



# Installation & Operations Manual

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## 8100-V4GS

Voice & Data Cellular Gateway



RP85000ATLV Ver. 3 01/25

**2YEAR**  
WARRANTY

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# Pre-Installation Requirements

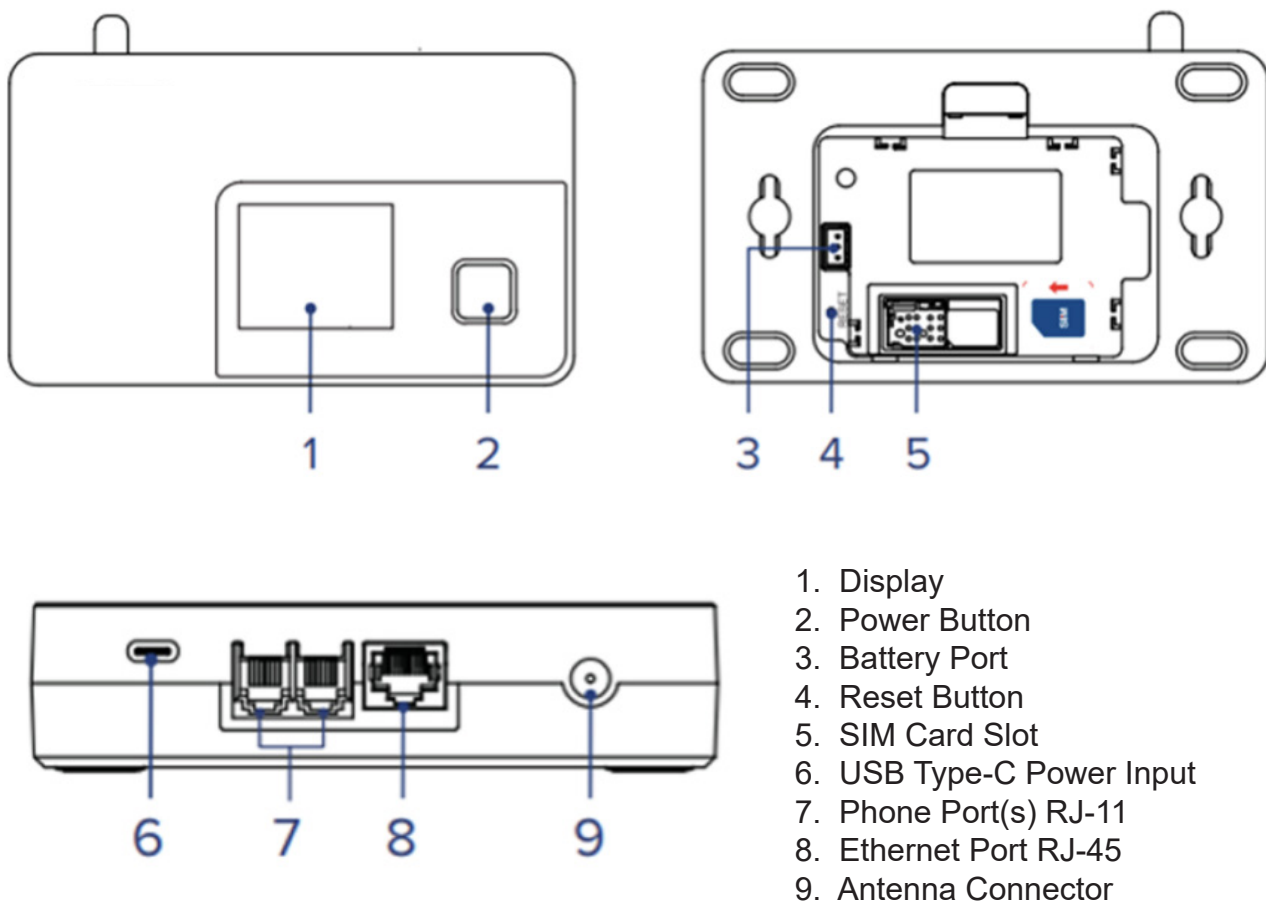
## Required (Included):

- AC Wall Adapter
- AC power cable
- Backup Battery Pack
- Cellular Antenna

## Required (Not Included) Sold Separately:

- Nano (4FF) SIM Card with an active cellular voice and data plan  
NOTE: If using the 8100-V4GS as a data-only device, a data-only SIM will be required
- 110vac Battery Backed-up Power Supply (RATH Part #: RP7700100)
- Ethernet Cable
- Wiring for telephone voice connection (RJ-11)- if using

