Installing and Configuring Sirens

Sirens (Chimes) are configured to produce a distinctive chime tone for alerting staff to Server Software or Hardware failures.

• The Arial Wireless Nurse Call Solution requires the installation of a siren to monitor the system for Server failures. The siren will be connected to a Gateway GW1000.

• The GW1000 Gateway is configured in Arial to trigger the siren when the Arial Server Software or PC is not communicating with the gateway, in the event that the software or computer are not running.

   Connection Notes:

• A siren used for HPS Server failures **MUST** be connected to the Gateway's Relay (N.C Terminal).

See Appendix for Wiring Diagrams for the GW1000 and Siren.

Selecting Siren Audio

Each siren has a rotary switch for tone and volume selection on the back of the unit. Each siren must be set to position 4.


AUDIO SELECT

| Chime Patterns		
Setting	Repetition Rate	dB Level
1	1 Second Chime	High
2	1 Second Chime	Low
3	¼ Second Chime	High
4	¼ Second Chime	Low
5	Temporal Chime	High
6	Temporal Chime	Low
7	5 Second Whoop	High
8	5 Second Whoop	Low
9	Coded**	High

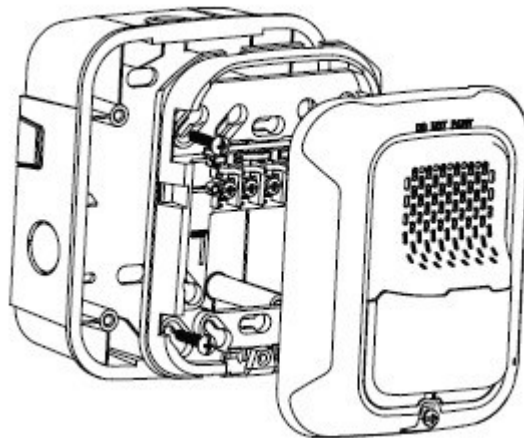**For chime only.

Mounting a Siren

Sirens (Model: CHWL) can either be mounted over a gang box or wall mounted using a Wall Surface Mount Back Box (Model: SBBWL). In both cases a standard mounting plate is used.
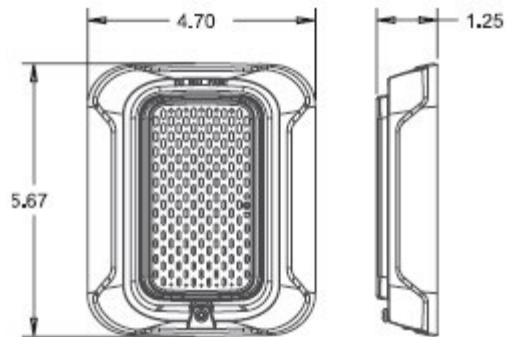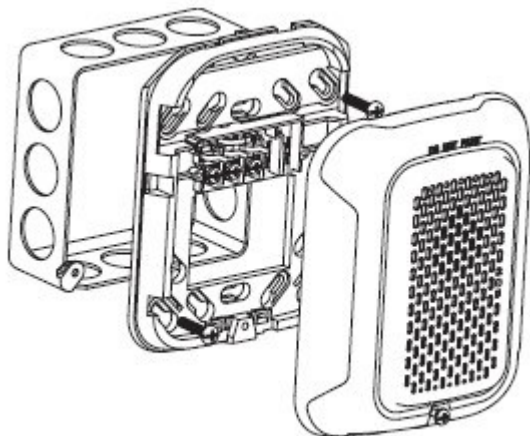
Wall Siren
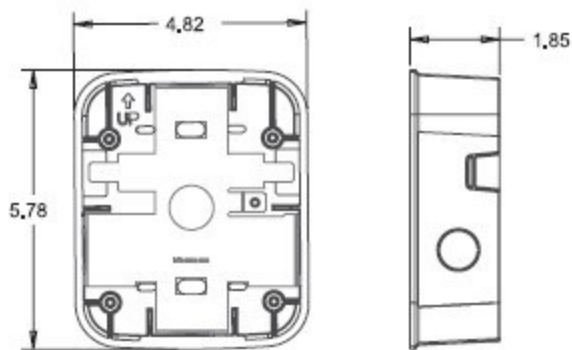
Wall Surface Mount Back Box

Wall Mount Siren with Wall Surface Mount Back Box

Gang Box Mounting

1. Attach mounting plate to junction box. The standard mounting plate is compatible with 4" square, single gang, double gang, and 4" octagon junction boxes.

2. Connect field wiring according to terminal designations. The siren only requires two wires for power and supervision.
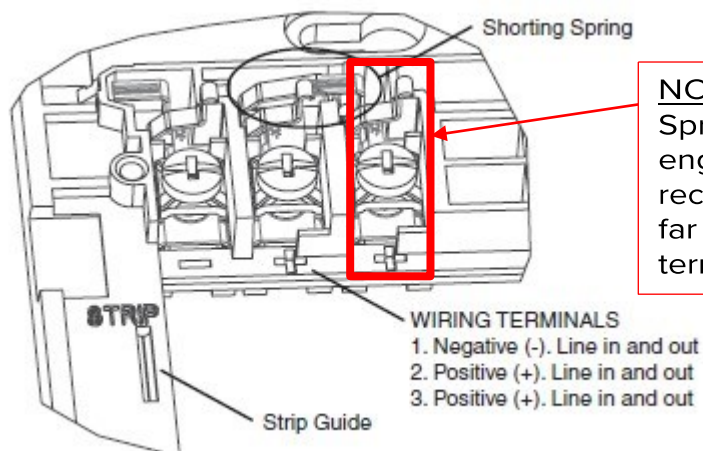

Shorting Spring

NOTE:The Shorting Spring must be fully engaged. It is therefore recommended to use the far Right plus (+) terminal.

WIRING TERMINALS
1. Negative (-). Line in and out
2. Positive (+). Line in and out
3. Positive (+). Line in and out

STRIP

Strip Guide

3. If the siren is not to be installed at this point, use the protective dust cover to prevent contamination of the wiring terminals on the mounting plate.

4. To attach the siren to the mounting plate, hook tabs on the top of the siren housing into the grooves on mounting plate. Then, hinge the siren into position to engage the pins on the siren with the terminals on the mounting plate. Make sure that the tabs on the back of the siren housing fully engage with the mounting plate.

5. Secure the siren by tightening the single mounting screw in the front of the siren housing.

Tamper Screw

For tamper resistance, the standard captive screw may be replaced with the enclosed Torx screw.

1. To remove the captive screw, back out the screw and apply pressure to the back of the screw until it disengages from the housing. Replace with the supplied Torx screw.
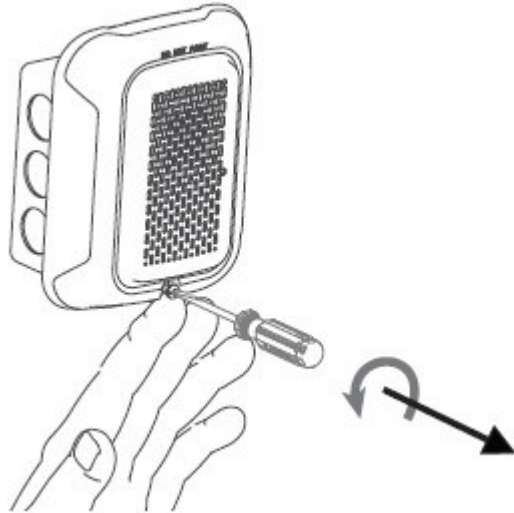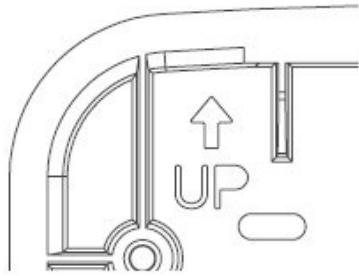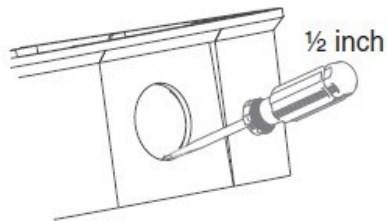

Surface Mounting

1. The surface mount back box may be secured directly to the wall or ceiling. A grounding bracket with ground screw capability is provided if needed.
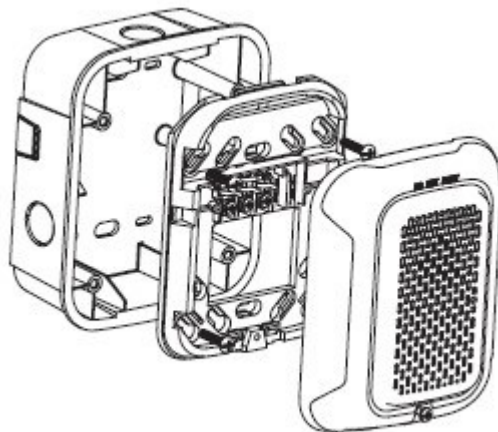
2. The wall mount box must be mounted with the up arrow pointing up.

