRANTIES—Failure to follow the Warnings and Cautions in this guide voids any and all Product Warranties.

Bio- Incompatibility Notice

Do not use Pendants with people that have sensitivities or allergies to device materials. The device materials include Acrylonitrile butadiene styrene (ABS), Silicon, Rubber, and Neoprene.

Federal Communication Commission (FCC) Compliance

FCC – Part 15

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation of the device.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. Changes or modifications not expressly approved by RF Technologies Inc. voids the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his or her own expense.

Radiation Exposure Statement for Mobile Devices

(For the Pull Cord model 0800-0285 and model 0800-0317; Universal Transceiver model 0800-0301/0800-0303/0800-0304; Extended Range Router model 0800-0351/0800-0445/0800-0550; Gateway with External Antenna model 0800-0354/0800-0446/0800-0551; Router model 0800-0364; Asset Transceivers model 0800-0286 and model 0800-0302 and Motion Control Unit model 0800-0350)

This equipment complies with FCC and IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body. This transceiver must not be co-located or operating in conjunction with any other antenna or transceiver except in accordance with FCC/ISED Canada multi-transmitter product procedures.

Cet équipement est conforme aux normes FCC et IC l'exposition aux rayonnements limites établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec une distance minimale de 20 cm entre le radiateur et votre corps. Cet émetteur-récepteur doit être situé à côté ou fonctionner avec toute autre antenne ou émetteur-récepteur qu'en conformité avec la réglementation FCC/indicateurs du Canada produit émetteur multi-procédures.

**Radiation
Exposure
Statement for
Portable
Devices**

(For the Call Pendants model 0800-0375 / 0800-0590)

This equipment complies with FCC and IC radiation exposure limits set forth for an uncontrolled environment. This equipment is in direct contact with the body of the user under normal operating conditions. This transceiver must not be co-located or operating in conjunction with any other antenna or transceiver except in accordance with FCC/ISED Canada multi-transmitter product procedures.

Cet équipement est conforme aux normes FCC et IC l'exposition aux rayonnements limites établies pour un environnement non contrôlé. Cet équipement est en contact direct avec le corps de l'utilisateur dans les conditions normales de fonctionnement. Cet émetteur-récepteur doit être situé à côté ou fonctionner avec toute autre antenne ou émetteur-récepteur qu'en conformité avec la réglementation FCC/indicateurs du Canada produit émetteur multi-procédures.

**Industry Canada
Compliance**

Changes or modifications not expressly approved by RF Technologies Inc. could void the user's authority to operate the equipment. The Term "IC" before the radio certification number only signifies that Industry Canada technical specifications were met.

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.

Detachable Antenna Operation

The following radio transmitters: Extended Range Router models 0800-0351/0800-0445/0800-0550; Gateway with External Antenna models 0800-0354/0800-0446/0800-0551, Model 0330-0044 (2.2dBi gain) have been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

Le présent émetteur radioidentifier le dispositif par son numéro de certification a été approuvé par Industrie Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal. Les types d'antenne non inclus dans cette liste, et dont le gain est supérieur au gain maximal indiqué, sont strictement interdits pour l'exploitation de l'émetteur.

Licence- Exempt RSSs

This device complies with Industry Canada's licence-exempt RSSs. 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.

Cet appareil est conforme à l'Industrie Canada RSSs exempts de licence. Le fonctionnement est soumis aux deux conditions suivantes : (1) cet appareil ne doit pas causer d'interférences et (2) cet appareil doit accepter toute interférence, y compris les interférences pouvant provoquer un fonctionnement indésirable de l'appareil.

Preface

Introduction

This guide provides detailed information about the hardware components and devices of the Quick Response Premiere Wireless Call System. It provides instructions about installation as well as specific requirements for mounting components that make up the system. The Quick Response Premiere Wireless Call System is to be professionally installed.

The system immediately notifies staff when a resident requires attention, and provides details that are essential in responding quickly and competently to a resident's needs. The system offers a variety of devices, each of which interfaces with the Central Server to ensure that when a resident is in need, staff is alerted.

A Quick Response Premiere device may be worn by a resident; it could be mounted to a wall where it is easy to access; it could even be used in conjunction with other systems such as the Wanderer Monitoring System (exit controllers and electromagnetic door locks).

Devices send data to the Central Server on a regular basis. When an event occurs that warrants a response, staff is alerted by an audible alarm from the Central Server, a message is displayed on-screen, and the designated staff is summoned to respond to the situation. Staff can also be notified of an event via pager or phone.

Intended Audience

This guide is intended for users who install components of the Quick Response Premiere Wireless Call System, in conjunction with the applicable Series Software. It includes detailed information about the hardware installation and setup of various components that interface with the applicable Series Software.



WARNING: Before you begin any new upgrades, repairs or maintenance, RF Technologies recommends that you back up the MSSQL and .DB Flat File databases on a removable media, such as an external drive, to be copied to a new or different computer if necessary. Refer to the *Database Archive and Backup Service Guide* (0510-0306).

Additional Documentation

Documentation for your system is available in Portable Document Format (PDF) on the System Documentation CD-ROM. Please contact your RF Technologies sales representative for replacement CD-ROMs.

Contact Information

For more information about RF Technologies, Inc. products, go to www.rft.com.

For technical support, contact the Technical Support Team at (800) 669-9946 or (262) 790-1771.

For questions or comments about the System Documentation, contact the RF Technologies Technical Publications team at techpubs@rft.com.

Product Warranty

Product Warranty information can be found on the System Documentation CD or with your original system proposal and invoice.

Chapter 1 – Installing Hardware Components

Introduction

The basic components of the system consist of the Central Server, the Gateway, the Router and the transceiver devices. The Central Server is a RF Technologies configured computer that runs the software. It contains the database and provides communication with the devices in the system. The Computer Monitoring Station must be permanently located at the central nurse's station.

Depending on your configuration, the system can include several Client computers. The Client computers allow the user to perform such functions as admitting, discharging, and clearing alarms. Each Client computer includes a touchscreen monitor that displays alarms as they occur on a floor plan of the facility.

Although this manual describes the many various devices that can be included, the minimum system configuration must consist of no less than the following devices:

- One patient station (Pull Cord, Nurse Call Jack and Cord or Pendant)
- Dome Light
- Gateway
- Router
- 32 Zone Relay Output Assembly
- Computer Monitoring Station

This chapter provides detailed information about setting up the Central Server and installing hardware components to use in conjunction with the software. It also provides an Installation Checklist to assist with the installation process.



When installing product, you must follow standard accepted safety practices such as wearing safety glasses.

Before cutting openings or drilling holes through walls, you must verify that you will not strike any wiring or plumbing.

Installation Checklist

1. Read this guide in its entirety before proceeding with the installation.
2. Review the floor plan of the facility and make sure the equipment shipped to you matches what is shown on the floor plan.
3. Walk through the facility and determine the physical location of all components of your system, compared to the floor plan.
4. Determine how the Gateway(s) and Routers are going to be powered (refer to the *Power Cable Run Lengths* chart under Specifications to choose the appropriate wire size)

5. Install System Components
 - Central Server
 - If applicable in your facility, Client computer(s)
 - Gateway
 - Routers
6. Install transceiver devices. Transceiver devices transmit and receive data.
 - Mount all fixed devices (i.e. Pull-Cords, Smoke Detectors, Door/Window transceivers)
 - Enter transceiver information into the software (refer to the applicable Series Software User and Administrator Guides)
7. Using the software, define the options, or system-wide settings to be applied to your facility's Quick Response Premiere Wireless Call System.
8. Test the operation of the system.
 - Test the software
 - Test the system for sufficient coverage
 - Test the operation of the Supervision function

System Components

Central Server

The first step in the installation of the hardware components is to set up the Central Server. The Central Server computer can be placed on a flat surface, and the monitor may be mounted on a wall. Optional wall mounting kits are available from RF Technologies (PN 0120-0097 and 0120-0098). These mounting kits comply with VESA mounting standards. Please follow the manufacturer's instructions for mounting the monitor.



WARNING: When installing the Central Server, proper placement/mounting of the server is important. Adequate precautions must be taken to prevent the server from falling, causing injury to persons. Cables must be routed in a way to prevent tripping hazards.

Any rack mounted Central Server must be installed in a controlled environment that maintains temperature between 50°F and 95°F and humidity between 20% and 50%.

1. Check to see that you have all the required equipment for setting up the Central Server:
 - 15 Gigabytes (GB) of free hard disk space
 - RF Technologies configured computer
 - Monitor
 - Keyboard
 - Mouse
 - UPS (uninterruptable power supply)

- Printer (optional)
 - Remote connection hardware (if applicable)
2. Set up all the components of the Central Server.
 3. Plug the components into the back of the Central Server (monitor, keyboard, mouse, printer).
 4. Power the Central Server using a Plug-in Power Supply with a battery backup unit (UPS). The UPS should be plugged into a backup generator outlet.

Gateway



The Gateway receives signals from Routers and transceiver devices and sends them to the Central Server. The Gateway can be supervised; if no information is received by the system from the Gateway for a specified amount of time, a Device Fault alarm is generated in the Event List at the computer.

The Gateway has four (4) single-color LED lights; two green and two red. For more information on LED lights and LED sequence refer to the *LED Sequence* section.

Bottom view of the gateway



RF Fail-Good: The two sets of lights furthest from the Reset Button indicate transceiver device communication status. These set of lights flash briefly (once) every check-in (15 seconds by default) and when data is received or transmitted.

- Green indicates communication is good (received data is formatted properly or the transmitted data was sent successfully).
- Red indicates communication failure (received data has an error or the transmitted data was NOT sent successfully).

Serial Fail-Good: The two sets of lights closest to the Reset Button indicate RS232 communication status with the Central Server. These set of lights flash briefly (once) when data is transmitted via an external RS232 device to the Central Server.

- Green indicates communication is good (transmission data acknowledged by the Central Server).
- Red indicates communication failure (transmission data NOT acknowledged by the Central Server).
- A repeating, dim red LED flash (flashes once per second) indicates the device operating normally.



NOTE: The RF lights do not flash on the Router or Gateway in response to end device activity.

To install the Gateway directly to the Server computer:

1. Locate a mounting site for the Gateway that is within a 12-foot reach of the Central Server. To minimize noise interference, the Gateway should be a minimum of 10-feet away from the paging base or any high powered electrical device.
2. Placement of the Gateway should not be located over a stud. The Gateway should be at a one-foot distance from the bottom of the enclosure to the ceiling.



NOTE: The Gateway must be mounted as high as possible from the ground and situated where reception to affiliated Routers is not impaired.

3. Using the rear plate of the Gateway as a template, place it level against the wall and mark the location of the two mounting holes.
4. Center punch each hole and insert two nylon wall anchors (included).
5. Make certain that the RS232/Power Cable is plugged into the Gateway and that the ON/Off switch is in the ON position. After the ON/Off switch is turned to the ON position, the LED's at the bottom of the device should flicker. If they do not flicker then turn the switch to the OFF position and then turn it back ON.
6. Place the rear plate of the Gateway into the recess on the back of the Gateway enclosure.
7. Make sure the antenna is screwed on, then with the antenna pointing upwards, place the Gateway over the wall anchors in alignment with the holes in the enclosure and insert two screws (included).
8. If preferred, mount the raceway for containing and concealing the wires leading from the underside of the Gateway down to the Central Server.
9. Connect the 9-Pin serial connector from the Gateway to the serial port on the Central Server.
10. Plug the power supply into a standard outlet. Using an uninterruptable power supply (UPS) is recommended.
11. If the power supply has a mounting tab, secure it to the outlet.
12. Using the software loaded on the Central Server, select the COM port assigned to the Gateway. Refer to the section "*Poll Server Settings*" in the Software Administrator Guide.

To install the Gateway in or near a wiring closet:

1. Locate a mounting site for the Gateway within the wiring closet. Placement of the Gateway should not be located over a stud. The Gateway should be at a one-foot distance from the bottom of the enclosure to the ceiling.



NOTE: In some circumstances where RF performance is impaired by a shielded wiring closets or the location of the covered area is at a significant distance from the wiring closet, the Gateway can be located outside the wiring closet by making use of the provided 50 foot RS232/Power Cable.

2. Using the rear plate of the Gateway as a template, place it level against the wall and mark the location of the two mounting holes.
3. Center punch each hole and insert two nylon wall anchors (included).
4. Make certain that the RS232/Power Cable is plugged into the Gateway and that the ON/OFF switch is in the ON position. After the ON/Off switch is turned to the ON position, the LED's at the bottom of the device should flicker. If they do not flicker then turn the switch to the OFF position and then turn it back ON.
5. Depending on which serial port server you use, do one of the following:
 - When using a 4-port serial port server (PN 9450-0910) with cable (PN 0460-0101), connect the RJ45 connector from the Gateway to the top side of the serial port server. The serial port server is located within the black box mounting assembly.
 - When using a single serial port server (PN 9600-0002) with cable (PN 0460-0124), connect the 9-Pin connector from the Gateway to the single serial port server. Run Cat-5 wiring using standard 568B and terminate each end with a RJ45 connector. Connect one end to the Ethernet connector on the bottom of the single serial port server and the other end to the Ethernet switch.
6. Now, either plug the serial port into the CPS observing the polarity of the cable, red to (+) and black to (-) or plug the power supply into a standard outlet. Using an uninterruptable power supply (UPS) is recommended for standard output power.
7. Ensure that the wires are pulled through the wire tie wrap, secure them tightly with the wire tie and cut off excess.
8. Place the rear plate of the Gateway into the recess on the back of the Gateway enclosure.
9. Make sure the antenna is screwed on, then with the antenna pointing upwards, place the Gateway over the wall anchors in alignment with the holes in the enclosure and insert two screws (included). Verify Gateway is firmly secured to the wall to prevent device from falling.
10. Using the software loaded on the Central Server select the COM port assigned to the Gateway. Refer to the section "*Poll Server Settings*" in the Software Administrative Guide.