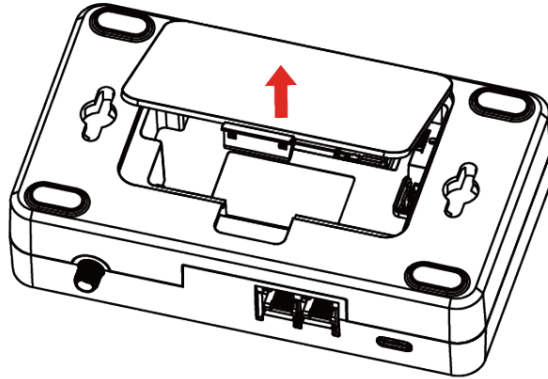
## Hardware Overview



# Hardware Installation

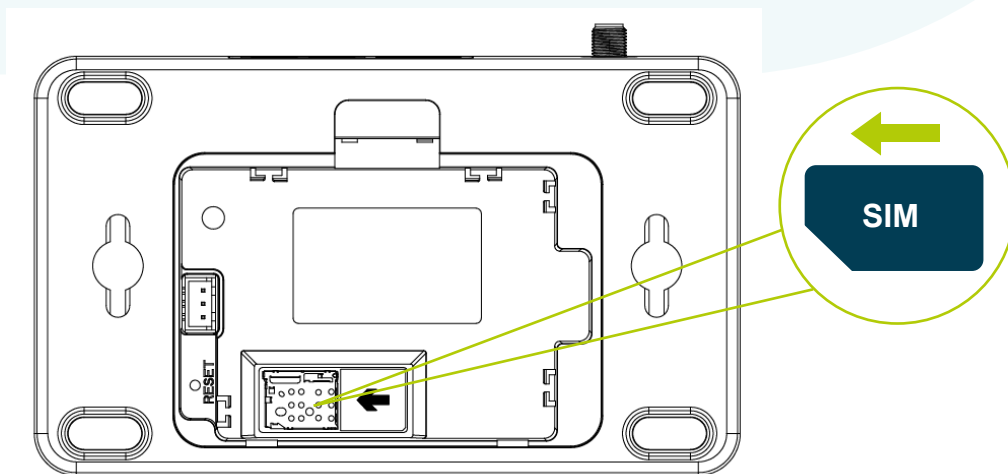
## SIM Card

1. Remove the back cover using the release clip on the top of the cover.



2. Carefully lift up the battery holder by lifting up the holder on the right-side.
3. Install the SIM card into the spring-loaded SIM card slot starting with the perforated edge first then pushing the SIM card in gently until it “clicks”.

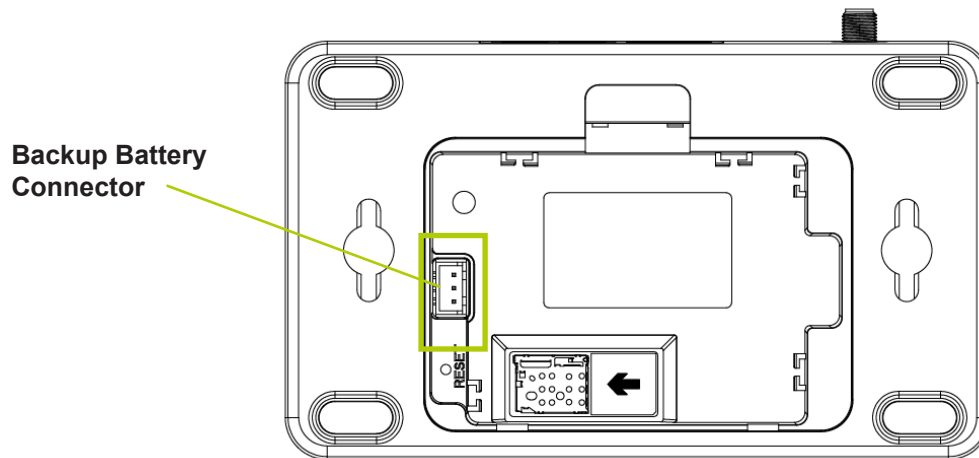
NOTE: To remove the SIM card, gently press on the edge of the SIM inward. The SIM should release from the spring-load slot and allow for removal.



## Battery Backup

1. Plug terminal connector on included backup battery pack into the backup battery connector on the 8100-V4GS. Verify the connector is seated fully.
2. Place the battery pack into the open battery space on the hardware.
3. Install the back cover removed earlier during installation back onto the gateway.

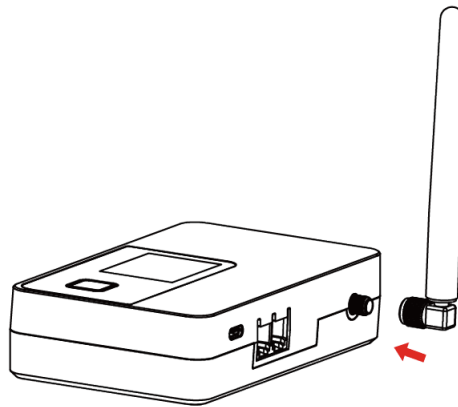
**NOTE:** Do not use sharp objects or excessive force to remove the battery as this may damage the cellular gateway and void the 2-year hardware warranty through RATH by AVIRE.



## Antenna

1. Locate the antenna port on the back of the cellular gateway.
2. Remove the plastic cap over the antenna port.
3. Using the provided antenna, align the antenna with the antenna port and screw it securely in place.

NOTE: It is recommended to restart the unit anytime the antenna is installed or removed.