3. Threaded knockout holes are provided for the sides of the box for ½ inch conduit adapter. Knockout holes in the back of the box can be used for ½ inch rear entry.

4. To remove the ½ inch knockout, we recommend you use a flat head screwdriver, place the blade of the flat head screwdriver in the inner edge of the knockout. Strike the screwdriver as you work your way around as shown below.

½ inch

NOTE: For ½ in. installation, use caution not to strike the knockout near the top edge of the surface mount back box.

5. V500 and V700 raceway knockouts are also provided. Use V500 for low profile applications and V700 for high profile applications.

6. To remove the knockout, turn pliers up, as shown below.

Wire Mold Removal
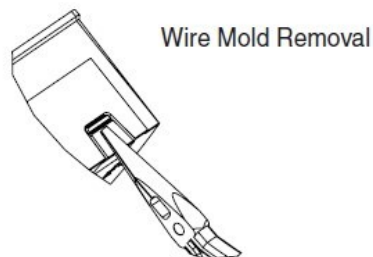
NOTE: Use caution not to strike the knockout near the top edge of the wall version of the surface mount back box.

Configuring Gateways to Activate Sirens

The following section explains how to configure the GW1000 Gateway's output settings in Arial for HPS Server supervision. These settings activate the siren when an essential program service has failed on the Arial HPS Server.
This is a UL2560 requirement.

Prerequisites

• The siren must be connected correctly to a Gateway.

• The Gateway connected to siren must be added to the ALE.

• Gateway must be added to the ALE map.

• Arial and ALE must be integrated and correctly configured.

Configuring HPS Server Supervision

1. Open **Arial** and navigate to **System > Infrastructure > IO**.
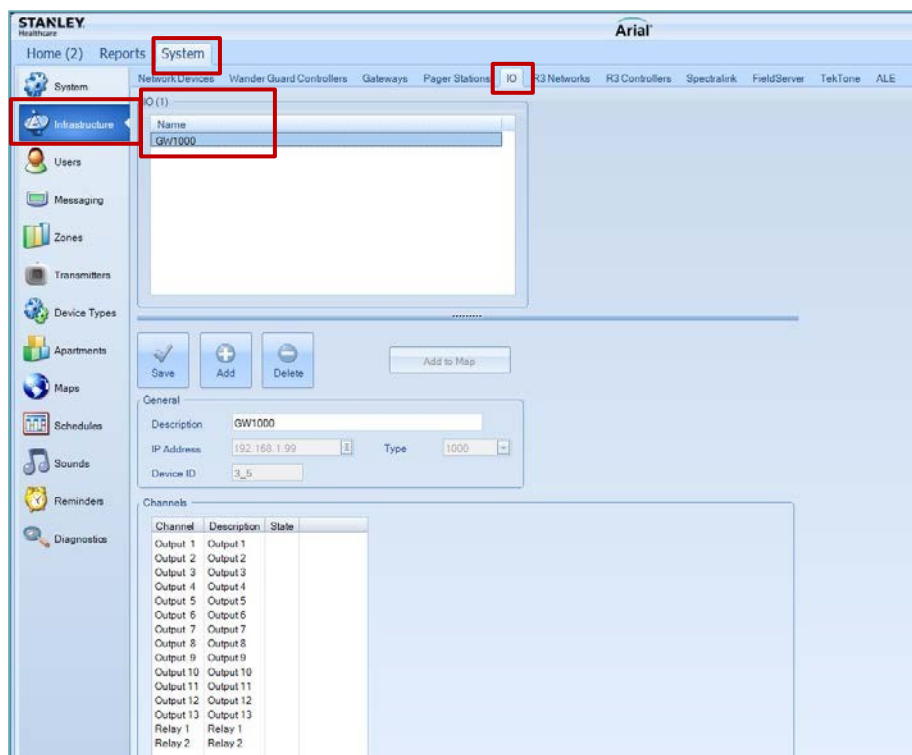
2. Select the Gateway (IO) that you want to configure for 'Supervision Alert'.

3. Under the **Channels** section, select **Relay 1** which is the relay that is connected to the siren.
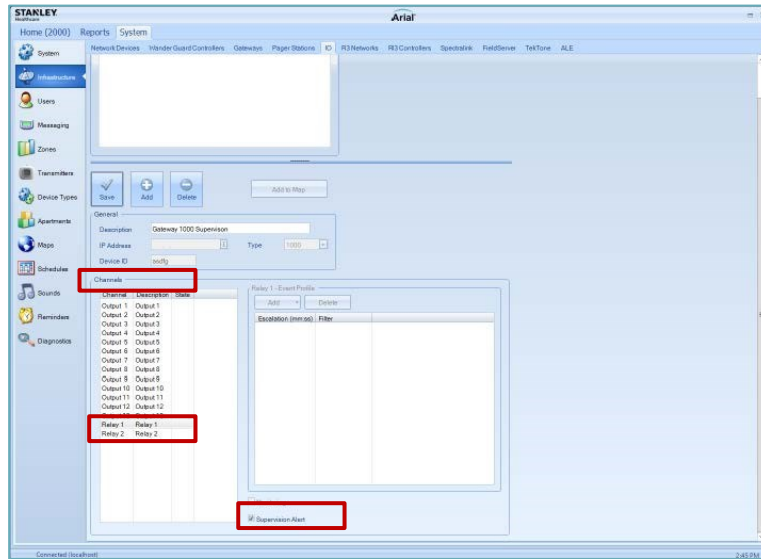
4. Select the **Supervision Alert** checkbox.
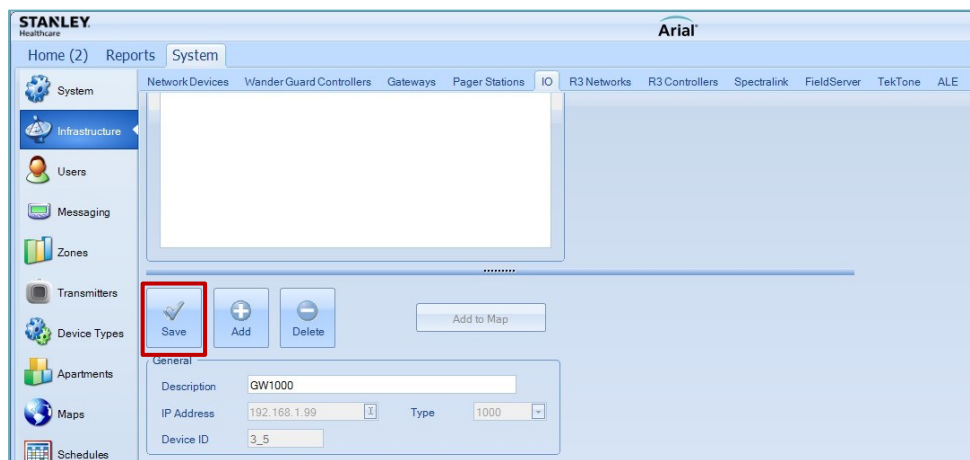
5. Click the **Save** button on the IO tab.

Installing the Network Manager, Network Coordinator and Repeaters

This chapter describes how to install the following devices:

- Network Manager (Model 2560-54312)
- Network Coordinator (Model 2560-54311)
- Repeater (Model 2560-54321)

Installing the Network Manager

1. Record the MAC address and serial number of the Network Manager on the customer service label provided. You may need the MAC address during driver configuration. The MAC address (starts with 00 C0 4E) and serial number are located on labels on the back of the Network Manager.

2. Attach the Network Manager to an accessible stable surface or optionally mount using the DIN rail adapters (see the installation manual supplied on the documentation/device driver CD).

3. Connect the Network Manager port labeled 10/100 ETHERNET to the same Ethernet network segment as the Arial Server PC.

4. Plug the power adaptor into the Network Manager.

5. Connect the power adaptor to an unswitched power source.

6. Verify that the Status LED has completed the boot cycle and network connection for the Network Manager is functioning properly. Refer to the table below for details.

Status	The amber Status LED on the device is lit, indicating you have power and it has completed the boot cycle. Note: The Status LED flashes while booting and it takes approximately 15 seconds for the Bootloader to complete the cycle. When the Bootloader completes the cycle, the LED changes to a solid, steady light that blinks approximately every 10 seconds.
Link/Act	If the red Link/Act LED is lit, it indicates a working Ethernet connection.
Duplex	If the red Duplex LED is lit, it indicates full-duplex activity.
100	If the red 100 LED is lit, it indicates a working 100 MB Ethernet connection (100 MB network, only). If the LED is not lit, it indicates a 10 MB Ethernet connection.