To test the Gateway:

1. From **Server Management** home page, select **Scan Devices**
2. From the **Configuration** home page, select **Devices**
3. Verify that the Gateway appears in the device list
4. Activate a transceiver and initiate an alarm event
5. The transceiver should now appear in the device list under the same Com Port as the Gateway
6. If the transceiver does not populate in the device list, verify that the appropriate communications port is selected and the Gateway is powered

Router

Routers receive signals from transceivers and re-transmit them to the Gateway. There are two models of Routers, one with an internal antenna and one with an external antenna for greater range. Routers can be supervised; a routine signal is sent from each Router and if the signal is not received by the system, a Device Fault event is generated in the Event List at the computer.

Routers are powered by a plug-in power supply or central power supply. A backup battery is also included in the Router enclosure. Routers can be placed on either the wall or on the ceiling. If mounting to the ceiling, the issue of bleeding through to the floor above must be considered. Other factors that affect the placement of Routers are the availability of a power source and sufficient coverage for the supervision of transceivers.

The Router has four (4) single-color LED lights; two green and two red. For more information on LED lights and LED sequence refer to the *LED Sequence* section

RF Fail-Good: The two sets of lights furthest from the Reset Button indicate transceiver device communication status. These set of lights flash briefly (once) every check-in (30 seconds by default), when a tamper alarm is triggered or cleared, and when a data is forwarded.

- Green indicates communication is good and data is forwarded OK to the next Router.
- Red indicates communication failure and data is NOT forwarded to the next Router.

Serial Fail-Good: The two sets of lights closest to the Reset Button indicate RS232 communication status with the Central Server. These set of lights flash briefly (once) when data is transmitted via an external RS232 device (i.e. Quick Look™) to the Central Server.

- Green indicates that the external RS232 device loopback is detected.
- Red indicates that the external RS232 device loopback is not detected.



NOTE: A configuration map or floor plan of the facility is pre-determined with most Quick Response Premiere Wireless Call Systems. Please rely on the configuration map or floor plan in conjunction with the information provided below to determine Router placement.

To determine placement of routers:

1. The first Router's location is in the proximity of the Gateway as specified on the floor plan. Using a Pendant that is in Survey Mode, walk a distance from the Gateway until the light on the Pendant starts blinking red. This indicates that the Router is out of range of the Gateway.
2. Walk back into range.
3. Mount Router within range of the Gateway and near a 110 VAC wall outlet or at the termination point from the central power supply. Repeat steps 1 and 2 to mount subsequent Routers.

NOTE: If using a 9V power supply, wiring from the power supply can be routed inside the wall or (if preferred) mount the raceway for containing and concealing the wires leading from the underside of the Router down to the 110 VAC wall outlet.

4. For wall placement, the Router should not be located over a stud and should be at a distance of one foot from the bottom of the enclosure to the ceiling.
5. For ceiling placement, the Router should be mounted down the center of the hallway or centered in a room. Its orientation can be parallel or perpendicular to the walls of the hallway. For optimal location, mount Router in the center of the ceiling tile.
6. Using the rear plate of the Router as a template, place it level against the intended mounting surface and mark the location of the two mounting holes. If the wiring from the wall outlet power supply or central power supply exits from the intended mounting surface then locate the lower right corner of the rear plate (corner is cut out) over the exit hole.
7. Center punch each hole and drill in two nylon wall anchors (included). If the Router is located on a concrete mounting surface then you must use the wall anchors designed for use with concrete (not included). If the Router is to be installed on drop ceiling tiles use the threaded drywall anchor taking care to not damage ceiling tile during installation process.
8. Once the wiring has been run to the location of the Router attach the power supply wires to the terminal block in the corner of the Router. If using a central power supply up to seven (7) Routers may be daisy chained by terminating the next Router to the second terminal block. The minimum field wire size to be employed shall be 18 AWG (0.36 mm²).
9. Insure that the wires are pulled tight through the wire tie wrap and cut excess.
10. Make certain that the Router's ON/Off switch is in the ON position. After the ON/Off switch is turned to the ON position, the LED's at the bottom of the device should flicker. If they do not flicker then turn the switch to the OFF position and then turn it back ON.
11. Place the rear plate of the Router into the recess on the back of the Router enclosure.

12. Place the Router over the wall anchors in alignment with the holes in the enclosure and insert two screws (included). Verify Router is firmly secured to the intended mounting surface to prevent the device from falling.
13. For extended range Routers make certain that the external antenna points over the top edge of the enclosure. Any other orientation will reduce device performance.
14. If raceway is being used now is the time to apply it.
15. If the power is supplied by a wall outlet power supply, then plug in the power supply.
16. If the power supply has a mounting tab, secure it to the outlet using the screw provided.
17. Repeat the above steps for the remaining Routers.



NOTE: When configuring a multi-story facility the Routers should be placed directly above one another as much as possible to provide accurate location even in non-location required facilities.

To test the Routers:

1. For each router use a pendant that is in Survey Mode to test reception. Walk to the far reaches of adjacent rooms and covered area to ensure that acceptable coverage is achieved.
2. For Quick Look displays, verify location data and alarm information appears on the display when an alarm is generated.

Quick Look



A Quick Response Premiere Router can be connected to a wireless Quick Look Display or High Visibility Display so that when an alarm is sent from the Server to the Router, the wireless display shows the type of alarm, location data and transceiver number. As new alarms occur, they appear immediately; the display then begins scrolling through each active alarm.

The Quick Look Display also acts as an integral part of the back-up reflector mode. This reflector mode functionally allows the Quick Response Premiere network to take over the responsibility of distributing alarm information (transceiver number only) to the Quick Look Display in the event of an inoperable Server. In reflector mode it will display device names and the nearest Router that received the alarm.

Quick Looks are supervised; a routine signal is sent from each Quick Look Display and if the signal is not received by the system, a Device Fault event is generated in the Event List at the computer.



WARNING: Quick Look Displays should not be added to multiple units. Since Routers are used to determine location, inaccurate location data could result.

The location data displayed depends on the configuration. If a Gateway/Router is assigned to a room, the Quick Look displays the room and unit data. If the Router/Gateway is assigned only to a unit and not individual rooms, the nearest location data is displayed.



WARNING: It is crucial that the following steps be carried out in the order listed. If the display is not powered and connected properly to the Router when the Router is initially powered on, the display will not function.

To install the Quick Look display:

1. Mount the High Visibility Display in the desired location, near a 110 VAC wall outlet. Use the following steps for mounting the High Visibility Display as a wall-mount or counter-mount display.
2. Attach mounting brackets 28 1/8 inches apart, in desired location. If mounting in drywall, screw anchors must be used.
3. Once brackets are in place, put the display between the two brackets and secure it to the brackets with the two thumb screws provided.
4. To maximize visibility, first adjust the tilt of the display and then tighten the thumb screws.
5. Plug the 7 VAC 4.8A power supply into the High Visibility Display and connect it to wall power outlet.
6. Connect the Router to the High Visibility Display.
7. Plug the RJ-45 end of the 10-foot connector cable into the RJ-45 port on the back of the High Visibility Display.
8. Plug the RS-232 end of the 10-foot connector cable into the RS-232 terminal on the lower right hand corner of the Router.

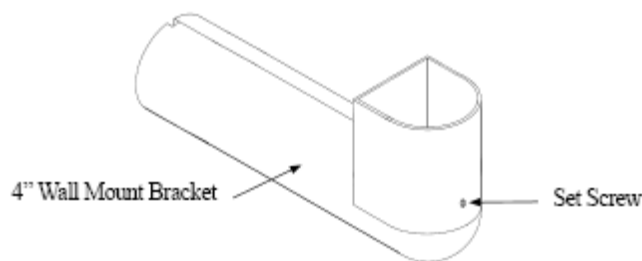


High Visibility Display

9. Wire the Router for power via the power terminal in the Router, noting the correct polarity.
10. Mount the Router within 10-feet of the High Visibility Display, near a 110 VAC wall outlet.
11. Connect the Router's power supply to a 110 VAC wall power outlet.

To mount the Quick Look Display:

1. Feed the wire attached to the head assembly of the Quick Look Display through the un-notched end of the 4" wall-mount bracket.
2. Slide the head assembly onto the end of the 4" wall-mount bracket.
3. Secure it in place by tightening the set screw located on the end of the post or bracket.
4. Align the notches in the Quick Look base with the notches in the 4" wall-mount bracket and hold together.
5. Feed the retaining nut over the wires leading out of the bottom of the base.
6. Tighten the retaining nut.
7. Be careful not to strip or damage the mounting base assembly.
8. Screw the base into the wall using the four screws provided.



9. Wire the Router for power via the power terminal in the Router, noting the correct polarity.
10. Make certain that the Router's ON/OFF switch is in the ON position. After the ON/Off switch is turned to the ON position, the LED's at the bottom of the device should flicker. If they do not flicker then turn the switch to the OFF position and then turn it back ON.
11. Mount the Router within 4-feet of the Quick Look Display, near a 110 VAC wall outlet.
12. Connect the Router's power supply to a 110 VAC wall power outlet.

32 Channel Controller



The 32 Channel Controller consists of a Quick Response Premiere Router, a 32 Channel Controller relay board and up to 16 bi-color Dome Lights.

The 32 Channel Controllers are supervised; a routine signal is sent from each Quick Response Premiere Router and if the signal is not received by the system, a Device Fault event is generated in the Event List at the computer.

Central Power Supply (CPS)

The Central Power Supply is used to connect the 32 Channel Controller and Dome Lights to a single power source. The Central Power Supply eliminates the need to run 120VAC to each detection zone. Note that the Router is powered by the 32 Channel Controller.

Refer to the *Class II Central Power Supply Installation Guide* (0510-1036) for detailed information on installing the Central Power Supply.



WARNING: It is crucial that the following steps be carried out in the order listed. If the 32 Channel Controller is not powered and connected properly to the Router when the router is initially powered on, the controller will not function. The 32 Channel Controller must be set to its assigned channel prior to assigning devices.



To flush mount the single gang enclosure for the 32 Channel Controller:

1. Locate a mounting site for the 32 Channel Controller, preferably on a wall that a single gang electrical box can be mounted.
2. Hold the single gang mounting enclosure against the wall. Use standard installation practices to position and level the enclosure then mark out the area around the enclosure.
3. Using a drywall hole saw, cut out the area where the enclosure is to be placed. Be sure that the area is only as big as the enclosure or the clamps will not attach securely to the wall.
4. Run the wires from the CPS and Dome Lights to the hole.
5. After routing the wires through the single gang electrical box place the clamps flat against the box and insert the unit into the wall.
6. Tighten the clamps using the provided screws.
7. Where necessary, mount the enclosure to a wall stud by screwing or nailing the enclosure to the side of the stud through the two provided holes.



To mount the 32 Channel Controller enclosure:

1. Using a Phillips screwdriver, remove the six screws that hold the face plate to the enclosure.
2. Remove the faceplate.
3. Thread wires through the hole in the back of the enclosure.
4. Secure the enclosure to the single gang mounting enclosure with two screws (the third hole on the enclosure is for extra mounting security).
5. Terminate the wires from the CPS and Dome Lights per the Wiring Diagram.
6. Route the Router to the 32 Channel Controller Cable Harness from inside the 32 Channel Controller to just outside the enclosure.
7. Connect the Router cable harness. At this point do not power up Router and allow it hang free. It will be mounted to the wall following system power up.

Dome Lights



Dome Lights are mounted in the corridor above or beside the door of an associated room. The red light should be mounted up. Location should provide for unobstructed visibility of the Dome Light in both directions. Dome Lights can either be flush mounted or surface mounted based on wall construction and wire routing. When flush mounting, the wiring can be routed through a 3/4" hole in the wall. In this case the Dome Light will be directly mounted to the wall.

Dome Light includes two indicator lights: a white indicator light for low priority alarms and a red indicator light for high priority alarms.

- **Emergency Calls:** Emergency calls are indicated by steady illumination of the red Dome Light associated with the zone or area from which an emergency call has been placed.
- **Normal Calls:** Normal calls are indicated by steady illumination of the white Dome Light associated with the zone or area from which a normal call has been placed.

- **Concurrent Emergency and Normal Calls:** If emergency and normal calls are placed at the same time, the red light connected to the emergency station from which a call was placed will illuminate at the same time as the white light associated with the normal call.

To surface mount the Dome Light:

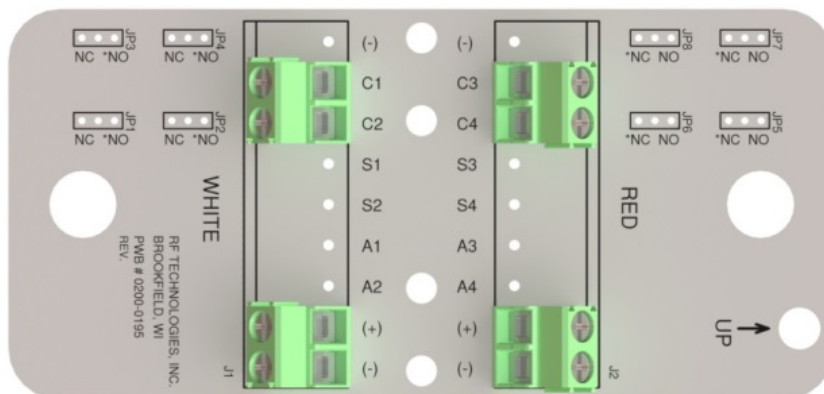
1. Hold the base of the surface mount enclosure against the wall at the desired mounting height with the sharpened side parallel and square to the floor.
2. Mark the location of the two mounting holes.
3. Drill holes where the marks were made. If the drilled holes do not hit a stud wall you must use wall anchors (not included).
4. Line up the holes on the base of the enclosure with the newly drilled holes.
5. Mount the base of the enclosure to the wall using two drywall screws.
6. Snap the surface mount enclosure onto the base previously attached to the wall.
7. Terminate the wires per the instructions following this section.
8. Once the Dome Light has been wired route any excess wiring back into the enclosure as the Dome Light is placed over it.
9. Secure the Dome Light to the surface

To flush mount the Dome Light:

1. Terminate the wiring per the instructions following this section.
2. Route any excess wiring back into the wall, as the Dome Light is placed over the hole and against the wall.
3. Once the Dome Light is square to the floor, secure it to the wall with the two screws provided.
4. If screws do not hit a stud, then drywall anchors (not included) will be necessary.



