



GAI-TRONICS® CORPORATION
A HUBBELL COMPANY

RED ALERT®

Hands-free WiFi VoIP Telephones

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Confidentiality Notice

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Product Overview

RED ALERT® Hands-free WiFi VoIP Telephones are designed for connection to a wireless local area network (WLAN) that meets the IEEE 802.11 b/g/n standard. These telephones will operate from an external power source and provide direct point-to-point communications between personnel throughout the facility over the existing WLAN.

Two WiFi VoIP telephones can be connected in an Ad-Hoc (peer-to-peer) configuration without the need for a WLAN. However, a WLAN with SIP Server is required for systems containing three or more WiFi VoIP telephones. Conferences are limited by the customer's WLAN media capabilities and the services available at each end point.

Models

The following RED ALERT® WiFi VoIP Hands-free Telephones are detailed in this manual:

Table 1. Model Chart

| Model | Description |
|-------------------|--|
| 393-800A | Surface-Mount WiFi VoIP Telephone , weatherproof, yellow engineered plastic enclosure, HELP autodial push button, CALL RECEIVED WHEN LIT LED, and 24 V dc power supply. |
| 393AL-800A | Surface-Mount WiFi VoIP Telephone , weatherproof, cast-aluminum enclosure painted safety yellow, HELP autodial push button, CALL RECEIVED WHEN LIT LED, and 24 V dc power supply. |
| 394AL-802A | Surface-Mount WiFi VoIP Telephone , weatherproof, cast-aluminum enclosure painted safety yellow, HELP autodial push button, CALL (off-hook) button, 12-button Braille keypad, CALL RECEIVED WHEN LIT LED, and 24 V dc power supply. |

| Model | Description |
|-----------------|--|
| 397-800A | Flush-Mount WiFi VoIP Telephone , weatherproof, brushed stainless steel front panel, HELP autodial push button, CALL RECEIVED WHEN LIT LED, and 24 V dc power supply. |
| 397-801A | Flush-Mount WiFi VoIP Telephone , weatherproof, brushed stainless steel front panel, HELP autodial push button, ASSISTANCE autodial push button, CALL RECEIVED WHEN LIT LED, and 24 V dc power supply. |
| 398-801A | Flush-Mount WiFi VoIP Telephone , weatherproof, brushed stainless steel front panel, CALL (off-hook) push button, 12-button Braille keypad, CALL RECEIVED WHEN LIT LED, and 24 V dc power supply. This telephone is simply a rugged, hands-free telephone and is not intended for emergency use. |
| 398-802A | Flush-Mount WiFi VoIP Telephone , weatherproof, brushed stainless steel front panel, HELP autodial push button, CALL (off-hook) button, 12-button Braille keypad, CALL RECEIVED WHEN LIT LED, and 24 V dc power supply. |

System Requirements and Limitations

The WiFi Telephones require a local 24–48 V dc power source for operation (24 V dc supply provided). Two telephones can communicate wirelessly in a peer-to-peer configuration without the need for a LAN connection. However, a wireless pick-up point connected to a 10/100 BaseT Ethernet with SIP server is required for systems containing three or more WiFi Telephones (or a combination of WiFi and hardwire-connected VoIP Telephones). Conferences are limited by the customer's LAN media capabilities and the services available at each end point.

In addition to direct point-to-point dialing (peer-to-peer), directly or via a SIP server, each telephone is capable of receiving a Multicast broadcast. Multicast allows a single audio stream to be sent to multiple end points simultaneously, to achieve multi-point paging or Public Address functionality over IP. Multicast requires the use of a SIP server or IP device that specifically supports Multicast functionality and each telephone must be configured (enabled) to receive Multicast packets.

Tips for VoIP Subscribers

If you have or are thinking of subscribing to an interconnected VoIP service, you should:

- Provide your accurate physical address to your interconnected VoIP service provider to ensure that emergency services can quickly be dispatched to your location.
- Be familiar with your VoIP service provider's procedures for updating your address, and promptly update address information in the event of a change.
- Have a clear understanding of any limitations of your 911 service.
- Inform children, babysitters, and visitors about your VoIP service and its 911 limitations, if any.
- If your power is out or your internet connection is down, be aware that your VoIP service may not work. Consider installing a backup power supply, maintaining a traditional telephone line, or having a wireless telephone as a backup.
- If you have questions about interconnected VoIP and 911 or about VoIP in general, see <http://www.fcc.gov/cgb/consumerfacts/voip.html>.