Configuring the Network Manager

Two tasks must be performed to configure the Arial Network Manager:

- Install the PortVision DX tool from the USB Drive included with your Arial system
- Set the IP address of the Network Manager to match what you will be using for the GW1000 and any other local network requirements

Installing the PortVision DX Tool

1. Insert the Arial USB Drive into USB Port on the configuring computer.

2. Navigate to \Other\Comtrol\ and find the latest version of the Comtrol PortVision DX installation software.

3. Run the .msi file and follow the on-screen instructions to install the PortVision DX tool.

Setting the Network Manager IP Address

1. Ensure that the Network Manager is powered up and connected to the same subnet as the computer you are using to configure the device.

2. Launch the PortVision DX tool from the desktop.

3. Click the Scan button. The Network Manager appears under the Scan Results tree. You may need to click the + sign to expand the list to see the results. There

may be more than one if you have performed this procedure before.
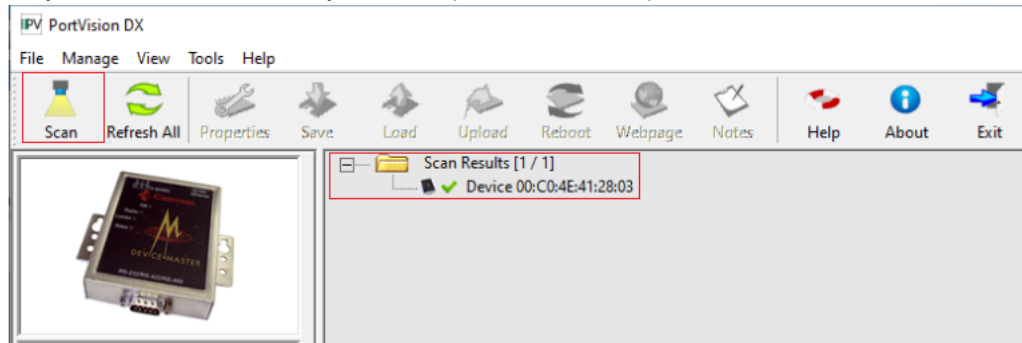
4. Double-click the Network Manager in the list. This opens the Device Properties window.
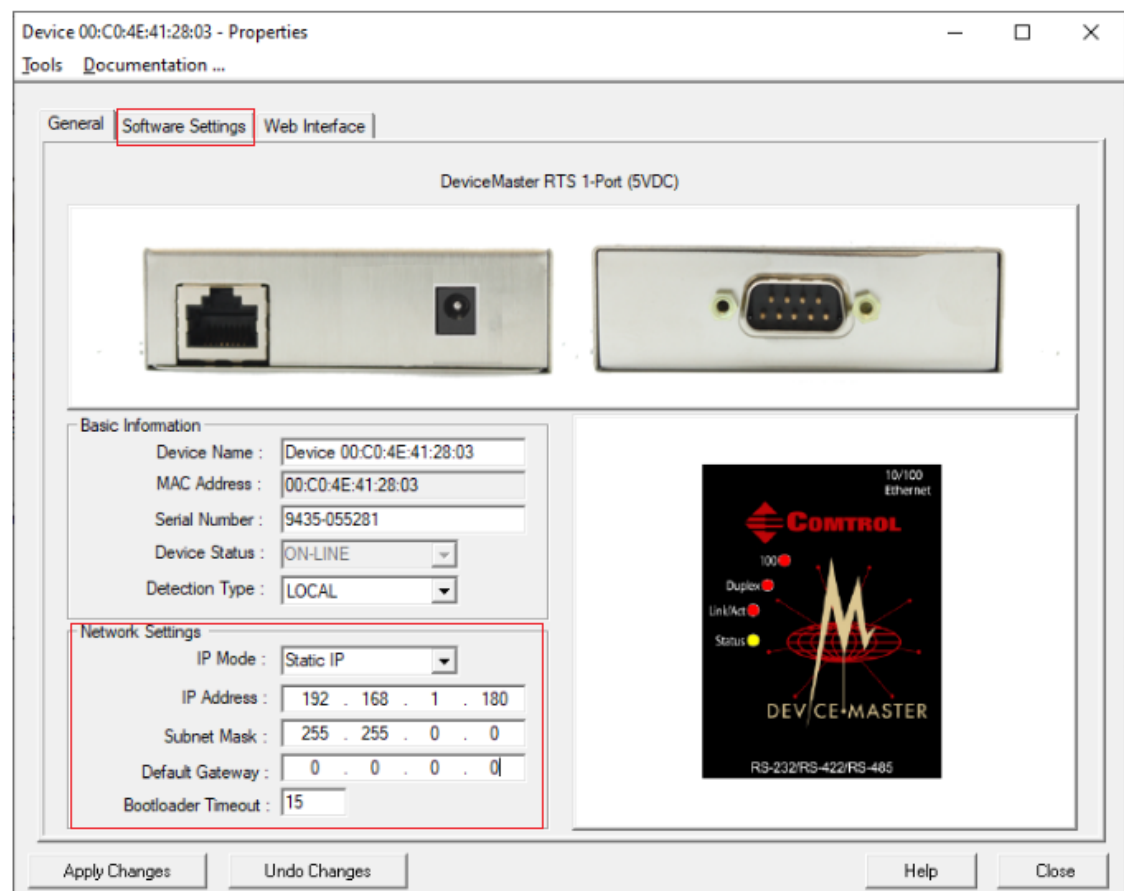
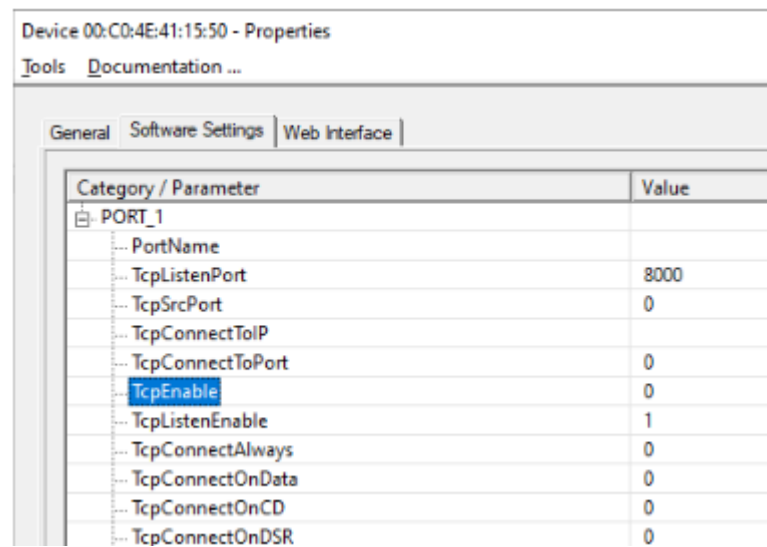5. In the Network Settings section, set the IP Mode to Static IP and add IP Addresses, Subnet Mask, and Default Gateway to create a unique IP address on the Arial Fundamental Devices Network.

6. Click the Software Settings Tab, then click the + sign next to Port_1 to expand the tree.
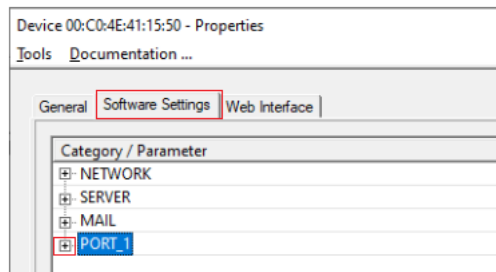
7. Locate TcpEnable in the options tree, then double-click on it.