NOTE: By default, this assembly is hardwired to normally closed.



To wire power to Dome Lights:

1. Run wiring conduit from Dome Light to Dome Light and terminate at the Central Power Supply. The current requirement for the Dome Light is 50mA. Each circuit should be limited to 8 or fewer Dome Lights. Use 16 AWG 2-conductor cable to connect the Dome Light power terminals to the Central Power Supply.
2. Terminate the wires per the Wiring Diagram.

To wire Dome Lights to the 32 Channel Controller:

1. Run a 22 AWG 4-conductor or 8-conductor cable to connect one of the Dome Light circuit's terminals to the 32 Channel Controller.
2. Connect one pair of the cable conductors from the Dome Light's C1(+) and C2 terminals to one of the 32 Channel Controller's relay output circuits.

- Circuits 01 and 02 have both Normally Open (NO) and Normally Closed (NC) contacts

- The N/C contacts are open during normal operation
- The N/O contacts are closed during normal operation

NOTE: The N/O contacts are in the closed state so in the event a wire is cut, it will act as supervision and illuminate the dome light.

- Circuits 03 thru 32 have Normally Open (NO) contacts.

- These circuits are closed during normal operation. In the event of an alarm state, these circuits then change to the open state.

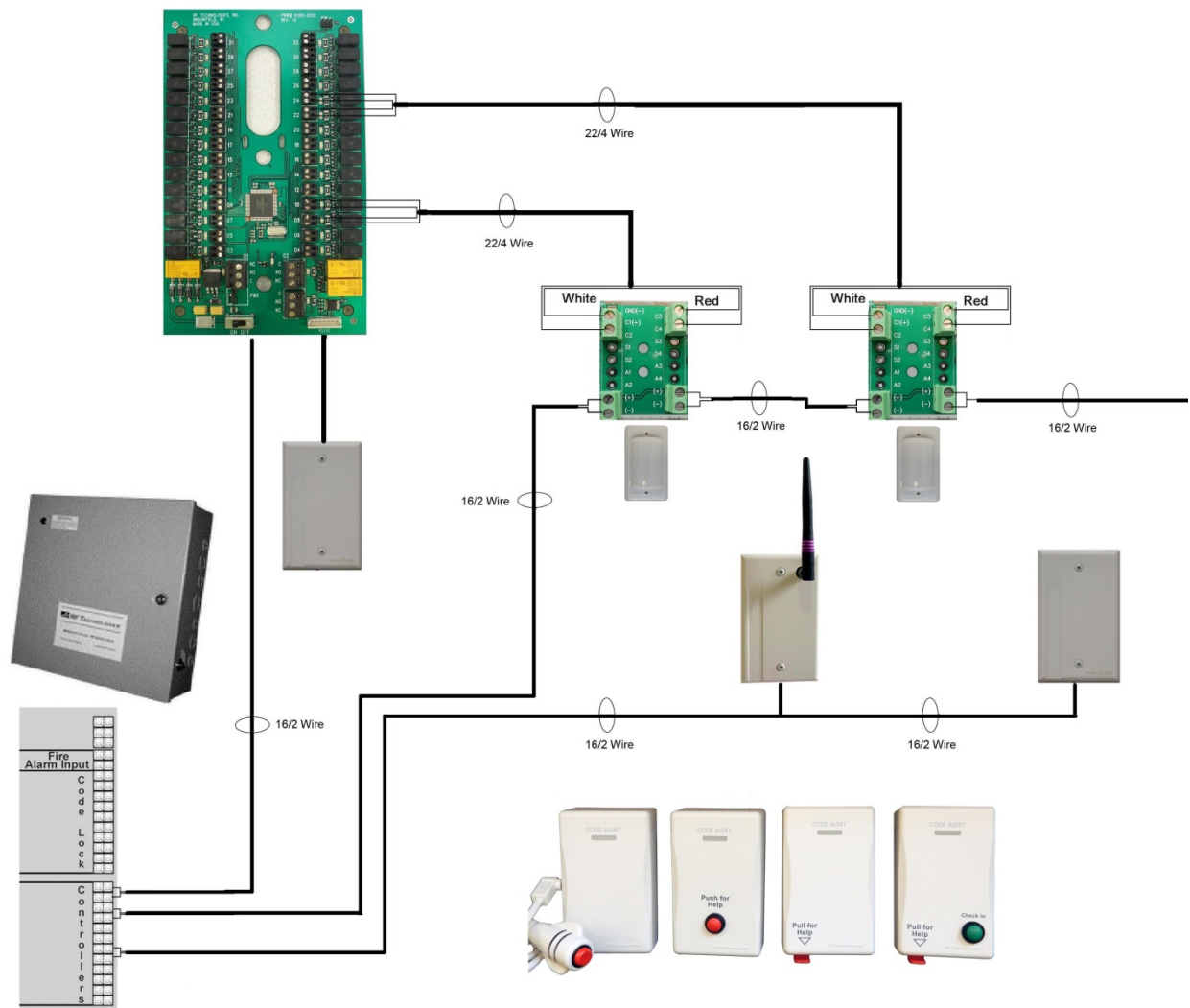
NOTE: The contacts are in the closed state so in the event a wire is cut, it will act as supervision and illuminate the dome light.

3. Repeat the above step for the second Dome Light circuit (C3 and C4) using either another 4-conductor cable or the 3rd and 4th pairs of the 8-conductor cable, if used.
4. Use the tie wrap provided to wrap around the terminated wires and tightly attach it to the holes in the 32 Channel Controller circuit board.
5. Once the Dome Light has been wired, slip the wires back into the wall until the two support posts on the circuit board rest against the mounting surface.

32 Channel Controller System Power Up:

1. Make certain that the power switch on the Router is OFF.
2. Turn the power switch on the 32 Channel Controller to OFF.
3. Turn the power switch on the 32 Channel Controller to ON.
4. Turn the power switch on the Router to ON. After the ON/OFF switch is turned to the ON position the LED's at the bottom of the device should flicker. If they don't flicker then turn the switch to the OFF position and then turn it back ON.
5. Secure faceplate of the 32 Channel Controller with six screws.
6. Proceed to configuring the 32 Channel Controller.

Wiring Diagram



Central Power Supply	Red or White Dome Light
+	+
-	-

Central Power Supply	White Dome Light	Red Dome Light
Zones 1-32 Contact 1	C1	C3
Zones 1-32 Contact 2	C2	C4

Power Cable Run Lengths

This section contains information on maximum power cable run lengths for installation of daisy-chained Quick Response Premiere Wireless Routers/Gateways.

Powered by CPS

# Routers/Gateways	CPS - 16/2 AWG	CPS – 18/2 AWG
8	390'	245'
7	450'	280'
6	525'	325'
5	630'	390'
4	785'	490'
3	1050'	650'
2	1575'	980'
1	3150'	1960'

Powered by Wall Outlet Power Supply

# Routers/Gateways	12V @ 1.5A 18/2 AWG	9.0V @ 200mA 22/2 AWG
7	140'	N/A
6	160'	N/A
5	200'	N/A
4	250'	N/A
3	330'	N/A
2	500'	N/A
1	1000'	125'

32 Channel Controller Configuration

When each device installed in your facility has been added to the software database, units must be defined and added. A Unit represents a protected area in your facility that will be monitored as a unit. All devices associated with a 32 Channel Controller must be in the same unit. Refer to the applicable *Software Administrator Guide*.

To configure 32 Channel Controller:

All devices recognized by the system are listed in the Configuration Device window. Once the 32 Channel Controller has been installed and properly wired, the affiliated Router must be configured in the system.

1. Go to the **Configuration** home page
2. Select **Devices**
3. The **Configuration Devices** window opens

Configuration - Devices									
Home	SAP-1234	LOC		192.168.1.99				0.04	Properties ... ☐ 30
Server Management	Room12-Bed	PULL		192.168.1.99				0.04	Properties ... ☐ 30
Configuration	Room07-Bath	PULL		192.168.1.99				0.04	Properties ... ☐ 30
Settings	Room15-Bed	PULL		192.168.1.99				0.04	Properties ... ☐ 30
Devices	Room10-Bath	PULL		192.168.1.99				0.04	Properties ... ☐ 30
Unit	Room05-Bed	PULL		192.168.1.99				0.04	Properties ... ☐ 30
Rooms	Room01-Bed	PULL		192.168.1.99				0.04	Properties ... ☐ 30
Functions	Room02-Bed	PULL		192.168.1.99				0.04	Properties ... ☐ 30
Users	Room15-Bath	PULL		192.168.1.99				0.04	Properties ... ☐ 30
Clients	Room12-Bath	PULL		192.168.1.99				0.04	Properties ... ☐ 30
Causes	Gate-00D1	RXR	1	00:14:6D:00:00:00:D1				0.44	Properties ... ☐ Unit Default
Maintenance	Pull-06D2	PULL	1	00:14:6D:00:00:00:06:D2				0.95	Properties ... ☐ Unit Default
Reports	Rout-0A2B	QLRELAY	1	00:14:6D:00:00:00:0A:2B				0.40	Properties ... ☐ Unit Default
Help	2 Trx 0	RXR	2	0					Properties ... ☐ 3600
	17002	Unspecified							Properties ...

- Click the **Properties** box next to the device you wish to update. In this example the 32 Channel Controller type is displayed as: **QLRELAY**
- The **Configuration Devices Properties** window opens.

Configuration - Devices - Properties				
Device Configuration				
Name :	CR_Relay			
Type :	32 Channel Controller			
Supervised :	☒			
Supervise Time :	Unit Default			
Channel :	☐ 11 ☐ 12 ☐ 13 ☐ 14 ☐ 15 ☐ 16 ☐ 17 ☐ 18 ☐ 19 ☐ 20 ☐ 21 ☐ 22 ☐ 23 ☒ 24 ☐ 25 ☐ 26			
Router/Relay Associations				
Relay 1	Relay 2	Relay 3	Relay 4	
Device 1	Device 1	Device 1	Device 1	
CR Wall 0AFA	CR Univ 076E	CR Pull 0799	CR Wall 007D	
Device 2	Device 2	Device 2	Device 2	
Device 3	Device 3	Device 3	Device 3	
Device 4	Device 4	Device 4	Device 4	

- Name:** Enter the 32 Channel Controller name.
 - Supervised:** Select this check box if you wish to have the device supervised.
 - Supervised Time:** Select the amount of time, from the drop-down list, that the system should wait before it initiates a Device Fault alarm. The Unit Default time is the Transmitter Supervise Time set during Unit Properties configuration.
 - Type:** Device type is automatically filled in
 - Channel:** Choose the channel assigned to the Gateway/Router (default 25). Channel selection is site specific and dependent on the sites environmental issues.
 - Router/Relay Association:** Select the devices associated with a relay. There are 32 relays; each relay is capable of monitoring four devices. The Dome Light is triggered if any of the devices associated with that relay goes in alarm. Devices selected must be from the same unit as the 32 Channel Controller.
- Click **Save** to save your changes

To test the 32 Channel Controller:

When an alarm is sent from the Server to the Router, the 32 Channel Controller acts as a relay switch and turns on the Dome Light mounted outside the patient's room. Once the 32 Channel Controller /Dome Light setup has been configured and wired properly, you must test its operation.

1. Position yourself where you can see the Dome Light.
2. Have someone activate a transceiver device.
3. If the 32 Channel Controller and Dome Light have been wired correctly, the Dome Light will illuminate and an Alarm event will be listed on the Event List at the Central Server.
4. Reset the transceiver device and follow step 1– 3 to test all 32 Channel Controller/Dome Light setups.

Channels

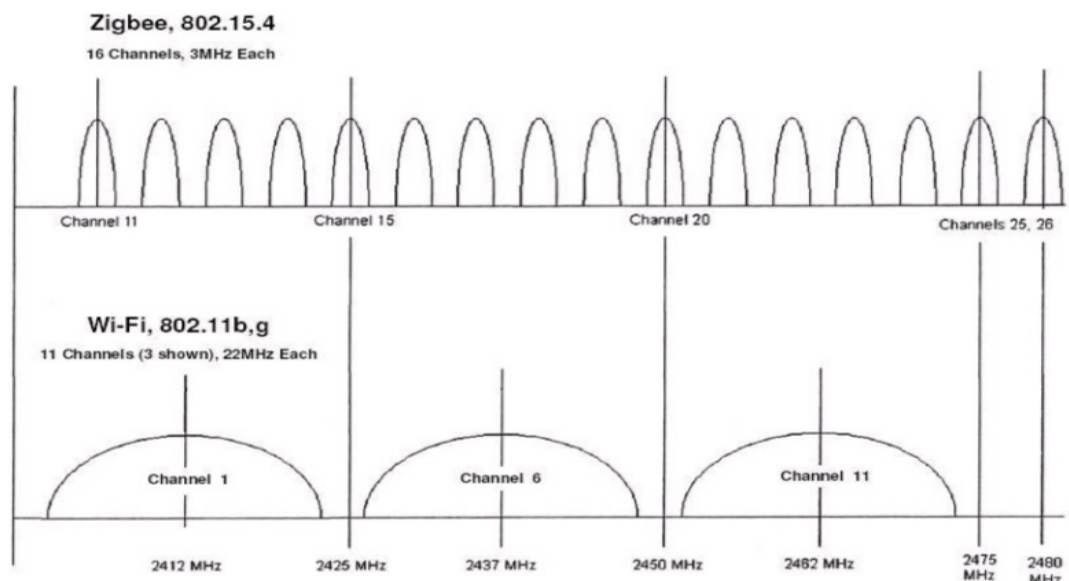
The Gateway and Router default to channel 25. In a facility with a single Gateway, it is recommended to leave the Gateway and Routers on channel 25.