Features and Functions

The RED ALERT[®] voice-over-internet protocol (VoIP) WiFi hands-free telephones include the following features:

- SIP compatible (RFC3261)
- Automatic call divert (memory list)
- Weather and vandal-resistant
- Real-time alarm reporting via email, syslog, or TMA
- Configurable via web page, serial link or download
- Four auxiliary inputs, two volt-free contact outputs
- ADA Compliant
- Multicast capability, up to eight addresses

Operation

Placing an Autodial Emergency Call

Models 393-800A, 393AL-800A, 394AL-802A, 397-800A, 397-801A & 398-802A

To place an emergency call:

1. Press the **HELP** push button to place an immediate call to a preprogrammed emergency number, typically a security office or 911.
2. The **CALL RECEIVED WHEN LIT LED**, in accordance with the American with Disabilities Act (ADA), will light steady when the call is answered.
3. The call cannot be terminated by the initiator. The call is terminated by the following: the receiving caller, or the defined timeout of the call duration, or via the SIP Server.

Placing an Autodial Non-Emergency Call

Model 397-801A

To place a non-emergency call:

1. Press the **ASSISTANCE** push button to place an immediate call to a preprogrammed non-emergency number (garage, dorm, etc.).
2. The **CALL RECEIVED WHEN LIT LED**, in accordance with the American with Disabilities Act (ADA), will light steady when the call is answered.
3. The call is terminated by the following: pressing the **ASSISTANCE** push button, or the receiving caller, or the defined timeout of the call duration, or via the SIP Server.

Placing a General Telephone Call

Models 394AL-802A, 398-801A, and 398-802A

To place a general telephone call:

1. Press the **CALL** push button.
2. Wait for the dial tone.
3. Use the keypad to dial the desired number.
4. **CALL RECEIVED WHEN LIT LED**, in accordance with the American with Disabilities Act (ADA), will light steady when the call is answered.
5. The call is terminated by the following: pressing the **CALL** push button, or the receiving caller, or the defined timeout of the call duration, or via the SIP Server.

Receiving a Call

When a **RED ALERT**[®] WiFi VoIP Emergency Telephone is called, the unit automatically goes off-hook (auto-answer) and a conversation can take place.

Multicast Broadcast

When making a Multicast call, the SIP server will send a paging request to a specific IP address and expect multiple telephones to accept and play the subsequent audio. GAI-Tronics VoIP telephones can be programmed for up to eight Multicast addresses to permit the receipt of Multicast broadcasts from different sources or to enable zoning of broadcasts. Each Multicast address can be assigned a priority (via programming) to define which can override which. A telephone with Multicast enabled can still make and receive normal calls (peer-to-peer or SIP server). Normal calls can be assigned a priority level, defining whether calls can override Multicasts or vice versa.

Monitoring and Reporting

Each telephone can recognize and generate several hardware and configuration fault condition alarms. These alarms can be signaled to a remote site using three methods:

- Syslog output over TCP
- SMTP mail message
- Telephone Management Application (TMA) software (purchased separately)



Available alarms are:

- Handset integrity loop (if applicable)
- Configuration error
- Cold reset (power cycle)
- Warm reset (internal command)
- Keypad error (if applicable)
- Key hook (off hook status, if applicable)
- Register fail
- Audio Path Test (speaker/microphone test)

Installation

General Information

 **WARNING**  **This product can contain hazardous voltages. Always remove power to this station and any associated equipment before beginning any installation.**

 **CAUTION**  **Do not install this equipment in areas other than those indicated on the approval listing in the “Specifications” section of this manual. Such installation may cause a safety hazard and consequent injury or property damage.**

Install equipment without modification and according to all applicable local and national electrical codes. Consult the National Electrical Code (NFPA 70), Canadian Standards Association (CSA 22.1), and local codes for specific requirements regarding your installation. Class 2 circuit wiring must be performed in accordance with NEC 725.55.

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. Depending upon the wiring and features used on this device, additional precautions may be necessary not to cause harmful interference. 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.

Safety Guidelines

When installing any GAI-Tronics equipment, please adhere to the following guidelines to ensure the safety of all personnel:

- Do not install wiring during a lightning storm.
- **Electrostatic Discharge (ESD) Protection:** Your VoIP telephone may have an earth ground terminal provision. If so, ensure that it is connected to ground in accordance with all local safety regulations and the National Electrical Code (NEC). Grounding has to be ensured for safe and stable communications. Do not use long and coiled ground wires. Trim ground wires to the required length. Use a star configuration whenever possible. Please note proper grounding does not eliminate the need for lightning protection for the telephone or the telephone system. A Cat5 data line lightning surge protector is recommended for telephones subject to any electrostatic discharge (e.g. lightning).
- Do not install jacks in wet locations unless the jack is specifically designed for wet locations.

Station Placement

To prevent feedback problems in the system, volume settings and station placement must be taken into consideration. Unpleasant feedback problems can be reduced by:

- Pointing the telephone away from other telephones located nearby
- Reducing volume levels

Security Hardware

All of the telephones described in this manual are vandal-resistant. The front panel for each telephone covered in this manual is attached to its enclosure with security screws. A GAI-Tronics Model 233-001 Security Screwdriver or Torx T-25 security head tip (sold separately) is required for installing the telephone.