8. In the Modify dialog that appears, change the Value to 1, then click OK.
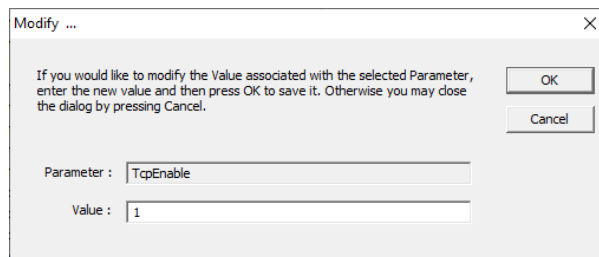
9. The Value for TcpEnable appears in green as 1. Click Apply Changes to send the setting update to the Comtrol Network Manager.
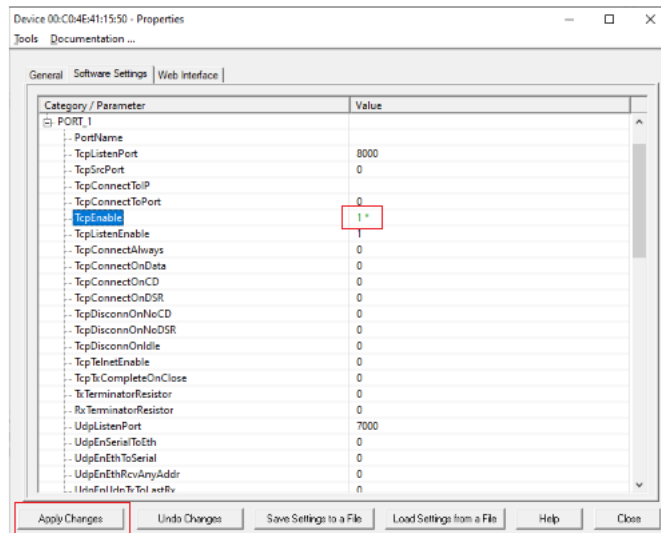
10. The main PortVision DX screen opens. Verify the IP address matches what you assigned in the earlier step. Repeat steps above to add additional Comtrol Network Managers or click the X in the upper- right corner of the screen and OK on any dialogs that appear to close PortVision DX.
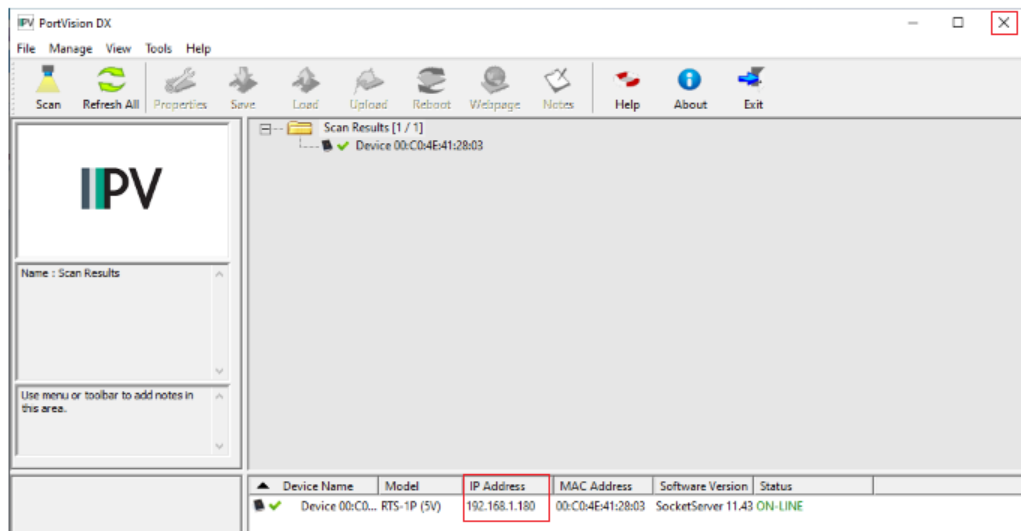
Installing the Network Coordinator

Connecting the Network Coordinator

The network coordinator is delivered pre-wired for power and connectivity. For troubleshooting purposes, however, note the following:

- The coordinator terminal block is wired as follows: Black/White wire from the power adaptor is connected to **Vs**.
  - Black wire from the power adaptor is connected to **GND**.
  - White wire from the RS-232 cable is connected to **SER OUT**.
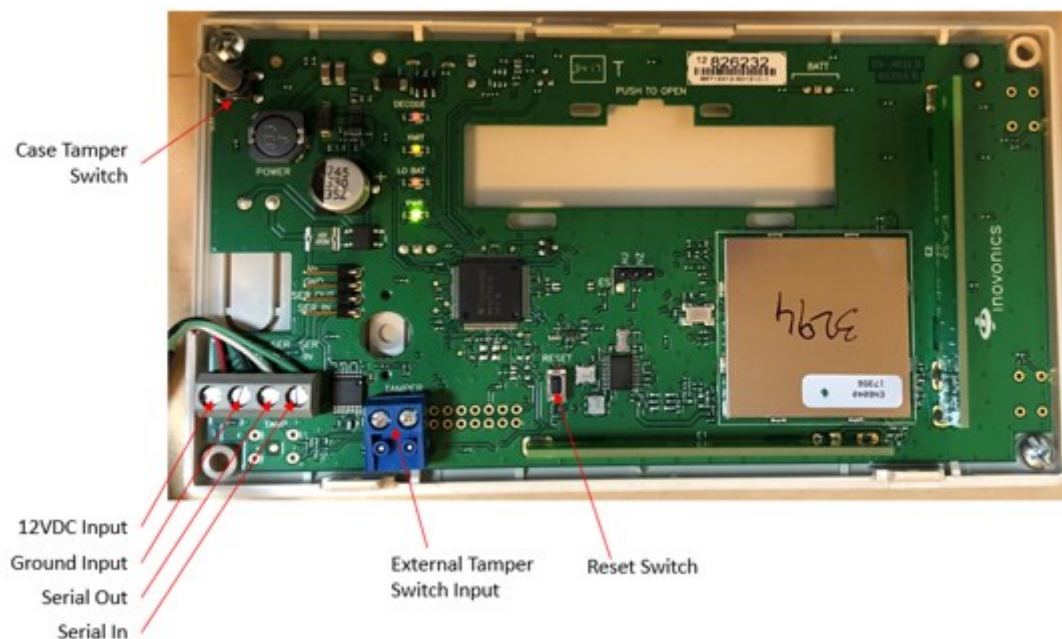 - Black wire from the RS-232 cable is connected to **GND**.
  - Red wire from the RS-232 cable is connected to **SER IN**.

1. Plug the RS-232 cable into the port (P1 or P2) on the ethernet adaptor.

2. Note the port number and ethernet adaptor IP address for network setup later in software .

   Port #: _____

   I.P. Address: _____ . _____ . _____ . _____

3. Plug the power adaptor into an available non-switched receptacle. Ensure that the Power LED lights steady green.

4. Test the coordinator as follows:

- Activate a signaling device and make sure that the RF Receive LED lights.

2560-54311 Network Coordinator LED Indicator Locations

Mounting the Network Coordinator

After the coordinator is connected, powered up and tested, mount the coordinator as follows:

1. Use a small flat-bladed screwdriver to press the housing release tab on the top side of the coordinator. Open the housing.

2. Using suitable anchors, screw the coordinator to the mounting surface through the four corner holes in the base, or use the Dual Lock fasteners.

3. Snap the cover onto the base.

4. Make sure that any exposed cables are neatly and carefully secured. Use wire mold if required.

Installing the Repeater
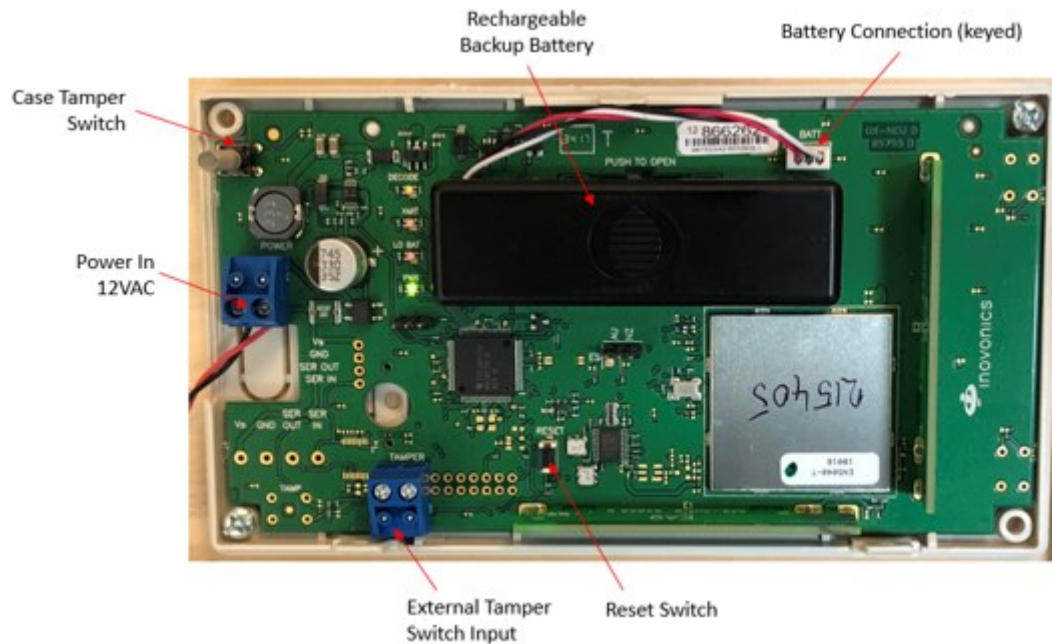
Connecting the Repeater

The repeater is delivered pre-wired for power. For completeness, however, note the following:

- The repeater POWER terminal block is wired as follows:
    - o   Black wire from power is connected to the lower terminal (marked +).
    - o   Red wire from power is connected to the upper terminal (not marked).

1. Note the repeater's serial number (see illustration on previous page for location). You will need this information later when you add the repeater to the system during software setup.