In some instances, it may be necessary to install an additional Gateway to support additional Routers. Once the first installation of Gateway/Routers is complete and configured into the system, you must change the channel before installing the second set.

Channel selection will be site specific and dependent on the sites environmental issues. Environmental issues include WiFi, 2.4 cordless phones, microwave ovens, and architecture (multiple Gateways). There are 16 ZigBee channels in the 2.4 spectrums numbered 11 to 26 (1–9 are in the 900MHz spectrum). Channel 26 is unusable as the power output is limited to half of the other channels due to its proximity to the edge of the 2.4. spectrums, and is configured “off” in our systems.



NOTE: Channel 25 is the default for all our devices. The preferred channels are 11, 15, 20, and 25.



To change gateway and router channels:

1. Go to the **Configuration** home page
2. Select **Devices**
3. The **Configuration Devices** window opens

Configuration - Devices									
Home	Hall0A33Way	LOC	3	00:14:60:00:00:0A:33		1.03	Properties ..	☐	Unit Default
Server Management	Rout-0A34	QLI	3	00:14:60:00:00:0A:34		1.03	Properties ..	☐	120
Configuration	Wall-0D9E	PULL	3	00:14:60:00:00:0D:9E		0.95	Properties ..	☐	Unit Default
Settings	LOC1GATEWAY	RXR	3	00:14:60:00:00:0D:C1		1.02	Properties ..	☐	Unit Default
Devices	Pull-0E3CPT Ck	PULLP	3	00:14:60:00:00:0E:3C		0.95	Properties ..	☐	120
Unit	Rout-1044	LOC	3	00:14:60:00:00:10:44		1.03	Properties ..	☐	120
Rooms	Pull-1224	PULL	3	00:14:60:00:00:12:24		0.20	Properties ..	☐	Unit Default
Functions	Pull-1232	PULL	3	00:14:60:00:00:12:32		0.20	Properties ..	☐	Unit Default
Users	Pull-1239	PULL	3	00:14:60:00:00:12:39		0.20	Properties ..	☐	Unit Default
Clients	Pull-1245	PULL	3	00:14:60:00:00:12:45		0.20	Properties ..	☐	Unit Default
Causes	Pull-1247	PULL	3	00:14:60:00:00:12:47		0.20	Properties ..	☐	Unit Default
Maintenance	Pull-1254	PULL	3	00:14:60:00:00:12:54		0.20	Properties ..	☐	Unit Default
Reports	Pull-1257	PULL	3	00:14:60:00:00:12:57		0.20	Properties ..	☐	Unit Default
Help	Pull-1277	PULL	3	00:14:60:00:00:12:77		0.20	Properties ..	☐	Unit Default
	Pull-128C	PULL	3	00:14:60:00:00:12:8C		0.20	Properties ..	☐	Unit Default
	Pull-129F	PULL	3	00:14:60:00:00:12:9F		0.20	Properties ..	☐	Unit Default
	Pull-12D6	PULL	3	00:14:60:00:00:12:D6		0.20	Properties ..	☐	Unit Default
	Pull-132F	PULL	3	00:14:60:00:00:13:2F		0.20	Properties ..	☐	Unit Default
	Pull-5229	EMER	3	00:14:60:00:00:52:29		0.95	Properties ..	☐	120

4. Click the **Properties** box next to the Gateway.
5. Deselect the default channel (25) and select the new channel.
Selecting a new channel for the Gateway will also change the channel for all associated Routers.

Configuration - Devices - Properties	
Device Configuration	
Name :	Gate-0445
Type :	Serial Receiver
Supervised :	☒
Channel :	☐ 11 ☐ 12 ☐ 13 ☐ 14 ☐ 15 ☐ 16 ☐ 17 ☐ 18 ☐ 19 ☐ 20 ☐ 21 ☐ 22 ☐ 23 ☒ 24 ☐ 25 ☐ 26
Save Close Save & Next Next	

6. Click **Save** and then close the window.



WARNING: WAIT! You must wait at least 60 seconds before using the Scan Devices function.

Once the channel for the Gateway and Routers has been changed, you must Scan Devices on that comport to establish the change in the system. The Gateway will not use the new channel until the Scan Devices function is complete.

Router Depth

It is important to install Routers efficiently as to minimize the number of hops to the Gateway while still providing coverage at the furthest point from the Gateway. The Router Depth option allows you to adjust Router Depth by staggering 5-second Router resets by one, two, three or four minutes. Each Router has an association limit of 6 Routers; the hop limit for each Router is 4.

To select the Router Depth:

1. Go to the **Configuration** home page
2. Select **Devices**
3. The Configuration devices window opens
4. Click the **Properties** box next to the Route.
5. The **Configuration Device Properties** window opens.

Configuration - Devices - Properties

Device Configuration

Name : Rout-04DD

Type : Locator

Supervised : ☒

Supervise Time : Unit Default

Router depth : 0

Channel : 0, 1, 2, 3, 4, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26

Save Close Save & Next Next

6. Select the **Router depth** from the drop-down list
7. Click **Save** and close the window.
8. Once the Router Depth is selected, you must rebuild the subnet on scanned devices

Rebuild Subnet on Scanned Devices**To rebuild the subnet on scanned devices:**

1. Go to the **Configuration** home page
2. Select **Administrative Functions**
3. Select **Configuration**
4. All devices recognized by the system are listed in the Configuration Device window.
5. Select **Devices**
6. The **Configuration Devices** window opens
7. Click the **Properties** box next to the Gateway
8. The **Configuration Device Properties** window opens

Configuration - Devices - Properties

Device Configuration

Name : Gate-16C7

Type : Serial Receiver

Rebuild subnet on next scan : ☒

Supervised : ☒

Channel : 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26

Save Close Save & Next Next

9. Click the checkbox next to **Rebuild subnet on next scan**
10. Click **Save** and then close the window.
11. You must execute the **Scan** command on that Gateway's comport to begin.



WARNING: Rebuilding the subnet should only be done when end devices are not present during installation. During the Rebuild, the system will be down for up to 10 minutes.

Scan Devices

To scan devices:

1. Go to the **Configuration** home page
2. Select **Administrative Functions**
3. Select **Configuration**
4. The **System Management Home** page opens.
5. Select **Server Management**
6. The **Configuration Server Management** home page opens.



RF TECHNOLOGIES

Server Management

Home
 Server Management
 Poll Server Settings
 Noise Analysis
 Dashboard
 Software Versions
 Configuration
 Reports
 Help

Start Polling Server Stop Polling Server Restart Polling Server

Display Poll Server Statistics ComPort : --All ComPorts-- Device : --All Devices--

Scan Devices ComPort : --All ComPorts--

Reset ComPort : --All ComPorts-- Device : --All Devices--

Lock Device : --All Devices--

Unlock Device : --All Devices--

7. Next to the **Scan Devices** button, select the ComPort assigned to the Gateway/Router from the ComPort pull-down.
8. Click **Scan Devices**, a Scan Status window opens verifying the successful completion of the scan.
9. Click **Close** to close the Scan Status window and return to the Server Management home page.
10. Open the Dashboard and verify the Gateway and each of the Routers are communicating.
11. Install the next Gateway and Router

Gateway / Router Reset Button

The Router has four types of reset. Respectively, the Gateway supports the first three. By using the reset button on the bottom edge of the Router/Gateway you can perform the resets described in the chart below.

Solid Red



Flashing Green



Non-illuminated



Solid Green



Reset Type	To Execute Press and Hold Reset Button	Release Reset Button When LED Illuminates	Action Upon Release of Reset Button					LED Sequence After Release of Reset Button
			Associated (child) End-devices	Associated (child) Routers	Routing Table	Device Name	Channel	
1-second	Hold until 1 LED comes on solid (about 1 second)		No change	No change	Clear	No change	Same	1. L1, L2, L3, L4 (sequentially) 2. All LEDs on 3. Green LEDs flash 4. Single green flash if communication is successful
5-second	Hold until 2 LED comes on solid (about 5 seconds)		Clear	No change ¹	Clear	No change	Same	1. L1, L2, L3, L4 (sequentially) 2. All LEDs on 3. Green LEDs flash 4. Single green flash if communication is successful
10-second	Hold until 3 LED comes on solid (about 10 seconds)		Clear	Clear	Clear	Default ²	25	1. L1, L2, L3, L4 (sequentially) 2. All LEDs on 3. Green LEDs flash 4. Single green flash if communication is successful
15-second	Hold until 4 LED comes on solid (about 15 seconds)		Clear	Clear	Clear	Default ²	Scan ³	1. L1, L2, L3, L4 (sequentially) 2. All LEDs on 3. No LED activity for 30 seconds while channels are scanned 4. Green LEDs flash 5. Blink red RF 30 seconds 6. Single green LED flash and red RF LED flashes for 15 seconds

- If a Router/Gateway does not have child Routers (at the end of a branch in the tree structure), a 5-second reset will cause the Router/Gateway to leave the network, and then rejoin the network. On the Router, this is indicated by observing the L2 flash off and back on after 5-seconds.
- A 10-second or 15-second reset will cause a Router/Gateway name to revert to factory default; Rout-xxxx/Gatexxxx, where xxxx are the last 4 characters of the Router/Gateway MAC ID.
- The Router will scan all channels and will join the first channel that replied with the highest RSSI (and stay on that channel indefinitely unless another 15-second reset is done).

LED Sequence



Power Up Sequence

LED Sequence	Explanation
L1, L2, L3, L4 (sequentially)	Device executing normal firmware
All LEDs On (not maintained)	Device executing normal firmware
NOTE: If power up sequence does not occur and the green light is blinking every second, then the device is in manufacturer's mode.	

Display Sequence

LED Sequence	Explanation
Dual Green LED Flash (10 times)	Device is attempting to identify a Router/Gateway parent.
Single Green LED Flash (L2)	Successfully joined with and checked in with identified parent.
Single Red LED Flash (L1)	No response from identified parent.
Repeating (dim) Red LED Flash (L3)	Device operating normally, flashes once per second (heart beat indicator).
Dual Green LED Flash (one time)	Router/Gateway Successfully forwarded packet from a child to the Central Server or display.
Single Green LED Flash (L4)	Gateway received the check in message sent by Server every 15 seconds.
L3 and L4 Solid Illumination	Battery switch turned off or battery fully discharged and requiring the Quick Response Premiere Router Battery Recharger procedure .

Troubleshooting

The Quick Response Premiere network of devices is partially capable of self-maintenance in the event a device fails. The system software has four data communications to aid in the maintenance of the network.

- **Reset:** Force individual Routers, all Routers on a single comport or all Routers on all comports to reset
- **Scan:** Forces the Gateway and all its Routers to change channel
- **Configure:** Individual device (name, supervision rate, channel mask)
- **Delete:** Remove individual devices from Router tables

End Device Failure

When a single, limited function end device (i.e. Pull Cord, Universal) fails, the following procedure will remove it from the short address table and allow replacement.

To replace a failed end device:

1. Unpower and physically remove the failed device.
2. Delete the device from the Configuration >>Devices window in the software. This results in a broadcast command to the Gateway to remove the MAC short address from the Router table it was joined to.
3. With the replacement device within range of the Router, remove the battery tab to activate the device. The replacement device will automatically search all channels to find a “full function” device to join.
4. Physically install the replacement device.
5. Alarm and then Reset the device. The system recognizes the device when it goes into alarm and places it into the Device List for configuration.
6. Configure the replacement device in the software using the same device name as the failed device previously deleted.
7. If necessary, configure the replacement device into a Unit.
8. If necessary, configure the replacement device into a Room.

Cloning

In case the router or gateway is still operating but needs to be replaced due to faulty RF communication, etc, follow the steps outlined in the *Quick Response Premiere Router/Coordinator Cloning Guide (P/N 0510-0401)*.

Router Failure

When a full function device (Router) fails, its limited function device (i.e. Pull Cord, Universal) will fail to communicate and will automatically search for another Router to associate with for a check-in or alarm.

To replace a failed Router (router has lost all ability to operate):

1. In the software application, click Report on the toolbar and open the Device Tree Report.
2. Sort the Device Tree Report by Comport and print the report.
3. Find the Router and all of its dependent Routers and make a list of these Routers (any Routers that contain the defective Router name in their path).
4. Remove power from each Router noted in step 3.
 - **If AC power is provided by a CPS**, turn the CPS output off at this time (all Routers will report low battery in 5 minutes, but that's OK).
 - **If AC power is provided by individual wall transformers**, unplug the wall transformer for each Router
 - Remove **battery power** (turn battery slide switch to off position) for each Router
5. In the software, delete all of the Routers noted in step 3 (check delete then click save).