Conduit Installation Details (Surface-Mount Models)

GAI-Tronics recommends installing power lines in conduit to protect against accidental damage and vandalism. To prevent moisture from entering the enclosure, we strongly recommend the following:

- Conduit should enter the enclosure from the bottom.
- Sealed fittings should be installed at all cable entry points.
- Silicone sealant or equivalent should be applied around and inside all conduit entries.

Please refer to the examples below for the recommended conduit installation details for surface-mount telephones.

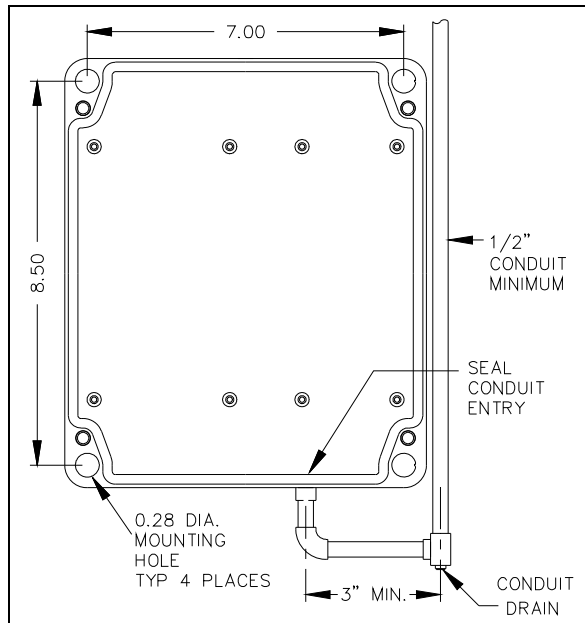


Figure 1. Bottom entry conduit recommended for non-metallic enclosures

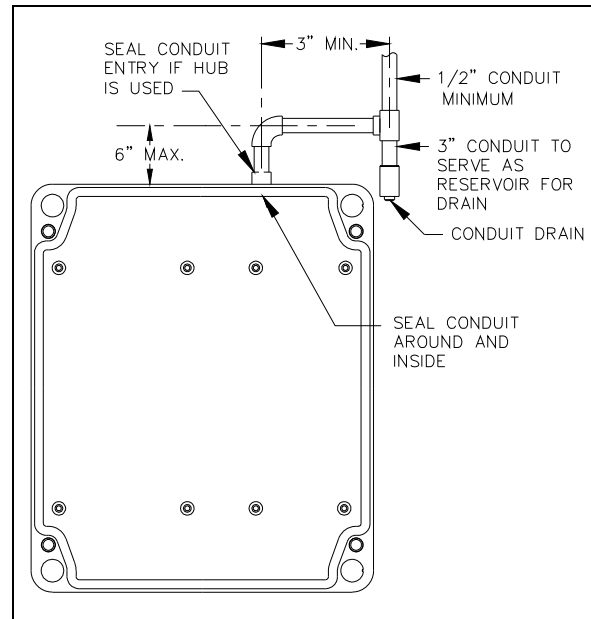


Figure 2. Top entry conduit installation for non-metallic enclosures (NOT recommended)