## Power

1. Using provided USB cable, connect the USB-C side into the USB-C port on the cellular gateway.
2. Plug the USB-A side of the USB cable into the USB port of the provided plug-in transformer.
3. Plug transformer into the 110vac battery backed-up power source.
4. Press and hold the power button on the front of the cellular gateway for 5 seconds to power the unit on.

NOTE: Use of an alternative plug-in transformers may damaged the cellular gateway and void the 2-year hardware warranty through RATH by AVIRE.

## Display Overview

After power up, the display on the cellular gateway will display the following icons:

**Network Signal**



Indicates the signal strength of the wireless provider in the device's location. More bars represent a stronger signal.



Battery Level

**Battery**



Batteries Not Installed



Batteries Not Installed

**Text Telephone Mode**

TTY

Device in TTY Mode (Not Recommended)

**Power Key**



Press the Power Key to switch menu screens.

## Connecting Hardware to Cellular Gateway for Cellular Voice

The 8100-V4GS Cellular Voice Gateway provides two RJ-11 telephone ports. If a device is connected to each port, they will share the same phone number. If both devices are activated, they will go into a conference call. To connect a device to the cellular gateway, it is recommended to follow one of the following connection methods:

### Direct RJ-11 Cable to Hardware

**Recommended for devices with an on-board RJ-11 input for the phone line connection.**

1. Using a RJ-11 phone line cord, plug one end of the cable into either of the RJ-11 phone ports on the cellular voice gateway.
2. Plug the other end of the phone line cable into the RJ-11 jack of the desired device.

## RJ-11 to Hardwired Devices

**Recommended for devices without an on-board RJ-11 input for the phone line connection.**

1. Using a RJ-11 phone line cord, plug one end of the cable into either of the RJ-11 phone ports on the cellular voice gateway.
2. Plug the other end of the phone line cable into a biscuit jack or RJ-11 wall jack.
3. Run a single pair of twisted, shielded wires from the red and green terminals on the biscuit or wall jack to the hardwired phone line terminals on the desired device.

## Crimp Tool and RJ-11 End

**Recommended for installations requiring increased wire runs.**

1. Run a single pair of twisted, shielded cable from the cellular gateway to the desired device.
2. Using an RJ-11 connector, land the twisted, shielded pair on the center pins of the RJ-11 connector. Crimp the connector onto the cable using an appropriate crimp tool.
3. Once an RJ-11 end has been terminated on to both ends of the cable, plug cable into the cellular gateway and the desired device. .

# Connecting Hardware to Cellular Gateway for Internet Data

**The 8100-V4GS Cellular Voice Gateway provides one RJ-45 Ethernet port. When an Internet-enabled device is connected, the 8100-V4GS will provide an IP address for the connected device.**

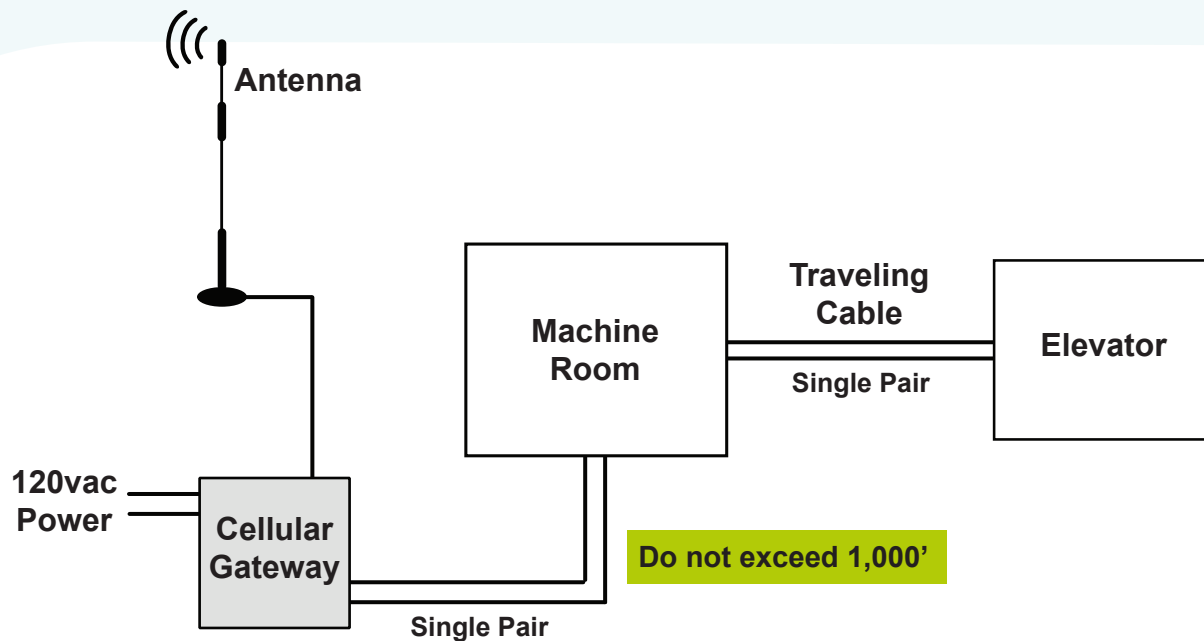
1. Using an Ethernet cable, plug one end into the Ethernet port on the 8100-V4GS.
2. Plug the other end of the Ethernet cable into the desired device.