6. Remove battery from each end device that could possibly be within range of the Routers noted in step 3.
7. Replace the defective Router.
8. Start with just the new Router for the steps below.
9. Apply power to the Router.
 - Apply **battery power** (turn battery slide switch to on position) for this Router. After the ON/Off switch is turned to the ON position, the LED's at the bottom of the device should flicker. If they do not flicker then turn the switch to the OFF position and then turn it back ON.
 - **If AC power is provided by a CPS**, leave the CPS output off for now.
 - **If AC power is provided by individual wall transformers**, plug in the wall transformer for this Router.
10. Perform a 15-second reset on this Router
11. Wait for a visual indication Router joined the network (dual green blinks for several seconds).
12. Secure the Router to the wall.
13. Repeat steps 9-11 for all remaining Routers noted in step 3



NOTE: Remaining Routers must be done in the order of shortest path to longest path based on the tree report from step 2

14. Verify each Router noted in step 3 now appears in the software.
15. If AC power is provided by a CPS, re-enable the CPS output
16. Wait up to the supervision time for a Router and verify none of the Routers are reporting low battery.
17. Restore each end device from step 6.
 - With battery still removed, press the tamper switch a few times (ensures caps are discharged and device performs a proper power-up reset).
 - Insert battery.
 - Verify device light indicator blinks green 3 times. After the ON/Off switch is turned to the ON position, the LED's at the bottom of the device should flicker. If they do not flicker then turn the switch to the OFF position and then turn it back ON.
 - Re-mount device.
18. Alarm and clear each end device and verify the PC reports each time an alarm and clear is sent.
19. Open the Device Tree Report and verify that none of the Routers, or end devices are reporting an FFFF short address. If the end devices are, remove their battery, press the tamper switch a few times and replace the battery. If the Routers are, rebuild the network from that point out using the above procedure.

Gateway Failure

When a Gateway fails, its Personal Area Network ID (PAN ID) remains in the system. Routers and end devices search for connectivity to a single Gateway's PAN ID. The PAN ID is based on the Media Access Control address (MAC address) of the Gateway.

To replace a failed Gateway (gateway has lost all ability to operate):

1. Unpower and physically remove the failed Gateway.
 - turn off the Gateway
 - remove the serial cable
 - remove the external antenna
 - remove the board from the enclosure
2. Prepare the replacement Gateway.
 - remove the antenna from the replacement Gateway
 - remove the board from the enclosure
 - place the new Gateway in the old enclosure
3. Execute the Gateway Service Set MAC ID Utility.
4. Connect the replacement Gateway to the service technician's laptop through the serial port or PortServer.
5. Start the Set MAC ID Utility.
6. Enter the comport of the Gateway and press Enter.
7. Enter the last eight characters of the MAC ID from the original Gateway and press Enter.
8. Enter the channel number of the original gateway and press Enter.
9. Verify that the programing was successful, then press Q and disconnect the Gateway from the service technician's laptop.
10. Perform a 5-second reset on the Gateway.
11. Reattach the external antenna.
12. Connect the power and serial cable on the replacement Gateway.
13. Note the LED sequence on the RS232 status LED.
14. Physically mount the replacement Gateway.
15. Looking at the Dashboard, verify that the Gateway is checking in every 15 seconds.
16. From the software application, initiate a Reset.
 - go to the Server Management page
 - select the ComPort that the new Gateway is connected
 - click Reset
17. Ensure that all Device Fault events are resolved.
18. Using an RMA form, return the failed Gateway's circuit board and the replacement Gateway enclosure to RFT for analysis.

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Chapter 2 – Installing End Devices

Introduction

This chapter provides detailed information about installing end (transceiver) devices and testing the operations of the Quick Response Premiere Wireless Call System with supported devices.

End devices are devices that transmit and receive alarm data. The Quick Response Premiere Wireless Call System includes end devices that are carried by the patient and fixed devices (a stationary device that is assigned to a room or a unit and is not transported with the patient but stays in the room or unit to which they are assigned).

The Quick Response Premiere Wireless Call System end devices consist of the following:

- Pull Cord/Emergency Call Station
- Pull Cord with Check-In Call Station
- Push Button Emergency Call Station
- Nurse Call Station
- Universal Transceiver
- Door/Window Transceiver
- Pendant



NOTE: Pull Cords and Universal Transceivers check in every 20 minutes; Pendants check-in every 100 seconds by default.



NOTE: Any transceiver devices that are to be assigned to a 32 Channel Controller must be on the same PAN as the 32 Channel Controller.

Call Stations

There are four models of Quick Response Premiere call stations:

- Nurse Call
- Push Button Emergency Call
- Pull Cord
- Pull Cord with Check-In

Display

Call Stations have (2) LED lights that are visible from the front of the device. The first LED light is red and is visible whenever there is a call for assistance. When an alarm is initiated, the red LED will blink quickly. When the alarm has been confirmed as received, the red LED will then blink slower. If for some reason the alarm is not confirmed in 15 seconds the red LED will stay on for 3 seconds and then shut off. At this point the device will continue to try and contact the network.

The second light is a green LED and is only activated by moving a jumper (JP3) in place on the electronics inside the device. It is only recommended that this be activated for service purposes only by trained service personnel as its blinks are used for diagnostic purposes. When the jumper is in place and the unit reinstalled in its original location the green light will blink much fainter than the red alarm LED. The following is how the green LED is coded:

- **One green blink** = message sent, but no acknowledgment was received from Gateway
- **Two green blinks** = all nearby Routers full
- **Three green blinks** = checkin/alarm message was sent successfully with an acknowledgment received from Gateway
- **Ten green blinks** = device received new configuration data

Mounting

To mount a call station:

1. The QR Premiere Call stations are surface mounted. A height of 48 inches is standard, however; mounting heights may vary. Before mounting to the wall, pull the plastic battery tabs to activate the battery pack.
2. Using the rear plate of the call station as a template, place it level against the wall at the desired mounting height and mark the location of the two mounting holes.
3. Center punch each hole and install two nylon wall anchors (included). If the call station is located on a concrete wall then you must use the wall anchors designed for use with concrete (not included).
4. Snap the front assembly over the rear plate and place a screw (included) into the bottom of the assembly (as shown below) to secure.



NOTE: For Pull Cords, determine the desired length of the red Pull Cord string. The standard length of a Pull Cord strings is six feet long. However, as mounting heights vary, the length of the string may need to be adjusted.

To adjust the length of the Pull Cord string:

1. Gently pop the red alarm lever free from the enclosure and remove the string.
2. Cut the string to the desired length and rewind it on the alarm lever in the reverse order it was removed. There are instructions printed on the side of the red alarm lever for assistance in winding the string.
3. Press the red alarm lever back onto the enclosure and route the pull cord string through the small slit in the bottom corner of the enclosure.



NOTE: Prior to any Call Device setup, the devices must be assigned to a unit. This is what allows the device to be seen in the Event List. Refer to the *Software Administrator Guide* for additional information.

Add Retention

If excessive pulling on the nurse call cord results in the Nurse Call Jack breaking free from the wall plate, the solution is to add retention to the nurse call cord (0800-0554 *Nurse call Cord Retention Hardware, 10 pack*). This retention increases the strength that the enclosure can withstand.

To add retention hardware to the nurse call cord:

1. Remove the enclosure cover screw on the bottom side of the Nurse Call Jack device.
2. At approximately three inches from the nurse call cord's plug, slip the white plastic cord clamp over the cord.
3. Place the flat side of the cord clamp up against the bottom side of the Nurse Call Jack device with the hole in the cord clamp in alignment with the enclosure cover screw hole.
4. Replace the original screw that was just removed with the pan head screw. Tighten in place.



Nurse Call



A Nurse Call station is affixed near the bed of the patient. An Assistance Required alarm event is reported in the Event List when a patient pushes the button on the Nurse Call cord. The Nurse Call station is supervised; a routine check in message is sent from the transceiver and if the signal is not received by the system, a Device Fault event is generated in the Event List at the computer.

To setup a nurse call station for use:

1. Plug in the desired Nurse Call Cord set into the Nurse Call station.
2. Activate the Nurse Call by pressing the button on the cord set.
3. If the Nurse Call station is working properly, an Assistance Required alarm event will be listed on the Event List at the Central Server. The system senses the Nurse Call when it goes into alarm and adds it to its list of devices.
4. For latching type cord sets reset the Nurse Call station by pulling the button back to the UP position. Momentary type cord sets can be reset by pressing the reset button on the side of the device. The alarm event will automatically clear from the Event List at the Central Server. If Enforce Joint Commission is enabled, you must clear the alarm at the Central Server or Client computer by selecting a reason.
5. At the Central Server, update the Nurse Call station information, for example, giving the Nurse Call a name and/or assigning it to a room or unit. Refer to the "Update Devices" section in the applicable *Software Administrator Guide*.



NOTE: To configure the nurse call for momentary or latching style call cords, make sure the jumper JP2 is set to the following:

- **Momentary:** MOM
- **Latching:** LAT

Push Button Emergency Call



A Push Button Emergency Call is mounted on the wall. This device is used to request staff assistance and is commonly used in common areas and lunch rooms.

An Assistance Required alarm event is reported in the Event List when a patient pushes the red button. The Push Button Emergency Call is supervised; a routine check in message is sent from the Push Button Emergency Call and if the signal is not received by the system, a Device Fault event is generated in the Event List at the computer.

To setup a push button call station for use:

1. Activate the Push Button Emergency Call station by pushing the red button. When pushed, the button remains in a recessed position indicating the device is in an alarm state.
2. If the Push Button Emergency Call station is working properly, an Assistance Required alarm event will be listed on the Event List at the Central Server. The system senses the Push Button Emergency Call when it goes into alarm and adds it to its list of devices.
3. Reset the Push Button Emergency Call by pushing the red button again, the button pops out indicating the transceiver has changes states and is now idle and ready for its next usage.
4. The alarm event will automatically clear from the Event List at the Central Server. If Enforce Joint Commission is enabled, you must clear the alarm at the Central Server by selecting a reason.
5. At the Central Server, update the Push Button Emergency Call information, for example, giving the Push Button Emergency Call a name and/or assigning it to a room or unit. Refer to the “Update Devices” section in the applicable *Software Administrator Guide*.

Pull Cord

A Pull Cord is mounted on the wall. This device is used to request staff assistance and is commonly used in bedrooms and bathrooms. It is suitable for use in close proximity to showers or baths; however to prevent damage, avoid any submersion.

An Assistance Required alarm event is reported in the Event List when a patient pulls a cord. The Pull Cord is supervised; a routine check in message is sent from the transceiver and if the signal is not received by the system, a Device Fault event is generated in the Event List at the computer.

To setup a pull cord call station for use:

1. Activate the Pull Cord by pulling the cord.
2. If the transceiver is working properly, an Assistance Required alarm event will be listed on the
3. Event List at the Central Server. The system senses the pull cord station when it goes into alarm and adds it to its list of devices.



4. Reset the Pull Cord by rotating the red HELP lever back to the UP position.
5. The alarm event will automatically clear from the Event List at the Central Server. If Enforce Joint Commission is enabled, you must clear the white alarm at the Central Server by selecting a reason.
6. At the Central Server, update the Pull Cord information, for example, giving the Pull Cord a name and/or assigning it to a room or unit. Refer to the “Update Devices” section in the applicable *Software Administrator Guide*.

Pull Cord with Check-In

A Pull Cord with Check In enables the staff or patient to push a green button to check-in. Pressing the green button indicates to the system that the patient has checked in or been visited by staff. The type of check-in depends on how your Pull Cord with Check In is configured (refer to the applicable *Software Administrator Guide*). For various types of check in see below.



NOTE: Setup for the pull cord with check-in is the same as the pull cord station listed above.



Check-in types

- **Patient Check In:** A patient pushes the button to notify the staff that he/she is awake and does not require assistance.
- **Staff Check In:** A staff member pushes the check-in button once they have checked on a patient.
- **Staff Care Complete:** A staff member pushes the check-in button in response to an Assistance Required alarm once the patient has been checked on and the alarming device is reset. If Joint Commission is enforced, this will clear the White alarm from the Client computer

Battery Replacement

The QR Premiere Call Stations are powered by 4 replaceable AA batteries.

To replace the AA Batteries for the Call Stations:

1. Remove the Nurse Call transceiver from its mounted location by first removing the screw on the bottom of the enclosure.
2. Rotate the enclosure upward and remove from wall. The four AA batteries will be visible. There is no need to disassemble anything as the batteries are removable as they are. Pull all four batteries free from the battery holder.

NOTE: Do not use a metal screwdriver or metallic instrument to remove the battery. This may damage the device.

3. Insert four new AA Lithium Ion batteries into the battery holder. Make sure to pay attention to the polarity of the batteries within their holder.
4. Verify communication is resumed by alarming the Nurse Call transceiver and observing the LED through the front of the Nurse Call transceiver. It should be blinking red.
5. Once communication is verified replace the front cover of the Nurse Call transceiver and remount it to the wall mounting plate.

Universal Transceiver



A Universal transceiver can be used to integrate your facility's existing equipment such as backup generators or other devices that can be integrated with the software. Universal transceivers can be programmed as either NO (normally open) or NC (normally closed) devices. They automatically activate when the input from a monitored device has a contact close or open. When this happens, the Universal transceiver sends event information to the Central Server. The Universal transceiver is powered by a replaceable 3V coin cell battery.

To wire the Universal transceiver connect the two 22-gauge, 2-conductor stranded wire into the appropriate terminals on the existing device. Refer to the device manufacturer's instructions or contact the RF Technologies, Inc. Technical Support Team at (800)-669-9946 or (262) 790-1771 to identify the correct terminals.

Display

The Universal has one (1) LED light. The light is visible when enclosure door is open (i.e. during installation), but not visible during normal operation when the enclosure door is closed. The light flashes briefly once every check-in (20 minutes by default) and once each time the device alarm is triggered or cleared. Green indicates communication with the Router is good; red indicates communication failure and device is not able to transmit to the Router.

Mounting



The Universal transceiver can be mounted with a screw using a mounting hole; it can be applied with the attached adhesive pad; or it can be mounted with a lanyard or zip tie through the opening at the top of the transceiver.

To mount the Universal transceiver using mounting hole:

1. Use your fingers to open the front cover of the transceiver by pushing the retaining clip on the top downward. This allows the hinged cover to drop down and expose the circuit board.
2. Carefully pull the circuit board free from the pins on the enclosure.
3. Drill a 1/8 inch mounting hole through the indentation in the transceiver enclosure.
4. Using the enclosure of the Universal transceiver as a template, place it level against the wall and mark the location of the mounting hole.
5. Mark out the mounting hole and drill a 1/16 inch diameter hole where you made the mark.
6. Line up the hole on the transceiver enclosure with the newly drilled hole and mount the enclosure to the door frame using a number 6 screw (not included).
7. Pull the plastic battery tab to activate the battery or refer to the section entitled "To replace the battery in a Universal transceiver" on page 46 to insert a new battery.
8. Return the circuit board onto the two pins.
9. Snap the front cover of the transceiver back into place.