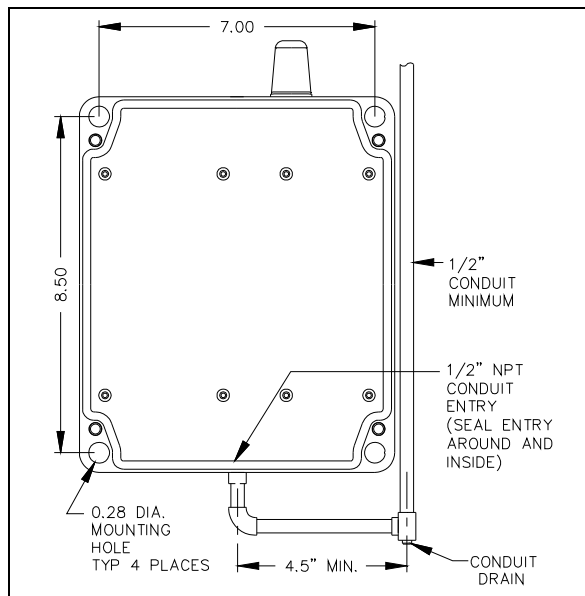


Figure 3. Bottom entry conduit installation details for metallic enclosures

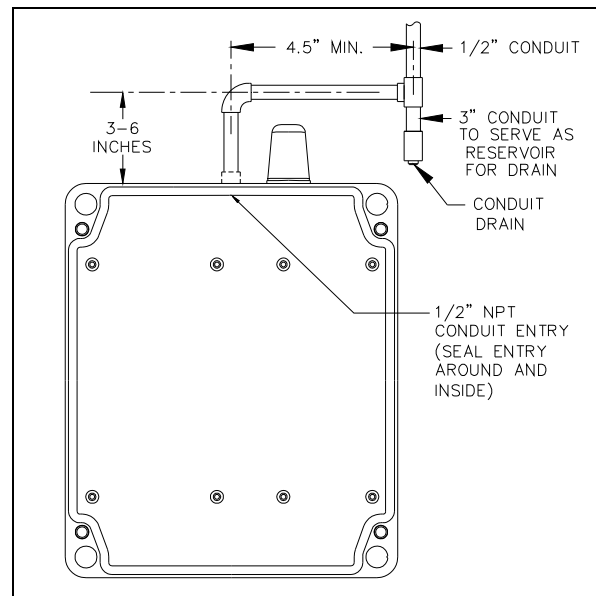


Figure 4. Top entry conduit installation details for metallic enclosures (NOT recommended)

Models 393-800A, 393AL-800A, and 394AL-802A

The mounting and wiring instructions are as follows:

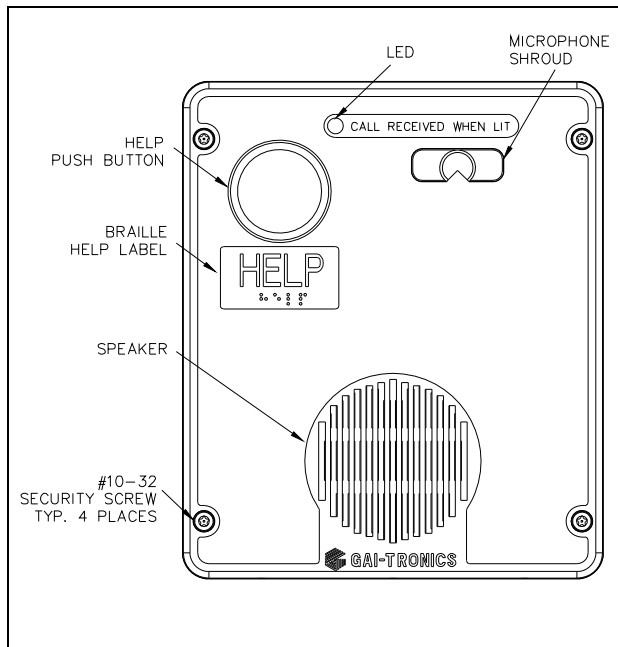


Figure 5. Model 393-800A VoIP Telephone in a Non-metallic Enclosure

1. Remove the four security screws from the front panel.
2. Position the enclosure on the mounting surface. The enclosure provides four 0.28-inch mounting holes in a 7.0 × 8.5-inch hole pattern. Secure the enclosure to its mounting surface with four ¼-inch diameter bolts of the appropriate length for the surface.

NOTES:

 1. When using the GAI-Tronics Model 231-001 Pole Mounting Kit, follow the mounting instructions provided in the kit.
 2. When mounting outdoors, installation of a surge suppresser (customer-supplied) on the power line is recommended.
3. For Model 393-800A only: Create a conduit access hole using a Greenlee-type punch that is equivalent in size to the conduit diameter. Bottom entry is strongly recommended. Insert a conduit fitting in the access hole.

4. Install conduit as required. Refer to conduit installation details on page 7.

NOTE: Use silicone sealant or equivalent around and inside all conduit entries.
5. Pull the power and ground cable through the conduit and install the cable as shown in the “Field Wire Installation” section on page 13.

NOTE: If mounted outdoors, the installation of a surge suppresser (customer-supplied) on the power line is recommended.
6. Connect any desired peripheral devices. Refer to page 17 for connection information.
7. Perform the initial programming of the telephone. Refer to the “Programming” section on page 20.
8. Verify operation by calling to and from another telephone.
9. Complete the installation by attaching the front panel assembly to the rear enclosure using the four security screws, 10–12 in-lbs. of torque recommended.