NOTE: The maximum distance for a standard Ethernet cable is 100 meters (328 ft.).

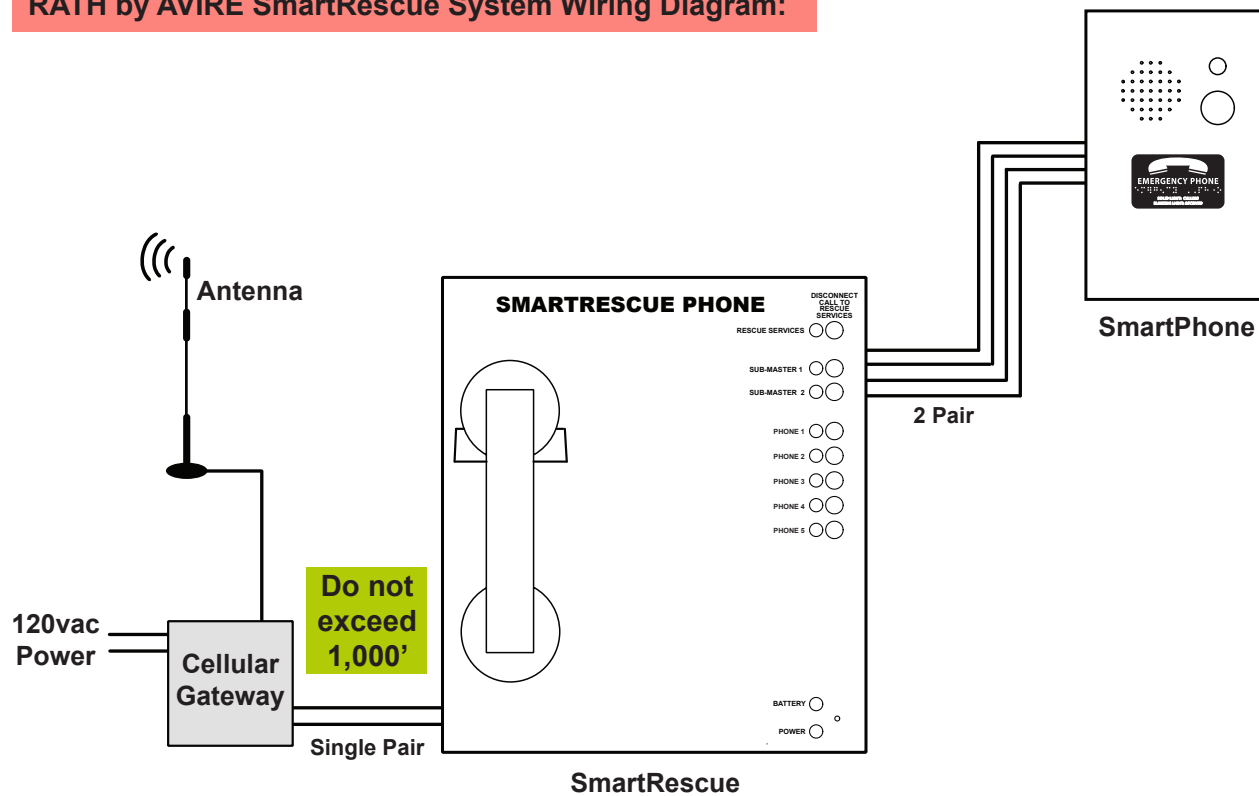


# Wiring Diagrams

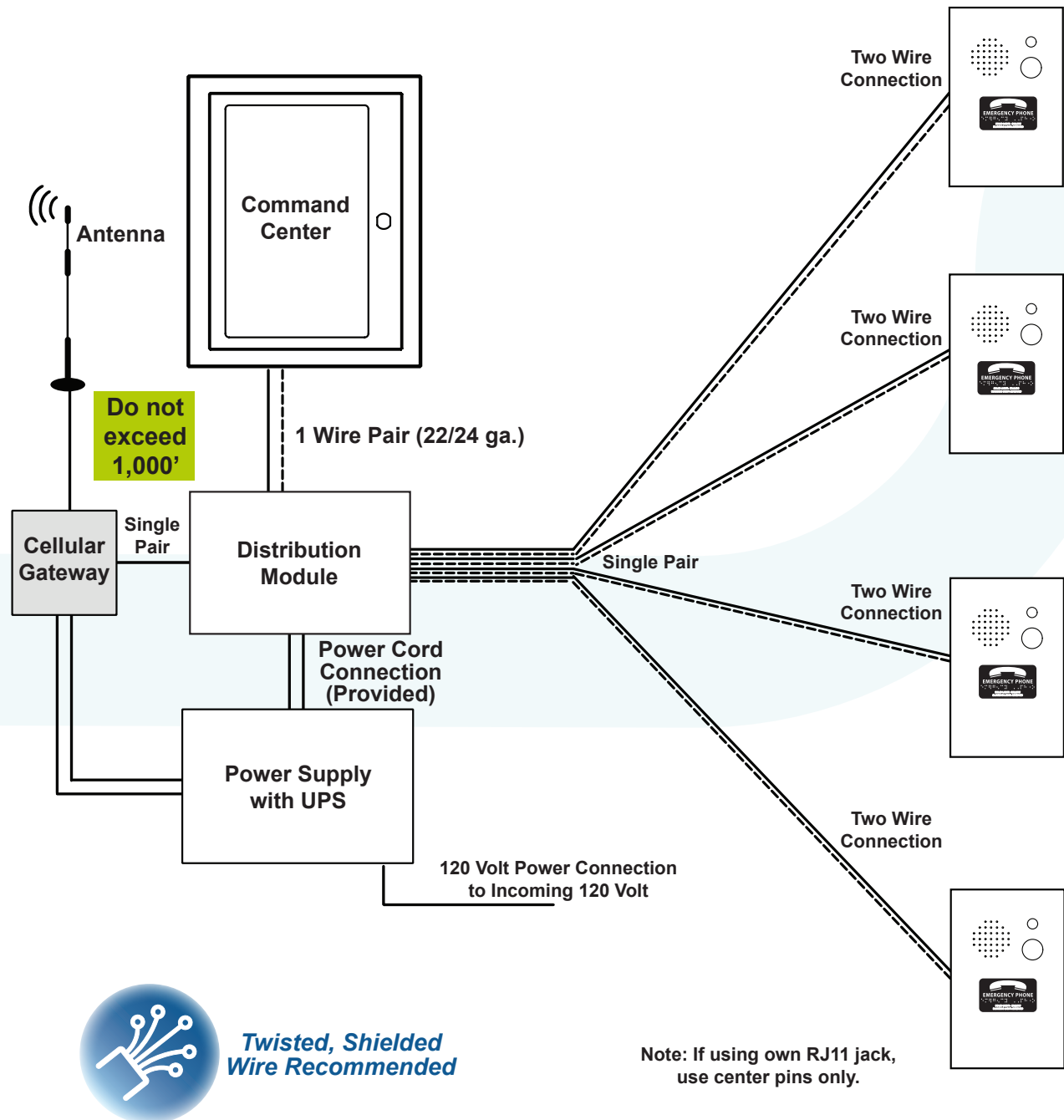