    Ser #: 16_____

2. Attach the battery connector to the BATT terminal.

3. Plug the power adaptor into an available non-switched receptacle.

4. Insert the security screw into the middle of the outlet faceplate (do not perform this step in Canada.)

5. Test the repeater as follows:

    Activate a signaling device and make sure that the Decode and Transmit LEDs light.

Mounting the Repeater

After the repeater is connected, powered up, and tested, mount it as follows:

1. Using suitable anchors for the mounting surface, screw the repeater to the surface through the four corner holes in the base, or use the supplied Dual Lock fasteners.

2. Snap the cover onto the base.

3. Make sure that any exposed cables are neatly secured. Use wire mold if required.

Deploying Arial 900MHz Call Stations

The Arial 900MHz Call Station is a wireless, battery-operated, fixed-location resident call device. The alarm may be activated by a large, easy to press push-button, a pull cord, or an optional remote push-button (Part #0900-240 single button or 0900-241 double button). The Arial 900MHz Call Station is also equipped with a dual-purpose Call Cancel/Check-In button. In concert with Arial software, residents can check in using the Arial 900MHz Call Station. Using the supplied bypass plug, the Arial 900MHz Call Station may be placed into sleep mode to preserve battery life and prevent false alarms when the station is not in use.

This section applies to the following Call Station models: 2560-54336 and 2560-54337.

Mounting the Bracket

It is most efficient to mount all brackets before installing the Call Stations in a facility. all the Call Stations can be enrolled in the Arial software, tested at the server, and marked with their location in a single session, and then installed and tested at the final location

1. Remove the bracket from the Call Station by pressing on the release tab at the bottom of the bracket and sliding the Call station upwards.
2. Using a level, ensure that the bracket is positioned upright on the wall.
3. Using all four of the 1-5/8" #1 square drive trim screws provided, or other anchors and hardware suitable for the mounting surface, attach the bracket.
4. Ensure that all screws are completely seated in the mounting recesses on the bracket so that the Call Station slides easily onto the bracket.
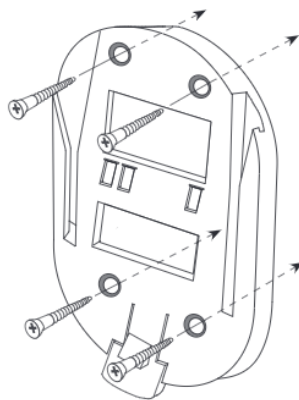

Figure 31.   *Mounting the Bracket for Call Station 54336*

Adding Call Stations, Pendants, and Other Sensors to Arial

Call Stations are generally placed in resident bedrooms and bathrooms enabling residents to call for help and perform daily check-ins. Call Stations can also be placed in common areas, such as dining rooms and therapy areas. Pendants are typically worn by residents. Other devices are placed in accordance with their use case.

The following section assumes familiarity with Arial. The steps below show the registration process for a 2560-54336 900MHz Call Station, but generally apply to other 900MHz alarm initiation devices with differences as noted.

Pre-Requisites

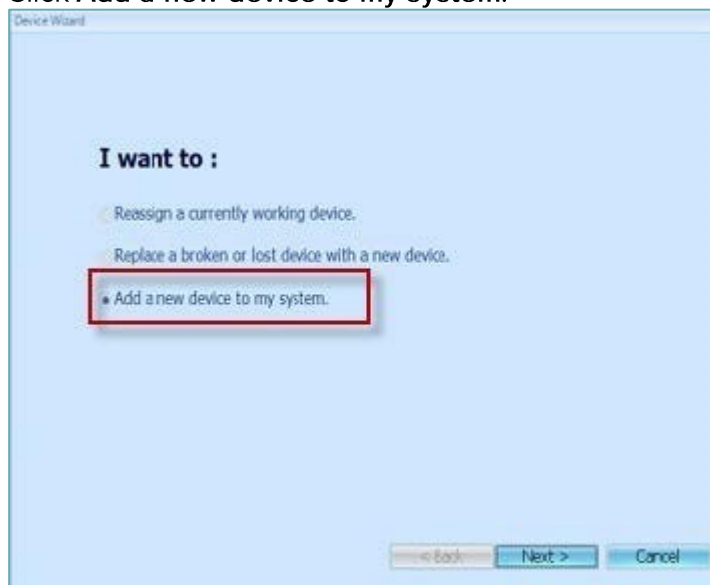Map location areas need to be defined.

Adding Call Stations to Arial involves the following tasks:

Task 1: Add a Call Station to Arial

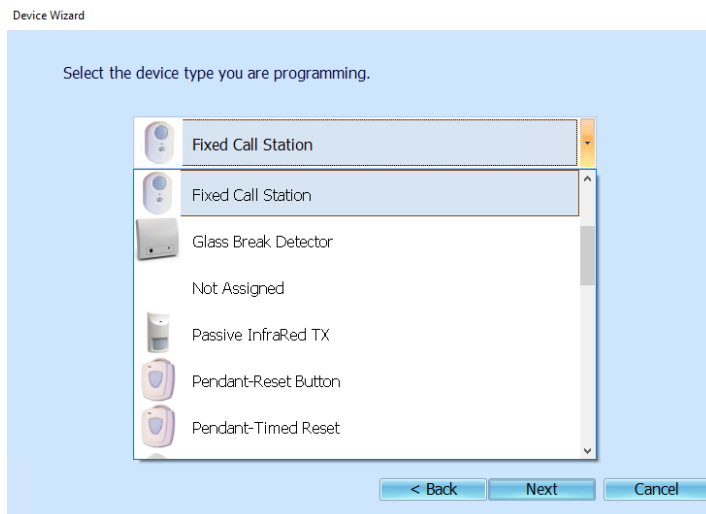**Task 2:** Place the Call Station on a map

Task 1: Add a Call Station to Arial

1. From **Arial** click on the **Home** tab.

2. Select the **Device Wizard**.

3. Click **Add a new device to my system**.

4. Click **Next.**

5.   Scroll down and select 'Fixed Call Station'.

NOTE: Other devices require a different device type be selected at this step. See the table below for guidance.

Device Type Selection Table:

Item Number	Product Description	Selected Device Type
2560-59360/1/2	Small Pendants	Small Pendant
2560-59350	Standard Pendant	Pendant-Reset Button
2560-54336/7	Arial Call Station	Fixed Call Station
2560-54343	Smoke Detector	Smoke Detector
2560-54350	Universal Transmitter	Universal TX
2560-55365	Discriminating PIR	Passive InfraRed TX
2560-54357	Water Resistant Call Station	Universal TX
2560-54351	Transmitter with Monoplug	Universal TX
2560-14390	Door Sited Transmitter 12VDC	Universal TX
2560-55350	Magnetic Switch Transmitter	Echo Door/Window TX
2560-55351	Wireless Door Alarm	Echo Door/Window TX

6.   Click Next.

a.   Make sure the Call Station (or other sensor) has the battery installed then set the device into alarm (refer to the diagrams elsewhere in this document or the manual for the specific component for location of alarm controls). The Device ID appears in the Device Wizard window.

: Make sure the Device ID corresponds to the Call Station. If multiples Device IDs appear, click the "Clear" button, reset the device, then repeat this step until just one Device ID appears or you notice one the repeatedly appears for each alarm attempt.

7.   Select the **Device ID**.

8.   Click **Next**.

9.   Perform the following according to the Call Station's or Sensor's placement:

      a.   Enter in a Description.

a. Select the **Apartment**, **Paging Zone** and **Category**.

b. In the **Serial Number** field, enter in the Call Station or Sensor's serial number.

10. Click **Program**.
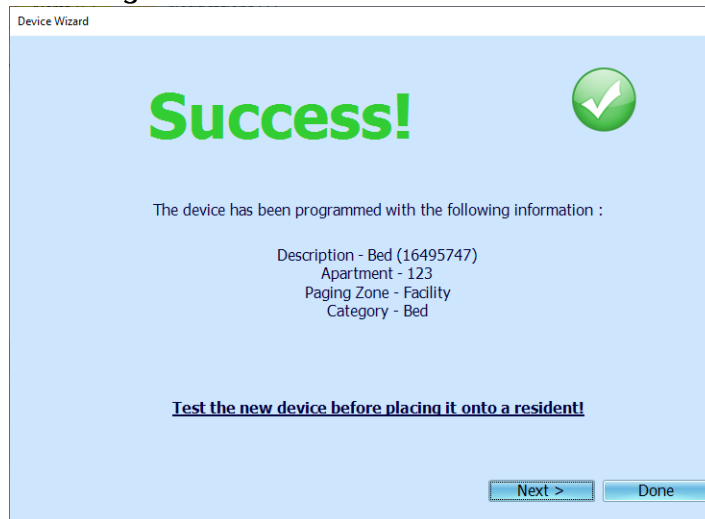
11. Click **Next** to add another device or click on **Done** to close the Device Wizard.