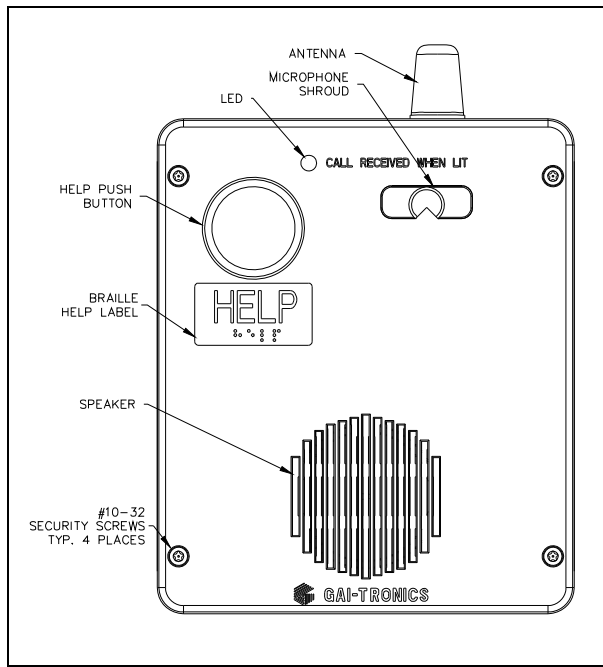


Figure 6. Model 393AL-800A

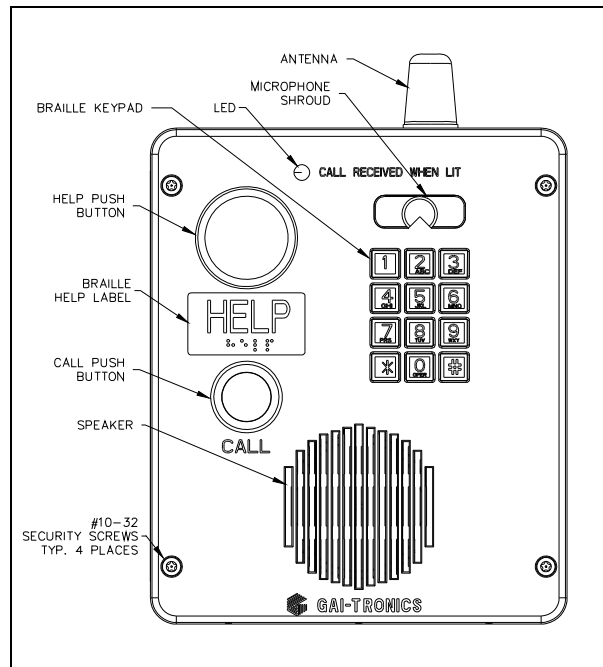


Figure 7. Model 394AL-802A

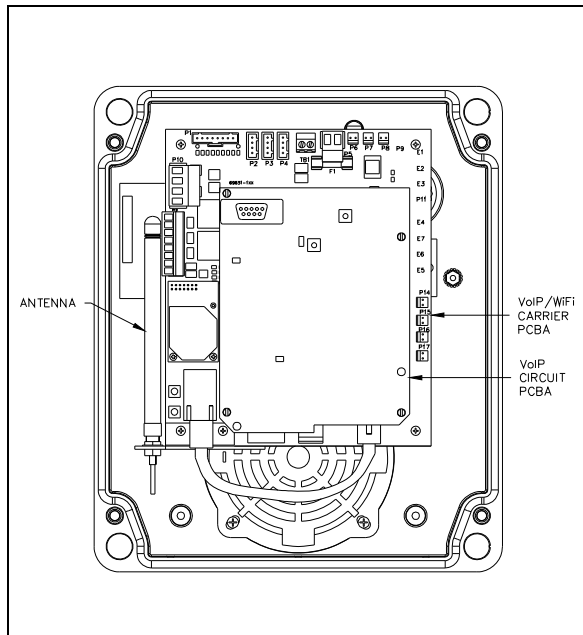


Figure 8. Model 393-800A
Component Locations

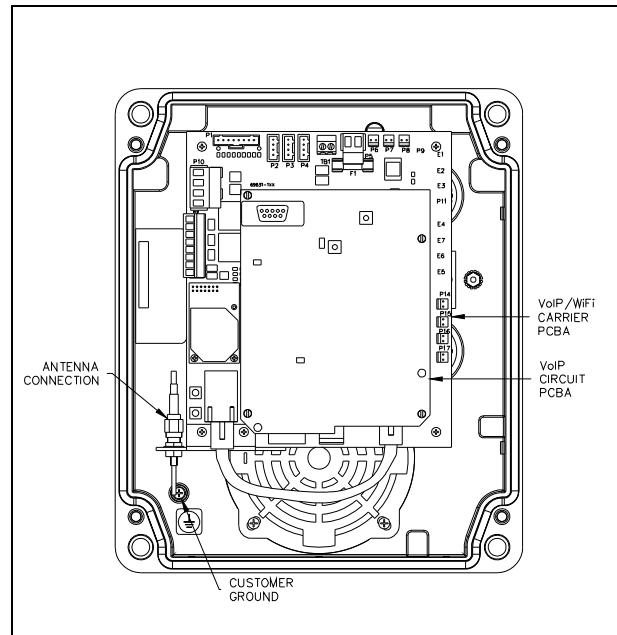


Figure 9. Models 393AL-800A and 394AL-802A
(Antenna is mounted on back box.)