To mount the Universal transceivers with adhesive pad:

1. Remove an adhesive pad from the strip of paper.
2. Place the transceiver face down.
3. Line the adhesive pad up with the back of the transceiver.
4. Apply the adhesive pad.
5. Verify that the pad is applied correctly and is not hanging over the sides of the transceiver.
6. Determine where you want to apply the transceiver. The surface must be clean, dry and free of condensed moisture.
7. Remove the plastic battery tab to activate the battery or refer to the section entitled "To replace the battery in a Universal transceiver" on page 46 to insert a new battery.
8. Remove the adhesive plastic guard.
9. Firmly attach the transceiver to the mounting surface. Ideal application temperature range is 70°F to 100°F (21°C to 38°C).
10. Press firmly and hold for approximately 10 seconds to activate the pressure sensitive adhesive.
11. After application, the bond strength will increase as the adhesive flows onto the surface. At room temperature, approximately 50% of ultimate bond strength will be achieved after 20 minutes, 90% after 24 hours and 100% after 72 hours.

To set up the Universal transceiver for use:

1. Activate the Universal transceiver by inserting the battery or remove the plastic battery tab.
2. Test the transceiver by activating the existing device.
3. If the transceiver is working properly, the Central Server will sense the Universal when it goes into alarm and add it to the list of devices.
4. At the Central Server, update the transceiver information, for example, giving it a name and/or assigning it to a room or unit. Refer to the “Update Devices” section in the *Software Administrator Guide*.

Battery Replacement

To replace the Universal Transceiver battery:

1. Use your fingers to open the front cover of the transceiver by pushing the retaining clip on the top downward. This allows the hinged cover to drop down and expose the circuit board.
2. Carefully pull the circuit board free from the pins on enclosure.
3. If changing the battery, use a small, non-conductive piece of plastic or wood to push the 3V Lithium coin cell battery from the rear of the battery clip until it pops free.



NOTE: Do not use a metal screwdriver or metallic instrument to remove the battery. This may damage the device.

4. Insert the 3V Lithium coin cell battery into the battery holder as shown. Be sure to align the positive (+) end of the battery as marked on the battery and battery holder.
5. Verify communication by observing the LED light.
6. Return the circuit board onto the two pins.
7. Once communication is verified, snap the front cover of the transceiver back into place.

Tamper

The tamper functionality operates in several modes depending on the device and the type of tamper interference. In either case, when initiated, a Tamper alarm event will be listed on the Event List at the Central Server.

Below is a table showing the type of tamper event associated with a particular device.

Tamper	Nurse Call	EAC	Door/Window	Door Manual Reset	Door Check-In	PIR
Case Open	x	x	x	x	x	x
External Enclosure						x
Cord Removed	x					

Door/Window Transceiver



Display

A Door/Window transceiver is used to protect a door or window against unauthorized egress. An Exit alarm event is reported in the Event List when a monitored door or window is opened. The alarm automatically clears when the door or window is closed. The Door/Window transceiver is supervised; if no information is received by the system from the transceiver for a specified number of minutes, a Device Fault alarm is generated in the Event List at the computer.

The Door/Window transceiver comes in two pieces: the transceiver enclosure and a magnet. The magnet is attached directly to the door or window. The transceiver enclosure is mounted on the door or window frame and can be mounting with the attached adhesive pad or a screw. An alarm triggers when the devices are separated. The Door/Window transceiver is powered by a replaceable 3V coin cell battery.

The Door/Window transceiver has one (1) LED light. The light is visible when enclosure door is open (i.e. during installation), but not visible during normal operation when the enclosure door is closed. The light flashes briefly once every check-in (20 minutes by default) and once each time the device alarm is triggered or cleared. Green indicates communication with the Router is good; red indicates communication failure and device is not transmitting to the Router.

Mounting

To mount the Door/Window magnet to the door or window:

NOTE: When mounting the Door/Window magnet on a door, there is a better sensitivity if the magnet is mounted closer to the opposite edge from the hinges.

1. Determine placement of the magnet. The distance between the reed switch in the transceiver and the magnet must be no more than 1/2 inch.
2. Using the Door/Window transceiver magnet as a template, place it level against the door or window and mark the location of the two mounting holes.
3. Drill holes where you made the marks.
4. Line up the holes on the magnet with the newly drilled holes and mount the magnet using the screws provided.



To mount the Door/Window transceiver using mounting hole:

NOTE: Orientate the internal reed switch next to magnet 3/8 inch away. The Universal transmitter has been tested and shown to work as far as 1/2 inch.

1. Use your fingers to open the front cover of the transceiver by pushing the retaining clip on the top downward. This allows the hinged cover to drop down and expose the circuit board.
2. Carefully pull the circuit board free from the pins on the enclosure.
3. Drill a 1/8 inch mounting hole through the indentation in the transceiver enclosure.
4. Hold the enclosure against the door/window frame so that when the circuit board is in place, the internal reed switch faces the magnet on the door.
5. Mark out the mounting hole and drill a 1/16 inch diameter hole where you made the mark.
6. Line up the hole on the transceiver enclosure with the newly drilled hole and mount the enclosure to the door frame with a number 6 screw (not included).
7. Pull the plastic battery tab to activate the battery or refer to the section entitled "To replace the battery on a Door/Window transceiver" on page 51.
8. Return the circuit board onto the two pins.
9. Snap the front cover of the transceiver back into place.

To mount the Door/Window transceiver using mounting plate:

When mounting to a door or window jamb whose width is less than the width of the Door/Window transceiver, use the provided plastic mounting plate.

1. Determine the location of the Door/Window transceiver.
2. Place the mounting plate in this location and mark the two mounting holes on the jamb.
3. Pre-drill the two holes using a 9/64" drill in the two marked locations.
4. Mount the plate using the screws provided.
5. Proceed to the step 2 of the next procedure, to mount the Door/Window transceivers with adhesive pad.

To mount the Door/Window transceivers with adhesive pad:

The Door/Window transceiver can be attached using an adhesive pad that can be purchased with the transceiver.

1. Determine where you want to mount the transceiver. The mounting surface must be clean, dry and free of condensed moisture.
2. Pull the plastic battery tab to activate the battery or refer to the section entitled "To replace the battery on a Door/Window transceiver" on page 51 to insert a new battery.
3. Remove the adhesive plastic guard.
4. Hold the enclosure against the door/window frame so that when the circuit board is in place, the internal reed switch faces the magnet on the door.
5. Firmly attach the transceiver to the door/window frame (or mounting plate). Ideal application temperature range is 70°F to 100°F (21°C to 38°C).
6. Press firmly and hold for approximately 10 seconds to activate the pressure sensitive adhesive.
7. After application, the bond strength will increase as the adhesive flows onto the surface. At room temperature, approximately 50% of ultimate bond strength will be achieved after 20 minutes, 90% after 24 hours and 100% after 72 hours.

Door/Window Transceiver w/Reset Button

If your Door/Window transceiver comes with a reset button, the alarm must be reset at the door by pressing the reset button once the door/window is closed. The Door/Window transceiver comes in three pieces: the transceiver enclosure, a magnet and a reset button. There are two types of reset buttons.

- Round Push Button (resets the transceiver)
- Emergency (momentarily changes the state of the transceiver from normally closed to open, or from normally open to closed for as long as you push the button)

Mounting

To mount the Door/Window transceiver with reset button:

1. Mount the Door/Window magnet. The distance between the reed switch in the transceiver and the magnet must be no more than 1/2 inch.
2. Mount the Door/Window transceiver. Orientate the internal reed switch next to the magnet 3/8 inch away.
3. The Universal transceiver comes pre-wired with 4 feet of 2- conductor 22 gauge wire. Route wire into door or window jamb and to the desired reset button location.
4. Mount the reset button.



To mount the reset button that has the round push button:

1. Use your fingers to remove the front cover.
2. Using the base of the reset button as a template, place it level against the door or wall and mark the location of the two mounting holes.
3. Drill holes where you made the marks.
4. Line up the holes on the base of the reset button with the newly drilled holes and mount the base using the screws provided.
5. Snap the front cover of the reset button back onto the base.



To mount the reset button that is labeled EMERGENCY:

1. Using the reset button as a template, place it level against the wall or door and mark the location of the two mounting holes.
2. Drill holes where you made the marks.
3. Line up the holes on the base of the reset button with the newly drilled holes and mount the reset button using the screws provided.

To set up the Door/Window transceiver for use:

1. Activate the Door/Window transceiver by opening the door or window.
2. If the transceiver is working properly, an Exit alarm event will be listed on the Event List at the Central Server. The system senses the Door/Window transceiver when it goes into alarm and adds it to its list of devices.
3. Reset the Door/Window transceiver by closing the door or window and pressing the reset button if applicable.
4. If the transceiver is reset properly, the alarm event will automatically clear from the Event List at the Central Server. If Enforce Joint Commission is enabled, you must clear the alarm at the Central Server by selecting a reason.
5. At the Central Server, update the Door/Window transceiver information, for example, giving it a name and/or assigning it to a room or unit. Be sure to enable the Inactivity Check-In feature and select beginning and end times. Refer to the “Update Devices” section in the applicable Series Software Administrator Guide.

Battery Replacement

To replace the Door/Window Transceiver battery:

1. Use your fingers to open the front cover of the transceiver by pushing the retaining clip on the top downward. This allows the hinged cover to drop down and expose the circuit board.
2. Carefully pull the circuit board free from the pins on enclosure.
3. If changing the battery, use a small, non-conductive piece of plastic or wood to push the 3V Lithium coin cell battery from the rear of the battery clip until it pops free.



NOTE: Do not use a metal screwdriver or metallic instrument to remove the battery. This may damage the device.

4. Insert the 3V Lithium coin cell battery into the battery holder as shown. Be sure to align the positive (+) end of the battery as marked on the battery and battery holder.
5. Verify communication by observing the LED light.
6. Return the circuit board onto the two pins.
7. Once communication is verified, snap the front cover of the transceiver back into place.

Pendants



The Pendant is a wireless, mobile transceiver that can be worn around the neck or wrist, or attached to a belt. The protective boot protects the Pendant against dropping and water ingress. However, to prevent water damage, avoid prolonged submersion and direct contact with a water stream.

The Pendant can be supervised; if no information is received by the system from the Gateway for a specified supervision time, a No Signal alarm is generated in the Event List at the computer. Since the Pendant is a mobile device, no installation is required.

Display

The Pendant has one (1) light that is visible from the outside of the enclosure. The light flashes 3 times in rapid succession when the alarm is triggered or cleared. A green light indicates communication with the Gateway/Router is good; red indicates communication failure and the device is not transmitting to the Gate-way/Router.

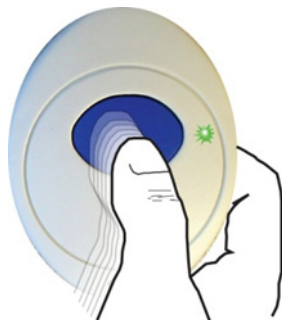
Activate

To activate the pendant:

The Pendant is shipped with a replaceable 3V coin cell battery. To activate the battery, use your fingers to re-move the back cover and pull out the plastic battery tab. Be sure the battery stays in the battery holder while the plastic tab is removed. Additionally, make certain that you are not pressing on the blue button while activating the battery.

To setup the pendant for use:

1. With the Pendant within range of the system, alarm the Pendant by pressing and releasing the blue button. If the alarm message has been delivered successfully, the green light will flash 3 times.
2. The green light will then blink once every 3 seconds while the Pendant remains in alarm. The system senses the Pendant when it goes into alarm.
3. Reset the Pendant by pressing the button six times with less than 1 second between presses. The green light will flash each time the button is pressed.

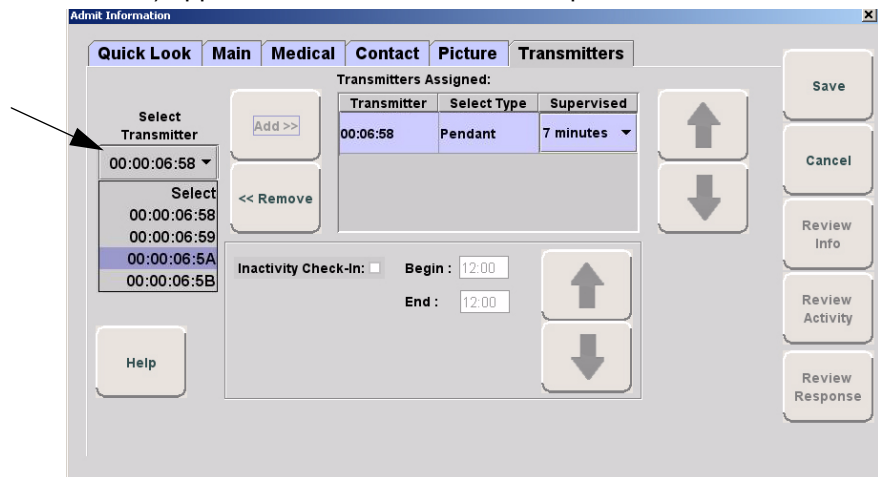


4. If the alarm clear message has been delivered successfully, the green light will flash 3 times. The green light will no longer blink once every 3 seconds.

5. The pendant is now ready to be assigned. Verify the Pendant appears in the Select Transmitter pull-down in the patient's Admit Information window, Transmitter tab.

To verify Pendant transceiver appears in the system:

1. **Login** then click **Manual Admit**
2. Select the **Transmitters** tab.
3. Verify that the **Pendant ID** number (last four numbers printed on the Pendant) appears in the Select Transmitter pull-down.