12. Test the new Device before utilizing by placing it into alarm again.

13. Make sure the alarms generated in this process are reset from the device and no longer appear in Arial before deploying or storing the device. This will help prevent caregivers from searching for a device that is in alarm but not yet installed where it should be.

Task 2: Add the Call Station to a Map

Call Stations and other fixed position sensors are placed in resident rooms, bathrooms and common areas and are therefore stationary devices. Pendants are portable and not normally added to maps.

NOTE: *Make sure to add the call stations or other sensors according to their correct locations, for example, if a Call Station is placed in a bedroom then its category will be 'Bed', if a Call Station is placed in a bathroom then its category will be 'Bath'.*

Call Stations and Sensors can only be added to maps after:

- The ALE and Arial have been integrated (Maps are automatically imported from the ALE).

- The Call Stations and Sensors have been added and configured in Arial.

1. From **Arial,** click on the **System** tab.

2. Select **Transmitters**.

3. Search for the Call Station using the search fields.

4. Select the required **Call Station**.

5. Click on **Add to Map** and select the appropriate map.

6. The Map slides up. Move the cursor (appears as crosshairs) on the Map, as close as possible to the actual location of the Call Station or Sensor, then click the Map.

7. The Call Station or Sensor appears on the Map.

8. For more information on Maps and Device icons, refer to the *Arial Wireless Nurse Call Solution Administration Guide.*

Setting the Default Alarm Sound

Call Station alarms in Arial need to be sounded for a minimum of 3 seconds and must be repeated at least every 10 seconds.

The following procedure explains how to select a default sound file from the Arial sound files library. All sound files that are over 3 seconds are set to repeat every 5 seconds by default.

1. From Arial select **System > System** tab.

2. Select **Sounds**.

3. Select a **Default sound** file that is a minimum of 3 seconds, such as Sonar Bell Pulse which is 3.5 seconds. The alarm is set by default to repeat every 5 seconds.

4. Click **Save**.

5. The alarm repeat time can be increased by clicking on **Messaging > PC** tab, and under **Sounds – Enable Alarms –** increase the repeat time in seconds.
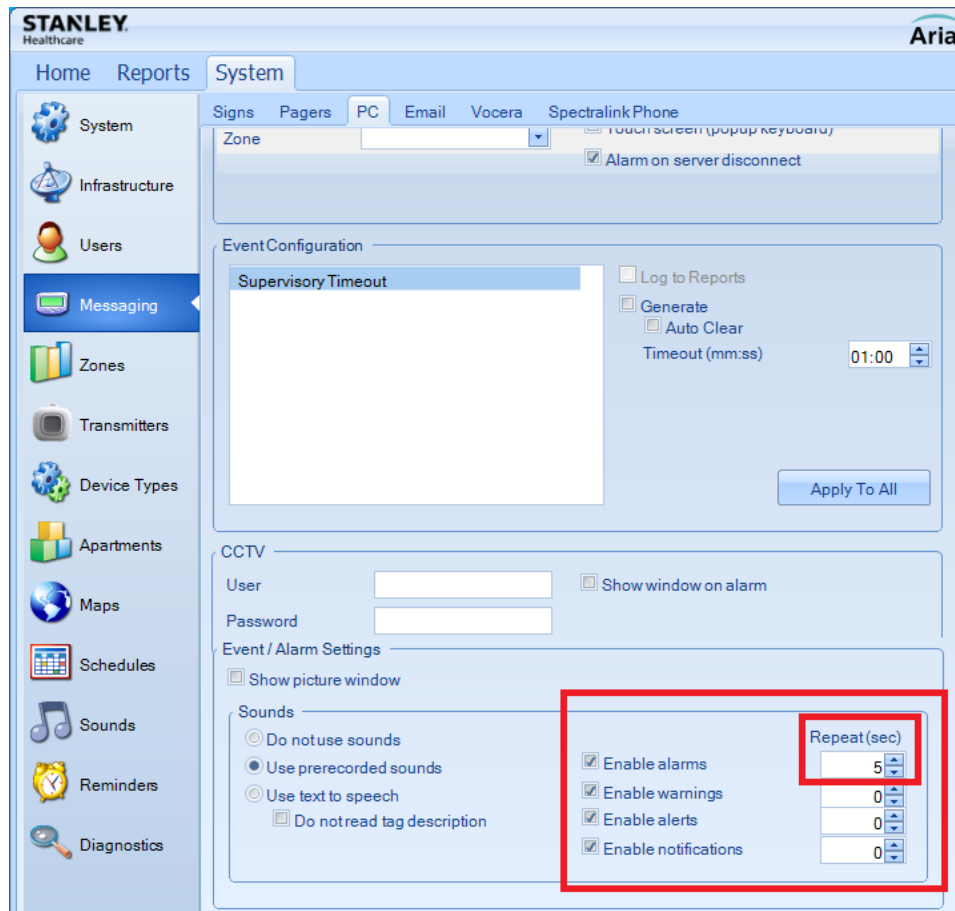
Controlling the PC Sound Level

Sound levels should be set at a level so that 60 dBA is measured on any PCs used at nurses' stations. If in doubt, set sound level to 100% using the volume control slider.

The ability of the user to mute or reduce sound level must be inhibited. To do this, right-click on the taskbar and select "Taskbar Settings".

1. In the "Notification area" of the "Settings" screen, click the option – "Select which icons appear on the taskbar".

2. Locate "Volume" and set to off.
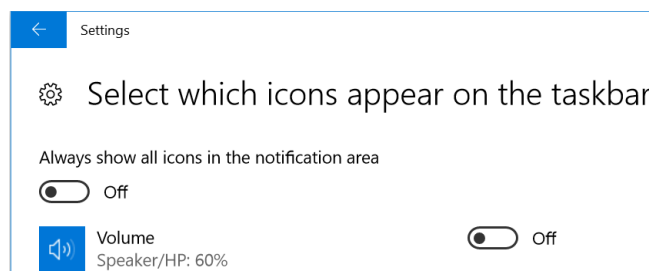
3. Verify the Volume control (speaker icon next to the clock) no longer appears on the taskbar or the options that appear when the "^" icon near the clock is clicked.

4. Close the "Settings" window.

5. If the server and/or client PCs installed at a nurse station are equipped with a keyboard that allows the user to mute or change the volume, these keys (Volume Up, Volume Down, and Mute) must be disabled.

6. Download a utility called "KeyTweak" and install this on the server and client PCs.

7. Follow the instructions for the utility to disable the keys listed in the earlier step.

Call Station Escalation Alerts

Certain states require reporting if a distress alert is not answered within a specified number of minutes. For example, if a distress call has not been dismissed within 5 minutes, then the alert is escalated, and a second alert is triggered.

Arial can be configured, according to a site request, to send pre-configured messages to the pagers and display signs that have been assigned to that zone.

Additionally, the system can be configured to continue sending messages for a specified time. If the alarm is not cleared within that time period, Arial can escalate the alarm, and send messages to supervisory pagers.

For more information and setup procedures refer to the **Arial Wireless Nurse Call Solution Admin Guide**.

Check-In Events (optional)

Check-In Events are optionally configured.

The Call Station allows residents to perform a daily Check-In, within a configured time period, to indicate that they are OK. Check-ins are performed when a resident presses the Call Station's Dismiss/Check-In button. A Check-In message is then sent to Arial.

Arial automatically alerts staff if any resident fails to check in after the specified check-in period for the call station has passed.

For more information and setup procedures refer to the *Arial Wireless Nurse Call Solution Administration Guide*.

Installing the Call Station

Call Stations should be installed only after they have been enrolled in the system and after the paging transmitter has been installed and pagers added to the system. If you follow this sequence, Call stations can be easily tested at the final location using a pager without requiring a second person at the server to verify the alarm.

1. Slide the Call Station into the bracket from the top until it clicks into place.

2. Remove the bypass plug from the Call Station if it was replaced following enrolment.

3. Adjust the length of the pull cord so that it can be easily reached by someone lying on the floor. Check with the local authority having jurisdiction regarding the distance allowed between the floor and the end of the cord.

4. Install and connect the push-button cord (Part # 49400) at this time (if being used).

5. Test the Call Station installation. For this step, you should be carrying a pager zoned for the entire facility.

6. Press the blue call button on the station. The red LED should light, and you should receive a message on the pager identifying the room. Ensure that the Call station is in the correct location.

    a. If the LED does not light, check that the battery is installed correctly and is not dead. (see Battery Replacement on page 6 for details.)
    b. If the battery is OK and the LED still does not light, contact technical support.

7. Press the white check-mark button on the station. The red LED should turn off, and you should receive a cancel message on the pager.

    a. If the LED does not turn off, check to see if the call button, call cord, or push-button are stuck.

Replacing the Battery

The Arial 900MHz Call Station monitors itself and, when it detects a low battery, it sends this information to the Arial server, where it is displayed. Replace low batteries immediately.