Model 397-80xA and 398-80xA Telephones

The mounting and wiring instructions are as follows:

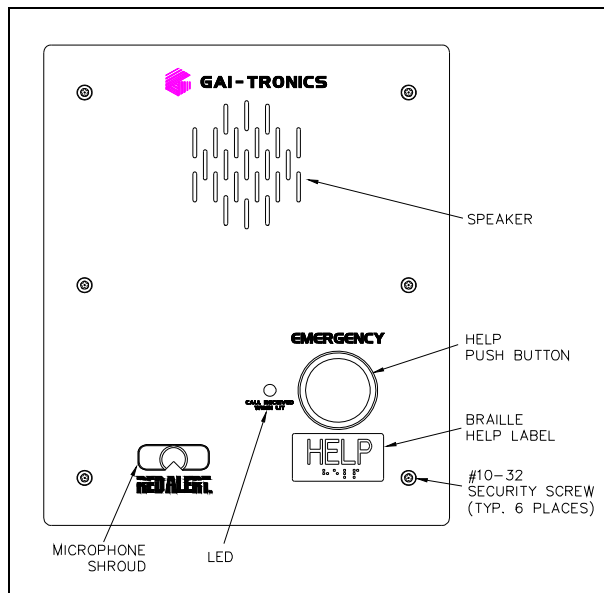


Figure 10. Model 397-800A

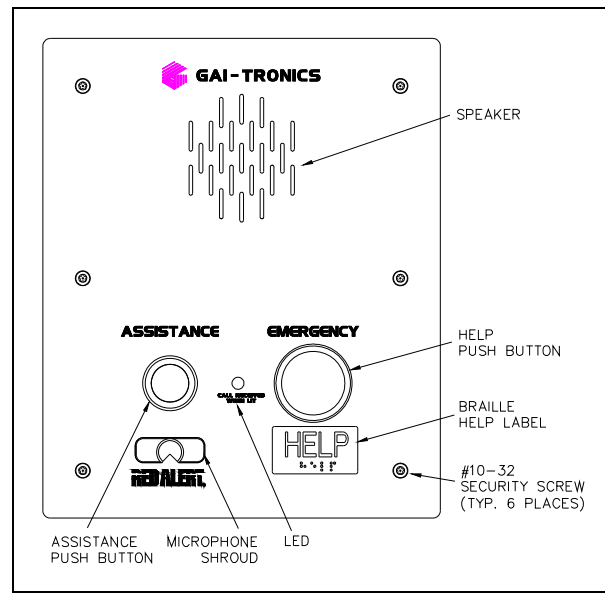


Figure 11. Model 397-801A

Stanchion or Flush-Mount Applications

1. Use the supplied back box to mount the Model 397-800A, 397-801A, 398-801A and 398-802A WiFi VoIP Telephones in flush-mount applications or in a GAI-Tronics Model 234 Series Stanchion. Mount the back box to the structure using the appropriate hardware. Refer to Figure 15 for cutout dimensions.

NOTES:

1. When installing a RED ALERT® Flush-mount VoIP Telephone in a GAI-Tronics 236-00x Series or 238-001 Surface-Mount Enclosure, the front panel assembly mounts directly to the enclosure (back box is not required.)
2. When mounting outdoors, the installation of a (customer-supplied) surge suppressor on the power line is recommended.
2. Remove the tapered plug from the one of the rear cable entry holes in the back box, and install the power and antenna cable and cable fitting. See the “Field Wire Installation” section on page 13.
3. Connect any desired peripheral devices. Refer to page 17 for connection information.
4. Perform the initial programming of the telephone. Refer to the “Programming” section beginning on page 20.
5. Verify operation by calling to and from another telephone.
6. Attach the telephone’s front panel to the mounting flanges of the back box using the six supplied #10-32 security screws and washers, 10–12 in.-lbs. of torque recommended.