## RATH by AVIRE Elevator Application Wiring Diagram:



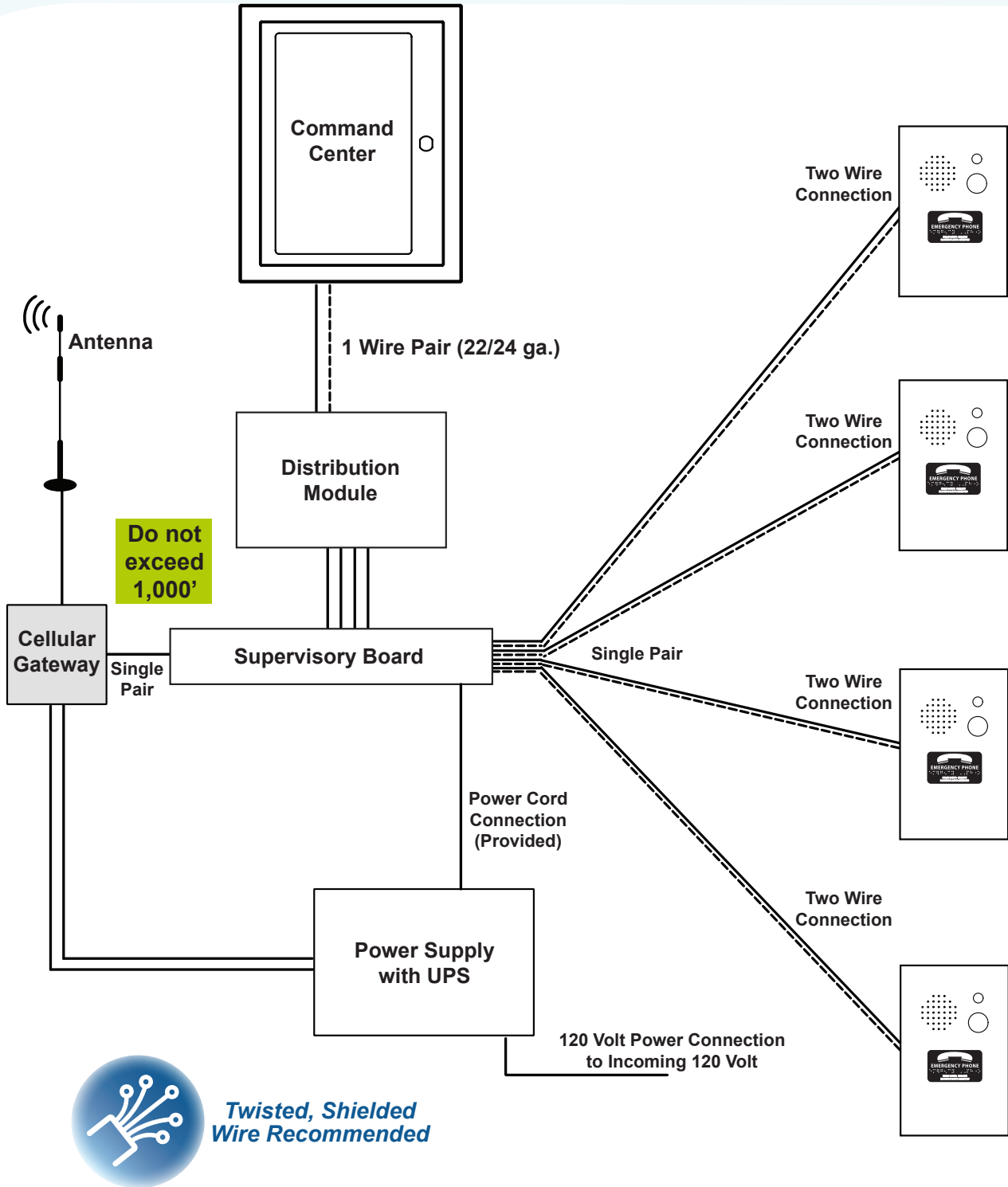
## RATH by AVIRE SmartRescue System Wiring Diagram:



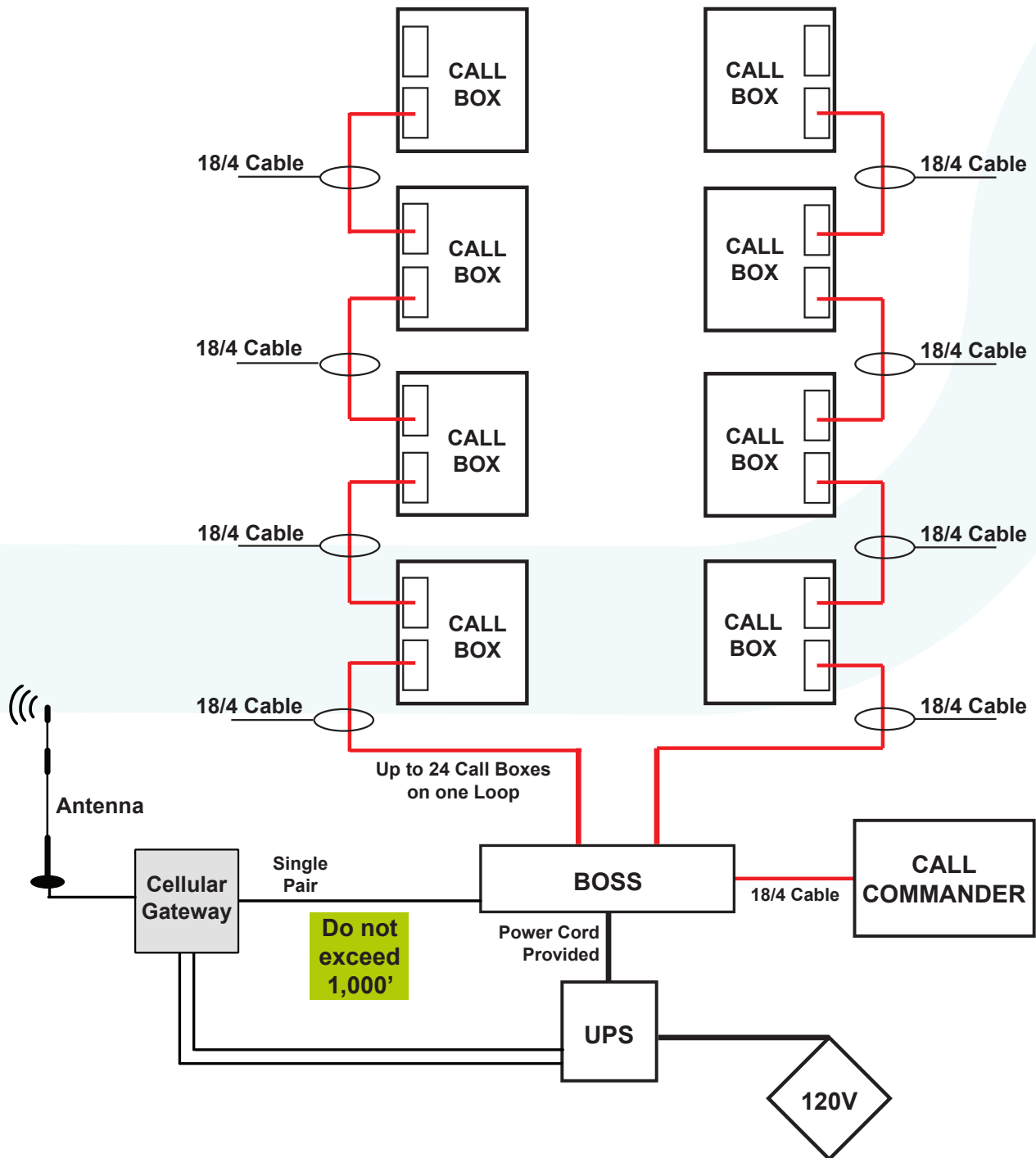
## RATH by AVIRE Command Center System Wiring Diagram:



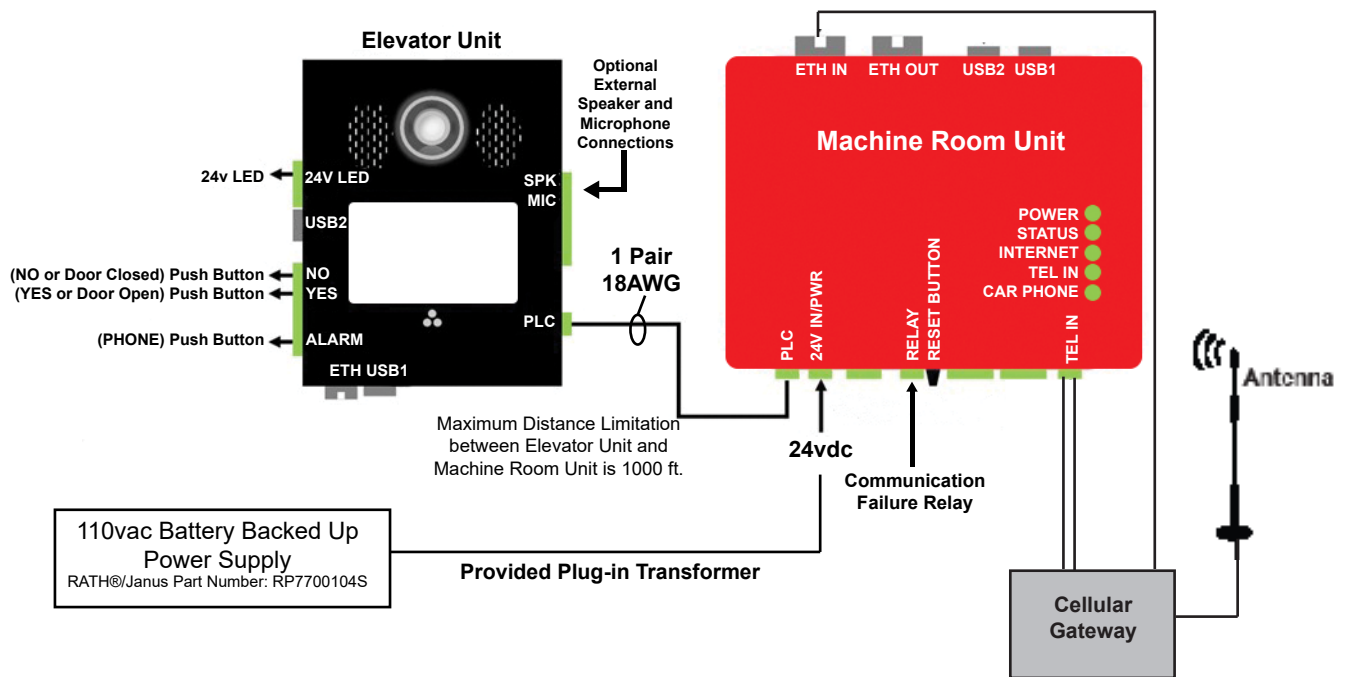
# RATH by AVIRE Command Center with Supervision System Wiring Diagram:



**RATH by AVIRE SmartCommand System Wiring Diagram:**



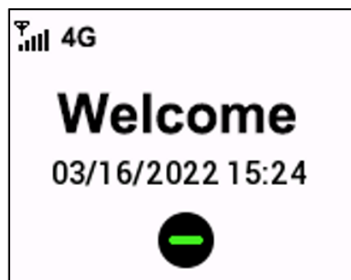
## RATH by AVIRE SmartView 2 System Wiring Diagram:



# Voice Call Operation

## Making Calls.

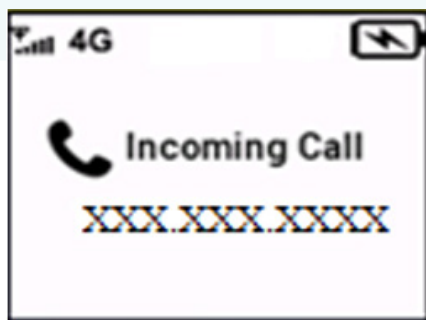
1. Before making a call, verify the signal strength on the cellular gateway is at least two or more bars.
2. When placing calls, the area code will need to be entered before the number, even for local calls.



## Receiving Calls.

1. When an incoming call is received, the screen will light up on the cellular gateway and the incoming call phone number is displayed.
2. Answer the connected device as you normally would.

**NOTE:** If you do not answer an incoming call, the display on the cellular gateway will display a Missed Call. Quickly press the Power Key to switch to the missed calls sub-menu to check the missed call number (s).