1. Remove the Call station from the bracket by depressing the release tab at the bottom of the bracket and sliding the station upward.

2. Remove the four case screws from the back of the Call Station.

3. Remove the front of the case to expose the top circuit board.

IMPORTANT: Do not remove the blue button pad from the circuit board.

---

4. Gently grasp the top circuit board by the sides and pull directly up from case.

5. Turn over circuit board to expose the battery.

6. Gently pry the battery from between the two contacts. dispose of the used battery according to facility policy and local regulations.

IMPORTANT: Insert the new battery between the contacts being sure to match the positive battery terminal to the plus (+) sign marked on the circuit board.

WARNING! If the battery is installed backwards, the Call Station will not operate and may be damaged. Always observe correct battery polarity.

7. Check that the pull string is in the proper exit slot.

8. Align the 5 pins of the circuit board still in case with the header of the circuit board that was removed. Gently push the circuit board back into case, applying pressure on points shown in picture. the circuit board will snap back into place if pins are aligned properly.
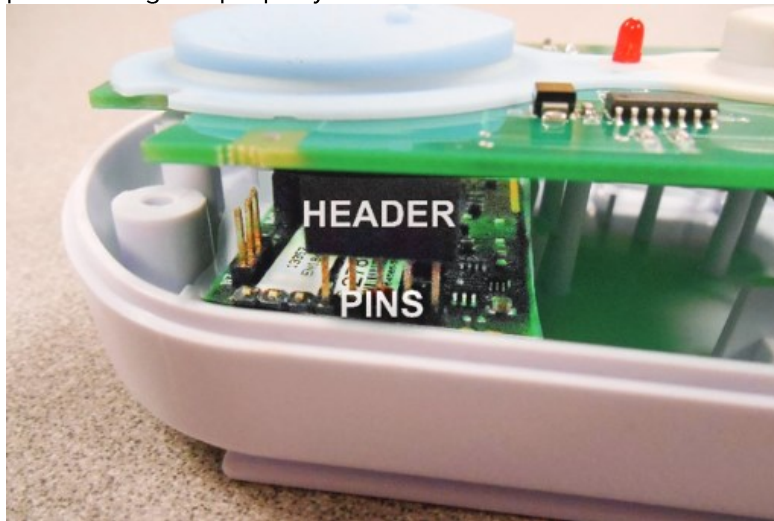
9. If light on the circuit board just above check-in button is lit, press the check-in button to turn it off.

10. Press the button just below the check-in button on the circuit board. this resets the Call Station and sends a test transmission.

11. Replace the Call station cover, making sure not to pinch the call and check-in buttons or disturb the circuit board, and be sure the pull string remains in the exit slot.

12. Replace and tighten the four case screws. Do not overtighten the screws, as this may damage the Call station.

13. Test the unit by following the procedure in step 5 of "Installing the Call station" on page 5 of the Call Station Installation Guide.

Activating Sleep Mode

If the Call station needs to be taken out of service temporarily, it can be placed into sleep mode to preserve battery life and to prevent false alarms.

1. Retrieve the bypass plug from storage.

2. Press the call and check-in buttons simultaneously and insert the bypass plug into the jack at the bottom of the Call station within 3 seconds.

3. Press the call button again. If the LED does not light, then the station has been successfully placed into sleep mode. If the LED does light, remove the bypass plug and repeat step 2.

To Remove Sleep Mode

1. Remove the bypass plug from the jack at the bottom of the Call Station.

2. Test the unit by following the procedure in step 5 of Installing the Call Station.

Reports

For the Arial Wireless Nurse Call Solution, reports are used to retrieve detailed information about check-ins and time taken to dismiss alerts (Avg. Response). Reports can be configured, at a customer's request, to generate at scheduled times. Instant reports can also be generated, if required.

For more information and setup procedures refer to the *Arial Wireless Nurse Call Solution Administrator Guide*.

Solution Testing

Testing the solution is crucial for a successful deployment and must be done <u>after</u> a deployment.

General Solution Testing Requirements

- Arial is on-line

- AeroScout Location Engine is on-line

- All hardware devices are installed and configured

Call Station Testing

The following Call Station tests must be performed:

- Alarm

- Reset Alarm

- Escalation Alerts (if configured)

Testing Requirements

Check the following before testing.

- ✓ Call Stations are mounted and powered

- ✓ Call Stations have been added in Arial

- ✓ Call Stations have been added to maps (if desired)

Testing Call Station Alert/Dismiss Events

The following procedures test Call Station Alert and Dismiss Events.

Test Procedure	Expected Result
Resident Bedroom Trigger an alert by pressing the Call Station's call button, pulling the pull cord or pressing the remote push button. Dismiss the alert from the same Call Station by pressing the Dismiss/Check-In button.	Alarm message appears in Arial. Check dome light illumination; Outside rooms and zones etc. Once the alert is dismissed at the Call Station, the alarm is cleared in Arial and the dome lights go out. For more information see **Responding to alarms** in the *Arial Wireless Nurse Call Solution Administrator Guide.*
Resident Bathroom Trigger an alert by pressing the Call Station's call button, pulling the pull cord or pressing the remote push button. Dismiss the alert from the same Call Station by pressing the Dismiss/Check-In button.	Alarm message appears in Arial. Check dome light illumination; Outside rooms and zones etc. Once the alert is dismissed at the Call Station, the alarm is cleared in Arial and the done lights go out. For more information see **Responding to alarms** in the *Arial Wireless Nurse Call Solution Administrator Guide.*
Common Area (if configured) Trigger an alert by pressing a Call Station's call button, pulling the pull cord or pressing the remote push button. Dismiss the alert by pressing the Call Station's Dismiss/Check-In button.	Alarm message appears in Arial. Check zone dome light illumination. Once the alert is dismissed at the Call Station, the alarm is cleared in Arial and the dome lights go out. For more information see **Responding to alarms** in the *Arial Wireless Nurse Call Solution Administrator Guide.*
Escalation Alerts (if configured) Trigger an alert by pressing a Call Station's call button, pulling the pull cord or pressing the remote push button. Wait for the configured Escalation time to pass.	Check that the escalation alert has been sent to the specified messaging devices.

Backing Up and Restoring

Arial

The Arial software contains a Backup command (manual tool) that creates copies of essential files used by the system that are unique to each site, including device configuration settings, map files and sound files. These are stored in a compressed backup file with the .bak extension.

STANLEY Healthcare recommends that the backup procedure be performed at least once a month, and whenever major changes are made to system settings.

For backup and recovery procedures, refer to the *Arial Wireless Nurse Call Solution Administrator Guide*.

Location Engine

The AeroScout Location Engine performs an automatic back up each time a change is made to the configuration. The Location Engine stores the two most recent configurations in the backup folder.

By default the individual backup folders are stored in *C:\Program Files(x86)\AeroScout\AesBackup*

For more information on Location Engine backups refer to the **AeroScout Location Engine Deployment Guide**.

IMPORTANT NOTES REGARDING BACKUPS AND RESTORING Backups:

Backups must be performed when Arial and Engine are in the same state. Since Engine performs an automatic backup each time a change is made, Arial must be manually backed up immediately after a change is made in the Engine. This will ensure that each system (Arial & Engine) is backed up in the same state.

Restoring:

When restoring a system, either Arial or Engine, both systems need to be restored regardless. Both systems must be restored using each system's latest backup. This will ensure that the systems' backup data is in sync. Restoring only one system will cause an inconsistency in synced data between the two systems.

Service and Maintenance

The Arial Emergency Call System is designed to be simple to install and maintain. The system continually monitors and reports faults on key equipment based on their severity and system configuration. Common system faults are described in this chapter.

Contact Technical Support at 800-380-8883 for assistance with operating, maintaining, and servicing the Arial Emergency Call System.

Servicing

IMPORTANT – Remove power before servicing any electrically powered components.   This includes components connected to 120V outlets, PoE Network Switches, and Uninterruptable Power Supply.

IMPORTANT – Unplugging the Uninterruptable Power Supply (UPS) alone does not remove power to devices it supplies power to. These devices remain powered using the internal battery of the UPS.

Steps should be taken in the flowing order when servicing the UPS:
1. Turn the power switch OFF.
2. Disconnect the input power from wall.
3. Unplug all devices from the backed-up outlets.
4. Unplug all devices from the surge outlets.
5. Disconnect the 12VDC battery in the compartment of the UPS.