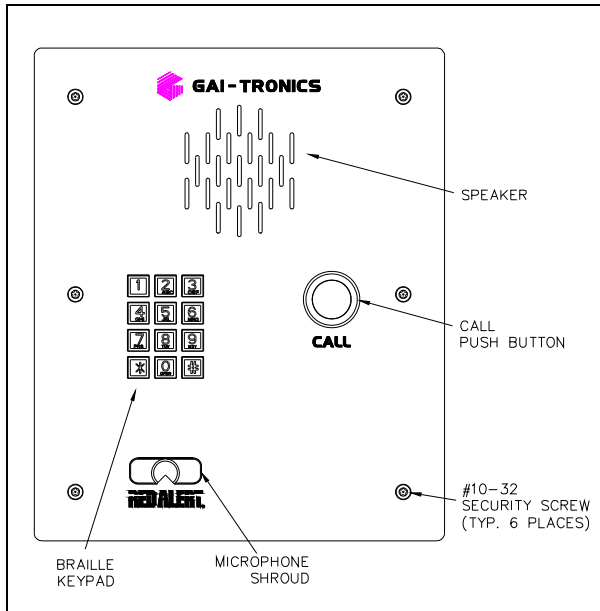


Figure 12. Model 398-801A

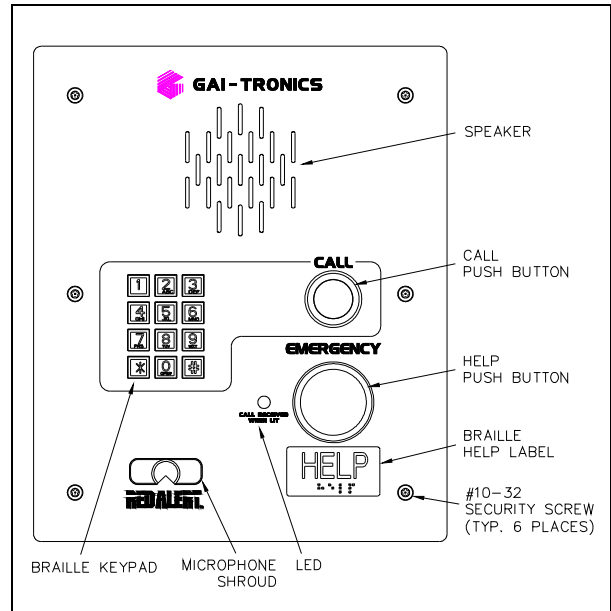


Figure 13. Model 398-802A

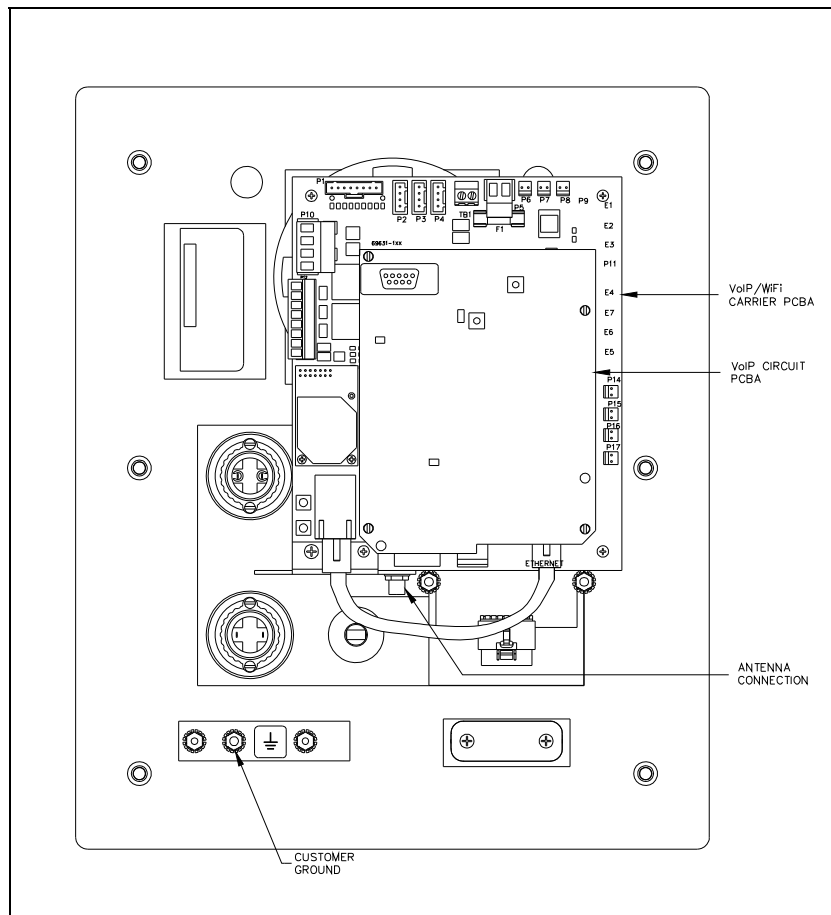


Figure 14. Component Locations for Models 397-800A, 397-801A, 398-801A, and 398-802A