Problem	Possible Cause & Solutions
No dial tone on connected device:	<ul style="list-style-type: none"> <li>• There may be an inactive SIM card or no SIM card in the device. Verify the SIM card is seated fully in the SIM card slot.</li> <li>• If the SIM card is data-only, the voice functionality of the 8100-V4GS will be unavailable. A voice and data SIM card is required.</li> <li>• Verify the antenna is connected to the unit and seated fully. If there is no antenna detected, the hardware will not provide dial tone.</li> <li>• Check the wiring between the connected device and the 8100-V4GS.</li> <li>• Using the screen, check the signal bars to make sure there is at least two signal strength bar available.</li> </ul>
Device won't connect to the Internet:	<ul style="list-style-type: none"> <li>• There may be an inactive SIM card or no SIM card in the device. The SIM card must have an active data plan included on it.</li> <li>• Verify the antenna is connected to the unit and seated fully. If there is no antenna detected, the hardware will not provide Internet.</li> <li>• Check the wiring between the connected device and the 8100-V4GS.</li> <li>• The connected device must be capable to receiving an IP address via DHCP.</li> <li>• Using the screen, check the signal bars to make sure there is at least two signal strength bar available.</li> </ul>
Display showing a "No SIM" message:	<ul style="list-style-type: none"> <li>• Make sure your SIM is inserted properly in the spring-loaded SIM card slot.</li> <li>• Contact your service provider to make sure your SIM subscription plan is active.</li> </ul>
Device will not power on and doesn't charge:	<ul style="list-style-type: none"> <li>• Remove power and the backup battery from the unit. Plug the battery back in and make sure it's seated fully. Plug the unit back into primary power. Turn the unit on via the power button.</li> <li>• Verify 110vac to the transformer is active.</li> <li>• Check that the power cable is fully seated into the plug-in transformer.</li> </ul>
Receiving "Call cannot be completed as dialed" message when placing a voice call:	<ul style="list-style-type: none"> <li>• The dialing string for the desired number may be incorrect.</li> <li>• An access code and area code may be required for outbound calling.</li> </ul>
Internet speed slow:	<ul style="list-style-type: none"> <li>• Data plan from cellular provider may not be provisioned properly or may have a lower network speed associated with it.</li> <li>• Data speed may be decreased from provider due to over use or low-data scenario.</li> <li>• Using the screen, check the signal bars to make sure there is at least two signal strength bar available.</li> </ul>

# Regulatory and Safety

## FCC Equipment Authorization ID: XYO-V810

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

FCC CAUTION: Any changes or modification not expressly approved by RATH by AVIRE, the party responsible for compliance could void the user's authority to operate this equipment. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

## RF Exposure Warning Statements:

The antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons during the normal operations.

NOTE: The Radio Frequency (RF) emitter installed in your modem must not be located or operated in conjunction with any other antenna or transmitter

## Follow Safety Guidelines:

Always follow the applicable rules and regulations in the area in which you are using your device. Turn your device off in areas where its use is not allowed or when its use may cause interference or other problems. Note that this type of device should be placed at least 10 ft from work area(s).Electronic Devices

## Electronic Devices:

Most modern electronic equipment is shielded from radio frequency (RF) signals. However, inadequately shielded electronic equipment may be affected by the RF signals generated by your device.

## Medical and Life Support Equipment:

Do not use your device in healthcare facilities or where medical life support equipment is located as such equipment could be affected by your device's external RF signals.



**Hearing Devices:**

When some wireless devices are used with certain hearing devices (including hearing aids and cochlear implants) users may detect a noise which may interfere with the effectiveness of the hearing device.

**Proper Battery & Adapter Use and Disposal :**

- Do not disassemble or open, crush, bend or deform, puncture or shred.
- Do not modify or remanufacture, attempt to insert foreign objects into the battery, immerse or expose to water or other liquids, expose to fire, explosion or another hazard.
- Only use the battery for the system for which it is specified.
- Do not short circuit a battery or allow metallic conductive objects to contact battery terminals.
- Replace the battery only with another battery that has been qualified with the system per this standard. Use of an unqualified battery may present a risk of fire, explosion, leakage or another hazard. Only authorized service providers shall replace the battery.
- Promptly dispose of used batteries in accordance with local regulations.
- Avoid dropping the battery. If the battery is dropped, especially on a hard surface, and the user suspects damage, take it to a service center for inspection.
- Improper battery use may result in a fire, explosion or another hazard.

**Voice/Emergency Calls:**

RATH by AVIRE cannot guarantee the voice or E911 calls availability. Making a successful call depends on your hardware (telephone) availability, physical location, wireless signal strength, and/or network services. You should never rely solely on any wireless mobile device for essential communications (medical emergencies, for example). Check with your wireless service providers. When making an emergency call, remember to give all the necessary information as accurately as possible.

**Disclaimer:**

Certain variations may be present between the device and user manual description depending on software release or specific network services. RATH by AVIRE shall not be held legally responsible for such deviations, if any, nor for their potential consequences.



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