Fault Indicators Requiring Service

- Siren – Sounding of the Siren attached to the GW1000 is an indication that the entire Arial system may not be responding. This can be the result of the Arial Server or AeroScout Location Engine software no longer running. This can also happen if the computer where this software is installed has been turned off, is in the process of rebooting, or has locked up. **Immediate attention is required.**
- Warnings – Warning indications appear when there is a system fault that can impact multiple call points or residents. Warnings appear under a red banner on the Home screen of the Arial software. Clicking on this provides some basic information that can be used to indicate pieces of hardware that are involved. **Immediate attention is required.**

- Alerts – Alert indications appear when there is a system fault that can impact a single call point or resident. Alerts appear under a yellow banner on the Home screen of the Arial software. Clicking on the Alert banner provides basic information that can be used to indicate the hardware that needs servicing. Alerts appear when low batteries are detected in wireless call points. Alerts also appear if no communication has been received from a wireless call point for more than 12 hours. Alerts should be addressed within a week.
- Notifications – Notification indications appear when there is information available to you from the system. Generically, these appear when a reoccurring report is available to view. Clicking on the banner provides a brief description of the information that is available. Notifications are not from faults, therefore are not urgent. However, the community may need to take daily action based on the information in a scheduled report. Protocols should be defined and followed by the community, as needed, to provide proper care.

Routine Maintenance
Power Back-Up

UL2560 requirements along with most local regulations require that the emergency call system is connected to the facility's essential electrical system. Over time, it is possible that cords can be moved to different outlets and plugs. Refer to the Power Connection Overview section earlier in this document to confirm or correct as necessary:

- Essential hardware is connected to the Battery Backup Outlets of the Uninterruptable Power Supply.
- The Uninterruptable Power Supply is plugged in a generator backed-up outlet on the essential electrical system.

Uninterruptable Power Supply Battery Replacement

The batteries in an Uninterruptable Power Supply (UPS) should be replaced when they reach three years old.

It is recommended that you perform this procedure at a time when resident calls are expected to be unlikely or when residents are gathered and can easily be seen by caregivers (such as mealtimes).

1. **Close** the **Arial** program by logging into Arial with an Admin password as necessary, then go to the **STANLEY Healthcare Menu** and select **Exit**. Click **Yes** on the dialog window that appears.
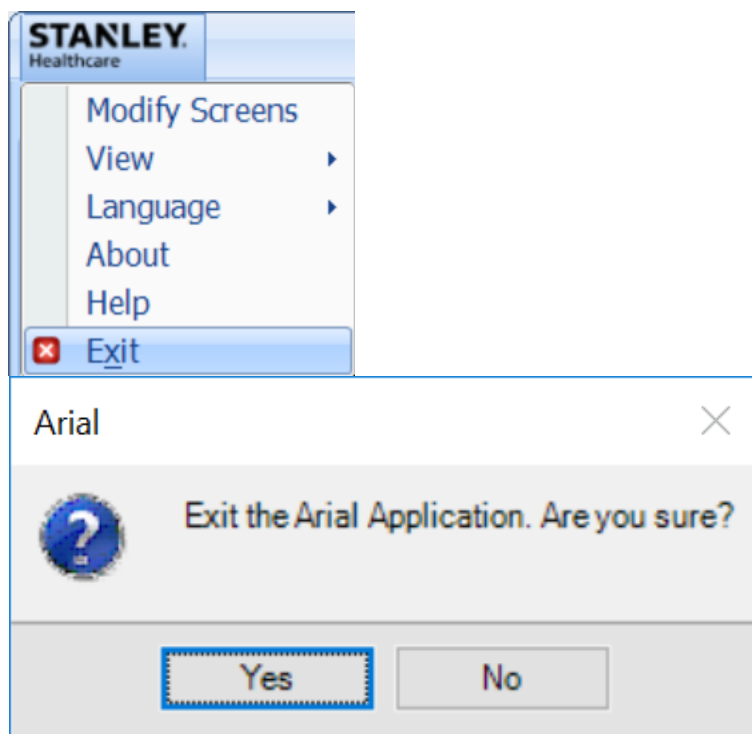
2. Safely turn off the computer by going to the Start menu in the lower left corner of the screen then select Shutdown from the Power options. Wait for the computer to completely power off.
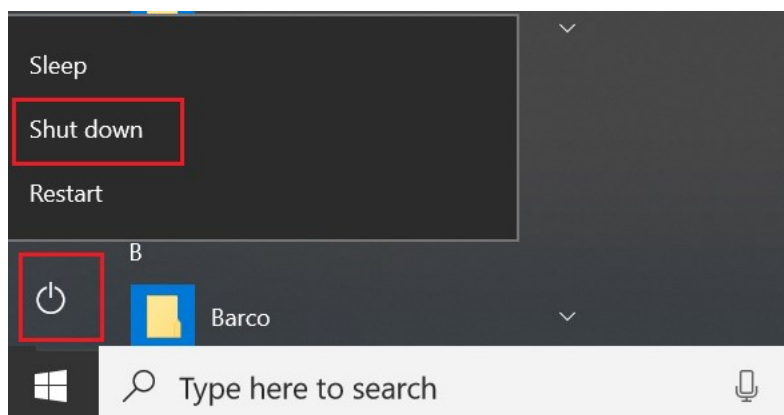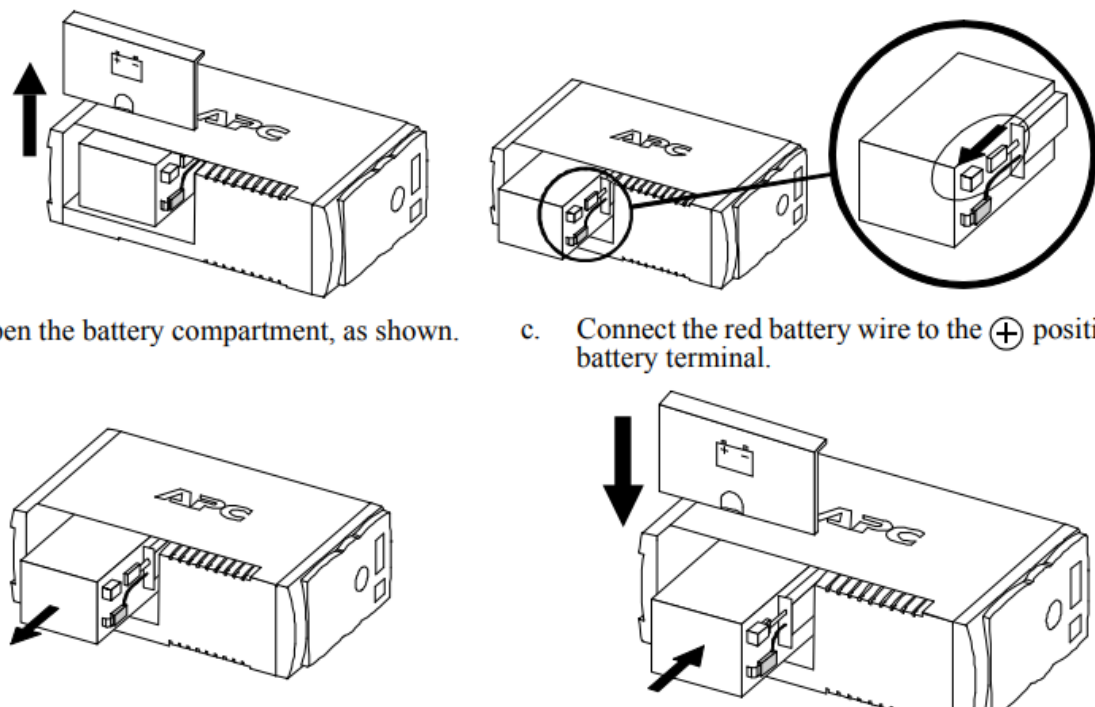

3. Turn the power switch of UPS off.
4. Unplug the power cord of the UPS from the outlet.
5. While viewing the UPS from the front, lay the UPS on its left side (diagram a).
6. Slide the battery compartment cover off the UPS (diagram a).
7. Grasp the tab attached to the battery and slide the battery partially out of the case. Grab the battery firmly and pull it straight out. The battery wires will disconnect as the battery is pulled out (diagram b).
8. Carefully unpack the new battery. Retain the packing carton so that the old battery can be recycled.
9. Insert the new battery halfway into the UPS (diagram d).

10. Connect the wires to the new battery as follows:
    a. Red Wire - to red (positive) terminal
    b. Black Wire - to black (negative) terminal

Note: Small sparks at the battery terminals are normal during connection.

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11. Carefully insert the battery fully into the UPS.
12. Slide the battery compartment cover back into place.
13. Plug the power cord of the UPS back in the outlet on essential power with the generator backup.
14. Turn the power switch of UPS ON.
15. Press the Power button on the front of the computer. Wait for Arial to boot.
16. Use a pendant or call station to place a test call and verify the alarm appears on the correct computers and message devices. Confirm no Warning flags persist in Arial after 5 minutes.

Note: *Small sparks may occur during battery connection. This is normal.*

a. Open the battery compartment, as shown.

c. Connect the red battery wire to the ⊕ positive battery terminal.

b. Pull the battery about half way out, as shown.

d. Push the battery into the battery compartment and re-install the cover, as shown.