Battery Replacement

RF Technologies uses only Panasonic 3.0 V Coin Cell Lithium Battery model # CR 2450. These batteries provide 10 to 30 percent more power than other batteries of the same size.

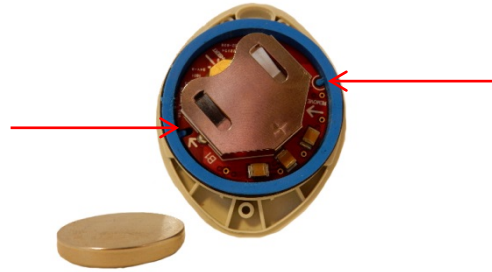
To replace a battery in a Pendant:

1. Remove the protective boot from around the pendant
2. Use your fingers to remove the back cover of the Pendant and expose the circuit board. The battery holder is in plain view.



3. Tilt the circuit board back a few degrees (the battery should be replaced without removing the circuit board from the enclosure)
4. When changing the battery, use a small, non-conductive piece of plastic or wood to push the 3V Lithium coin cell battery from the rear of the battery holder until it pops free.

NOTE: Do not use a metal screwdriver or metallic instrument to remove the battery. This may damage the device.



5. Push the circuit board back into the enclosure so that it sits flush and the alignment ribs are seated correctly
6. Press the blue button on the pendant (you should hear a click) a few times to ensure no charge is remaining in the circuits
7. Insert the new 3V Lithium coin cell battery into the battery holder. Be sure to align the positive (+) end of the battery as marked on the battery upward and into the battery holder.



8. Carefully align the back cover of the pendant over the front enclosure before snapping into place (wiggling the back cover slightly will help it slide over the black O-ring on the other half of the pendant enclosure). Avoid twisting the cover as this may dislodge the O-ring, compromising its water resistance.
9. Snap the back cover back onto the pendant.
10. Replace the protective boot
11. The pendant should be tested to verify proper working order

NOTE: When inserting the replacement battery for the Pendant, inadvertently holding the blue button down while inserting the battery may place the Pendant transceiver into Survey Mode.

12. Verify light communication.
13. When replacing the battery to a Pendant containing a model # CR 2450 battery, to maintain the Pendant's water resistance, a small coating of silicon grease on the o-ring is beneficial. Break open the tube and with a small dab on the finger, apply a thin coat of the silicone grease to the circumference of the o-ring on the top half of the enclosure. Wipe off any excess.

NOTE: Do not use Petroleum Jelly (Vaseline) to grease the o-ring as it will destroy the o-ring material.

14. Carefully align the back cover of the Pendant to the front enclosure before snapping into place. Avoid twisting the cover; twisting may dislodge the o-ring, compromising its water resistance.
15. Snap the back cover back onto the Pendant.

LED Light Indicators

The Universal and Pendant transceivers contain a two-color indicator light. In general, green indicates good and red indicates bad.

- **No light:** If the LED indicator does not blink within a few seconds of alarming or clearing an alarm, this may indicate a dead battery; try replacing the battery. If the problem persists, contact Technical Support.
- **3 green blinks:** Alarm, clear, or check-in had been transmitted and a confirmation has been received from the Gateway.
- **10 green blinks:** Device has successfully received new configuration data from the computer.
- **1 green blink:** Alarm, clear or check-in has been transmitted but the device has not yet received a confirmation from the Gateway. Wait up to 15 seconds for the device to try again by itself; do not re-alarm the device. The Pendant will also blink green once each time the blue button is pressed; as visual feedback that the button press was recognized.
- **1 red blink:** Device cannot find a Router to communicate with; device may be out of range or on the wrong channel. For the Pendant model #9600-0251, the battery maybe too weak.
- **2 red blinks:** Join failed; the device found one or more Routers, but Routers indicate they cannot accept any additional devices. An additional Router may need to be added to support a large number of devices in the same area.
- **3 red blinks (Pendant model #9600-0251):** Message sent to local Router parent, but device did not get an acknowledgement back from the Gateway. Gateway may have lost power, or all communication paths to Gateway are broken.

Carbon Monoxide



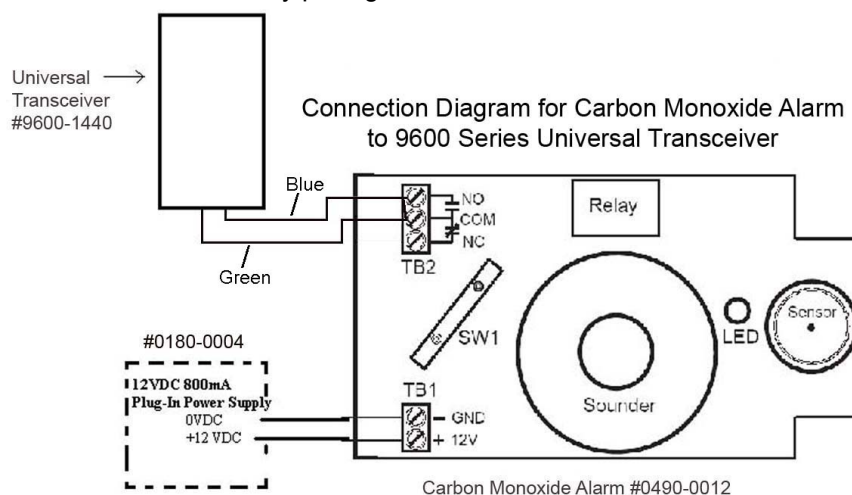
The Pendant is a wireless, mobile transceiver that can be worn around the neck or wrist, or attached to a belt. The protective boot protects the Pendant against dropping and water ingress. However, to prevent water damage, avoid prolonged submersion and direct contact with a water stream.

The Pendant can be supervised; if no information is received by the system from the Gateway for a specified supervision time, a No Signal alarm is generated in the Event List at the computer. Since the Pendant is a mobile device, no installation is required.

Wiring

To wire the Carbon Monoxide alarm to a Universal Transceiver:

1. Remove the Carbon Monoxide Alarm from its box.
2. Remove the cover by pulling it off the back of the unit.



3. Connect the 12VDC plug-in transformer to the power terminals of the TB1 terminal block.
4. Connect one end of the 22/2 cable to the COM and NO terminals of the TB2 terminal block (**WARNING:** Be sure to use the proper polarity).
5. While holding the two cables to the left side of the Carbon Monoxide Alarm, replace the alarm cover. The cables fit out around the bottom and the top cover.



NOTE: Do not run these cables through the access hole in the back of the alarm.

Activate

To setup the carbon monoxide alarm for use:

1. Start the Software.
2. Install the battery in the Universal Transceiver.
3. Close the cover on the Universal Transceiver.
4. Plug-in the power supply connected to the Carbon Monoxide Alarm.
5. The LED on the Carbon Monoxide Alarm flashes green for approximately 18 seconds and then remains illuminated.

6. Activate the Carbon Monoxide Alarm by placing it in alarm. Press and hold the Test/Hush button. Once the button is pressed, the LED will turn red. After approximately 9 seconds, the LED will start to blink red and the alarm will be generated.
7. The system senses the Carbon Monoxide Alarm when it goes into alarm and adds it to its Device List in Configuration.
8. Release the button; after 9 seconds the alarm will reset and the LED will return to green.
9. At the Central Server, go to the Configuration page and update the Carbon Monoxide Alarm information (i.e. giving it a name and/or assigning it to a room or unit). Be sure to set the device type to CO Detector. Refer to the "Update Devices" section in the Series 6.0 Software Administrator Guide.
10. Mount the Carbon Monoxide Alarm (and the attached Universal Transceiver) on the wall. For more information see the manufacturer's instructions.
11. Repeat steps 5 and 6 to test the alarm.
12. Verify that an alarm is generated in the client application's Event List.
13. Verify the alarm clears from the Event List once the Test/Hush button is released.

Testing the System

After all of the components that make up the Quick Response Premiere Wireless Call System are in place, the system-wide settings are applied, and information specific to at least one transceiver is entered into the database, test the operation of the entire system.

Com Port Mapping

1. Eliminate unused com ports from mapping to reduce CPU load.

Device Configuration

2. Go to Configuration Device Screen.
3. Verify correct channels are in use by looking at the Gateway settings
4. Verify the name of the device complies with the recommended naming conventions. Refer to the section entitled "Naming Conventions for the Quick Response Premiere" in the applicable *Software Administrator Guide*.
5. Test the operation of the Supervision function
 - Confirm that all of the supervision settings are defined. Refer to the section entitled "Configure Units" in the applicable *Software Administrator Guide*.
 - Make a note of the number of minutes selected for Transmitter Supervised Time.

Dashboard

6. Verify devices powered correctly
7. Go to Dashboard screen
8. Verify all devices installed are present in Dashboard.
9. Verify all devices are named. If not named go to step 2 and name device.
10. Verify no erroneous devices. If erroneous devices are in the dashboard, go to step 2 and remove them.
11. Verify all firmware revisions are correct.
12. Verify device check-ins occurring at designated intervals.
 - Gateway is 15 seconds
 - Routers are 30 seconds
 - Pull Cords and Universals are 20 minutes
 - Pendants are 8 hours

Device Tree Report

13. Go to Device Tree Report.
 - On the top of the screen click Comport to sort first by Comport.
 - Then click on Short Address to sort by Short Address.
14. Check the number of devices per router (should not exceed 12).
15. Check the number of routers, devices per gateway (should not exceed 64).
16. Check the number of hops to gateway (should not exceed 4).

Software Operation

17. Test the software
 - At the Central Server, activate a Pendant by pressing the button. If the pendant is functioning properly, its green light will flash a series of times, indicating that it is sending a signal.
 - If the software is responding, an Alarm event will be listed on the Event List at the Central Server.
 - Reset the pendant by rapidly pressing the button six times. The green light will flash each time the button is pressed. If the transceiver is reset properly, the green light will flash a series of times, indicating that the Reset signal is being transmitted.
 - If the software is responding, a Reset event will be listed on the Event List at the Central Server.
18. Test the system for sufficient coverage
 - At a remote location in the facility, activate a Pendant by pressing the button. If the pendant is functioning properly, its green light will flash a series of times, indicating that it is sending a signal.
 - If there is sufficient coverage by the Routers, an Alarm event will be listed on the Event List at the Central Server.
 - If your facility is using a paging system in conjunction with your Quick Response Premiere Wireless Call System, an Alarm message will be received by the pager.
 - Again at a remote location, reset the pendant by rapidly pressing the button six times. The green light will flash each time the

button is pressed. If the pendant is reset properly, the green light will flash a series of times, indicating that the Reset signal is being transmitted.

- If there is sufficient coverage by the Routers, a Reset event will be listed on the Event List at the Central Server.
 - If your facility is using a paging system in conjunction with your Quick Response Premiere Wireless Call System, a Reset message will be received by the pager.
19. Repeat these steps at several locations to ensure that the pendant's signal is received from all areas.

Monitor System

20. Let the system run overnight.
21. Verify there are no Device Faults within the 24 hours.

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Chapter 3 – Specifications

Introduction

This section contains information on the specifications for the Quick Response Premiere Wireless devices, including details about the specific requirements and certifications.

Central Power Supply		
Dimensions	16.0" L x 16.0" W x 6.0" D	
Weight	30 lbs	
Power Requirements	120 VAC, 3 A maximum, single-phase, stripped and trimmed terminations	
Output	15 VDC, 9 A maximum, branched into four Class 2 zones polyfused at 2.4 A maximum	
Wire Requirements	16 AWG, 2- or 4-conductor stranded CL2	
Fuse AC	5 A, 120 VAC, Littlefuse 229 series Slo-Blo, 4.5 x 14.48 mm; cartridge type, #229.005	
Fuse DC	15 A, 32 V, Littlefuse 312 series, 6.35 x 31.75 mm, fast-acting cartridge type, #312.05	
Metal Oxide Varistor Surge Protection	3 Harris, P/N: V130LA20C Line to GND, Common to GND, and Line to Common	
Operating Temperature	32-85°F, adequate ventilation required	
Operating Humidity	5-93%, non-condensing	
Enclosure	Gray, steel cabinet with locking door and keyswitch power on/off	
Certifications	UL Standard 864, Class II, Releasing Device 49XM, with Class 2 fused outputs NFPA Standard 72, Fire Protective Signaling Service California State Fire Marshal (CSFM)	
Part Number(s)	9450-0555	Central Power Supply, 15VDC 9A, Class II

Universal Power Supply	550 VAC Desktop UPS	
		
Dimensions	9.8" L x 6.0" W x 3.0" D	
Weight	6.4 lbs	
Power Input	120 VAC, 60 Hz	
Power Output	120 VAC, 60 Hz, 550 VA	
Backup Time – 10% Signaling	15 Min	
Backup Time – 100% Signaling	15 Min	
Certifications	FCC, Part 15 Conforms to UL Standard 1778	
Part Number(s)	1000-7069	550 VAC Desktop
Additional Part Number(s)	1000-7073	750 VAC Desktop

	3KVA Wired CPS UPS Kit	
		
Dimensions	5.2" L x 17.8" W x 29.5" D	
Weight	111.3 lbs	
Power Input	120 VAC, 60 Hz	
Power Output	120 VAC, 60 Hz, 3K VA	
Backup Time – 10% Signaling	60 Min	
Backup Time – 100% Signaling	30 Min	
Certifications	FCC, Part 15 Conforms to UL Standard 1778	
Part Number(s)	1000-7079K	3KVA Wired CPS UPS Kit

Gateway		
Dimensions	4.5" H x 2.7" W x .56" D	
Weight	2.9 oz	
Color	Off-white	
Power Requirements	9-15 VDC, 200mA UL Listed	
Transmit Power	+14 dBm	
Frequency Range	2.4 GHz Direct Sequence Spread Spectrum 2.405 - 2.475 GHz	
Battery Backup	3.7 V, Lithium Ion Rechargeable Battery, 940 mAh Battery Backup (10 - 12 hours) *See Note below.	
Interface	RS-232	
Operating Temperature	0° F - 100° F	
Bandwidth	5 MHz/Channel	
Receive Sensitivity	Received Signal, Minimum -72dBm SNR, Minimum 9dB	
Identification Number	Unique, factory-programmed MAC address	
Standards	Zigbee 802.15.4 Compliant	
Certifications	FCC, Part 15 Conforms to UL Standard 1069	
Part Number(s)	9600-1201	Gateway, Extended Range Whip Antenna
	9600-1225K	Gateway, Extended Range for Serial Terminal Server
	9600-1250K	Gateway, Extended Range for Serial Port

Router		
Dimensions	4.5" H x 2.7" W x .56" D	
Weight	2.9 oz	
Color	Off-white	
Power Requirements	9-15 VDC, 200mA UL Listed	
Transmit Power	+14 dBm	
Frequency Range	2.4 GHz Direct Sequence Spread Spectrum 2.405 - 2.475 GHz	
Battery Backup	3.7 V, Lithium Ion Rechargeable Battery, 940 mAH Battery Backup (10 - 12 hours) *See Note below.	
Operating Temperature	0° F - 100° F	
Bandwidth	5 MHz/Channel	
Receive Sensitivity	Received Signal, Minimum -72dBm SNR, Minimum 9dB	
Identification Number	Unique, factory-programmed MAC address	
Standards	Zigbee 802.15.4 Compliant	
Certifications	FCC, Part 15 Conforms to UL Standard 1069	
Part Number(s)	9600-0151	Router, Extended Range Internal Antenna
Additional Part Number(s)	9600-0160	Router, Enclosed for Outdoor Mounting
	0490-0064	Plastic Outdoor Enclosure

*** NOTE:** Due to the limitations of the charge circuitry and the chemistry of the backup battery contained within the Gateway/Router, it is expected that deep discharge cycles involved in operating from the backup battery for periods longer than 12 hours will have a detrimental effect on the life of the battery and the maximum length of subsequent discharge cycles. It is advisable to contact RF Technologies Technical Services for recommendations following several deep discharge events

Quick Look Display	High Visibility	
		
DISPLAY		
Dimensions	29" L x 4.75" H x 4.5" D, with wall bracket	
Weight	6.25 lbs	
Color	Dark gray plastic enclosure	
Voltage	120VAC Adapter Available, 60Hz	
Screen	LED, green, amber and red 1 line, 15 characters per line	
Tilt Adjustment	Reclines to maximum 180 degrees; swings forward to maximum 180 degrees	
INTERFACE		
Color	Off-white enclosure	
Weight	1.7 oz	
Power Requirements	9-15 VDC, 600mA max	
Wire Requirements	Category 5 (Communication) 16/2 (Power)	
Standards	Zigbee 802.15.4 Compliant	
Certifications	FCC, Part 15 Conforms to UL Standard 1069	
Part Number(s)	9600-0180K	High Visibility Quick Look Display & Router Kit, Internal Antenna
Additional Part Number(s)	9450-1428K	High Visibility Quick Look Display Kit
	9450-1426K	Safe Place High-Visibility Quick Look Interface 4.x
	9450-1427K	Safe Place Elopement Management High-Visibility Display Quick Look Interface 4.x

	For Router	
		
DISPLAY		
Dimensions	11" L x 3.5" H x 2" D Rests 3" high on wall bracket, 6" from wall	
Weight	1.7 lbs	
Color	Light gray plastic enclosure	
Voltage	12-15 VDC	
Current Consumption	400 mA for Quick Look Display w/o Router	
Screen	Vacuum Fluorescent (green) 2 lines, 20 Characters per line	
Tilt Adjustment	Reclines maximum 30 degrees; swivels a maximum 330 degrees	
INTERFACE		
Color	Off-white plastic enclosure	
Weight	1.7 oz	
Power Requirements	12-15 VDC, 600 mA max with Quick Look Connected	
Wire Requirements	Category 5 (Communication) 16/2 (Power)	
Standards	Zigbee 802.15.4 Compliant	
Certifications	FCC, Part 15 Conforms to UL Standard 1069	
Part Number(s)	9600-0190	Quick Look with Cord Modified to Work with Router
	9600-0110K	Quick Look and Router Kit, Internal Antenna

32 Channel Controller		
Dimensions	8.75" H x 6" W x 2.5" D	
Weight	1.5 lbs	
Color	Off-white	
Power Requirements	12-18 VDC, 1.75A Maximum length from CPS is 250 ft.; Dedicated power cable from CPS is required	
Output and Wiring Contacts	(30) NO 20A 24 VDC, 28-16 AWG (3) NC/NO 2A 30 VDC, 26-12 AWG	
Display	32 zone LEDs inside enclosure	
Operating Temperature	0° F - 100° F	
Composition	ABS Flame Retardant Plastic Enclosure	
Certifications	FCC, Part 15 Conforms to UL Standard 1069	
Part Number(s)	9600-1500	32 Channel Controller
Additional Part Number(s)	9600-0120K	32 Channel Controller with Router Kit

Dome Lights		
Dimensions	4.5" L x 2.8" W x 1.25" D	
Weight	3 oz	
Color	Translucent white lens cover	
Voltage	12-24 VDC, 50mA	
Wiring	Power: 16 AWG 2-conductor cable Contacts: 22 AWG 2-conductor cable	
Input Contacts	One set per circuit, selectable NO or NC	
Lamps	One white lamp ("normal" alarm); One red lamp ("emergency" alarm)	
Operating Temperature	32-104°F	
Certifications	Conforms to UL Standard 1069 Certified To CSA STD C22.2 # 205	
Part Number(s)	9600-0295	180 Degree Dome Light for Wireless Systems

Call Stations	Nurse Call  Push Button  Pull Cord  Pull Cord w/Check-In 
Dimensions	4.8" H x 3.0" W x 1.6" D
Weight	2.9 oz
Color	Off-white
Power Requirements	(4) AA lithium batteries 3 - 4 years typical battery life, depending on use
Frequency	2.4 GHz Direct Sequence Spread Spectrum 2.405 - 2.475 GHz
Transmit Power	0 dBm
Receive Sensitivity	Received Signal, Minimum -72dBm SNR, Minimum 9dB
Operating Temperature	0-110°F
Standards	Zigbee 802.15.4 Compliant
Certifications	FCC, Part 15 Conforms to UL Standard 1069
Part Number(s)	9600-0305 Pull Cord Station
	9600-0355 Pull Cord Station with Check-In
	9600-0377 Push Button Station
	9600-0380 Wireless Nurse Call Jack
	9600-0388 Nurse Call Jack Station with Reset
	0490-0501 Nurse Call Cord Set, Single Station, 10 ft. Locking Button
	0490-0502 Nurse Call Cord Set, Double Station, 10 ft. Locking Button
	0490-0505 Nurse Call, Touch Activated
	0490-0538 Nurse Call Cord Set, Single Station, 10 ft. Momentary
	0490-0549 Nurse Call Cord Set, Single Station, 10 ft. Momentary UL

Universal Transceiver		
Dimensions	2.2" H x 1.8" W x 8" D	
Weight	.64 oz	
Color	Off-white	
Power Requirements	3.0V Coin Cell Lithium Battery, CR 2450 2 year battery life	
Frequency	2.4 GHz Direct Sequence Spread Spectrum 2.405 - 2.475 GHz	
Transmit Power	0 dBm	
Receive Sensitivity	Received Signal, Minimum -72dBm SNR, Minimum 9dB	
Operating Temperature	0-110°F	
Identification Number	Unique, factory-programmed MAC address	
Standards	Zigbee 802.15.4 Compliant	
Certifications	FCC, Part 15	
Part Number(s)	9600-1406	Universal Transceiver with (3) 12" Wires
	9600-1422	Universal Transceiver with 48" Wires
	9600-1442	Universal Transceiver with (2) 12" Wires

Door/Window Transceiver		
Dimensions	2.2" H x 1.8" W x 8" D	
Weight	.68 oz	
Color	Off-white	
Power Requirements	3.0V Coin Cell Lithium Battery, CR 2450 2 year battery life	
Frequency	0 dBm	
Transmit Power	2.4 GHz Direct Sequence Spread Spectrum 2.405 - 2.475 GHz	
Receive Sensitivity	Received Signal, Minimum -72dBm SNR, Minimum 9dB	
Operating Temperature	0-110°F	
Identification Number	Unique, factory-programmed MAC address	
Standards	Zigbee 802.15.4 Compliant	
Certifications	FCC, Part 15	
Part Number(s)	9600-1452K	Universal Transceiver with 48" Wires, Reset Button, Surface Mount
	9600-1457K	Universal Transceiver with 48" Wires, Reset Button, Flush Mount
	9600-1462K	Universal Transceiver Door and Window Kit

Pendant		
Dimensions	2.13" H x 1.34" W x .64" D (5.41 cm x 3.40 cm x 1.62 cm)	
Weight	1.4 oz	
Color	Off White Pendant with Blue Protective Boot	
Power Requirements	3.0V Coin Cell Lithium Battery, CR 2450 or CR 2032 Up to 3 years if at 24 hr supervision	
Bandwidth	+9 dBm	
Frequency	5 MHz/Channel	
Transmit Power	2.4 GHz Direct Sequence Spread Spectrum 2.405 - 2.475 GHz	
Receive Sensitivity	Received Signal, Minimum -72dBm SNR, Minimum 9dB	
Operating Temperature	0-110°F	
Protective Boot	Latex-Free Silicon	
Options	Lanyard, wristband (black or blue) or breakaway necklace	
Identification Number	Unique, factory-programmed MAC address	
Standards	Zigbee 802.15.4 Compliant	
Certifications	FCC, Part 15 Conforms to UL Standard 1069	
Part Number(s)	9600-0251	Call Pendant
Additional Part Number(s)	0160-0036K	Protective Boot and Black Nylon Wristband Kit for Call Pendant
	0160-0036	Black Nylon Wristband, Buckle Closure
	0220-0203	Protective Boot
	0490-0039	Plastic Necklace
	0160-0025	Blue Wristband, Velcro® Closure
	0490-0507	Lanyard Necklace with Breakaway Connector and Hook
	0770-0014	Lanyard, Clear, with Clip and Breakaway Necklace

Application Disruption Alarm	 The image shows a black, rectangular Application Disruption Alarm device. It features a circular speaker grille in the center. Below the grille are two LEDs: a green one on the left labeled 'Power On' and a red one on the right labeled 'Alarm'. At the bottom, there is a label with the text 'Application Disruption Alarm', 'PN: 0910-0111', the RF Technologies logo, and contact information: '3125 North 126th Street, Brookfield, WI 53005', 'phone: 800 569 9545', and 'web: www.rf.com'.	
Dimensions	4.5" L x 3.1" W x 1.8" D	
Weight	5 oz	
Power Requirements	5 VDC @ 1A	
LED Notifications	Green LED: Indicates proper device operation Red LED: Indicates a trouble condition when illuminated	
Operating Temperature	32-104°F	
Enclosure	Black ABS	
Certifications	FCC, Part 15 Conforms to UL Standard 1069	
Part Number(s)	9600-1085	Application Disruption Alarm

PIR Motion Sensor		
Dimensions	4.38" L x 2.38" W x 3" D	
Weight	0.4 lbs	
Color	Off-white	
Power Requirements	3 V lithium battery Up to two years battery life, depending on use	
Transmit Power	2.4 GHz direct sequence spread spectrum 2.405-2.475 GHz	
Frequency	0 dBm	
Identification Number	Factory-programmed MAC address	
Standards	IEEE 802.15.4, ZigBee®-compliant	
Certifications	FCC, Part 15	
Part Number(s)	9600-0606	Motion Sensor (PIR)

Smoke Detector		
Dimensions	5.5" diameter, 2.5" deep	
Weight	0.6 lbs	
Color	Off-white	
Power Requirements	120 VAC	
Transmit Power	0 dBm	
Frequency	2.4 GHz direct sequence spread spectrum 2.405-2.480 GHz	
Identification Number	Unique, factory-programmed MAC address	
Standards	IEEE 802.15.4, ZigBee®-compliant	
Certifications	FCC, Part 15 Conforms to UL Standard 1069	
Part Number(s)	9600-1426	Battery Powered Smoke Detector
	9600-1471K	120 VAC Smoke Detector

Carbon Monoxide Alarm		
Dimensions	6.0" L x 2.7" W x 1.35" D	
Weight	4 oz	
Color	White	
Power Requirements	12VDC	
CO Alarm Level	70ppm or higher	
Sounder	85 dB	
Operating Temperature	40-100°F. 15-90% Relative humidity, non-condensing	
Standards	IEEE 802.15.4, ZigBee®-compliant	
Certifications	Conforms to UL Standard 2075 CSFM	
Part Number(s)	9600-1476K	QR Premiere, Carbon Monoxide Alarm

Revision History

Revision	Change
A	Release
B	Updated: Dome Light PCB figure
C	Updated: Document to satisfy UL 1069 requirements
D	Updated: Wording in French Compliance section per the FCC review
E	Added: System to be professionally installed per the FCC review
F	Updated: Document to latest format Updated: “To wire Dome Lights to the 32 Channel Controller” section for clarification on the contacts Updated: Specifications section
G	Updated: Quick Look Specifications
H	Added: Instructions to the Mounting Call Stations section for installing retention hardware on the nurse call cords Added: Carbon Monoxide Alarm instructions (previously in 0510-0321) Updated: Dome Light specifications for new lens Updated: Part numbers listed in the FCC Radiation Exposure Statement for Portable Devices
I	Updated: French translations for the “Radiation Exposure Statement for Mobile Devices” and “Radiation Exposure Statement for Portable Devices” sections



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0510-1099-I
Release Date: 12/2017