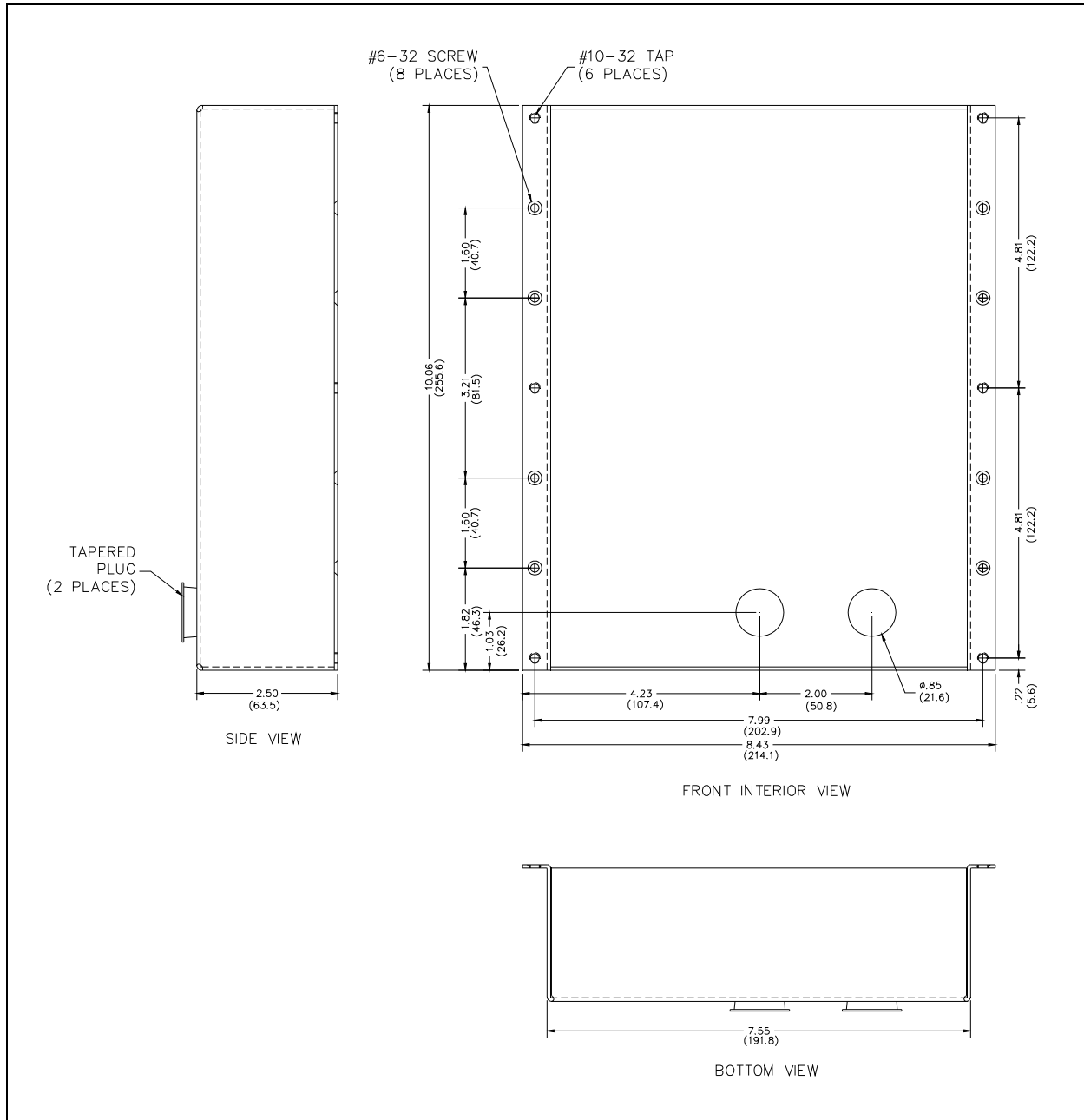


Figure 15. Flush-Mount WiFi VoIP Telephone Back Box Mounting Details
 Panel Cut-Out: 10.13 H × 7.63 W inches (257 × 194 mm)

Setup

Field Wire installation

After all the field wires are pulled through the rear enclosure, install all connections as indicated below. Refer to Figure 16 for wiring details. Refer to Table 5 on page 16 for the recommended conductor sizes.

NOTE: Consult the National Electrical Code (NFPA 70), Canadian Standards Association (CSA 22.1), and local codes for the specific requirements regarding your installation. Install all equipment without modification and according to the local and national codes. Class 2 circuit wiring must be performed in accordance with NEC 725.55.

Power

Local Power

This telephone requires a local power source to operate. A separate, isolated 24–48 V dc power supply is required. A removable terminal block P5 has been provided for connection of local power to the telephone. Connect the positive conductor to the (+) terminal and the negative conductor to the (–) terminal of P5. See Figure 16 for wiring and location of P5.

Table 2. Power – P5

| Pin | Label | Description |
|-----|-------|-------------|
| 1 | (+) | Positive |
| 2 | (–) | Negative |

Ground

The enclosure must be connected to earth ground. Install a #6 ring lug on the ground conductor and secure it with the ground terminal located on the rear of the front panel. See Figure 9 and Figure 14. (Not applicable to Model 393-800A.)

Network

Connection to the wireless Local Area Network is accomplished via the on-board WiFi transceiver.

Antenna

An SMA connector is provided for antenna connection. Refer to Figure 16 for additional details. This connector is mounted on an L-bracket on top of the unit’s PCBA and is labeled ANTENNA.

Models 393AL-800A and 394AL-802A include an integral, low-profile, WiFi antenna (secured to the exterior of the top surface of the back box on the right side, when facing the unit.) This antenna is pre-connected to the internal antenna connector. The Model 393-800A uses an internal antenna. Models 397-80xA and 398-80xA require the use of an external WiFi antenna. The antenna cable must be fed through the rear enclosure of the telephone and secured to the SMA connector.

NOTE: Antennae used in non-stanchion, flush-mount installations must be customer-supplied.

A Model 12234-102 Antenna/Lens Kit (sold separately) should be used when installing the Model 397-80xA and 398-80xA in a GAI-Tronics 234 Series Stanchion.

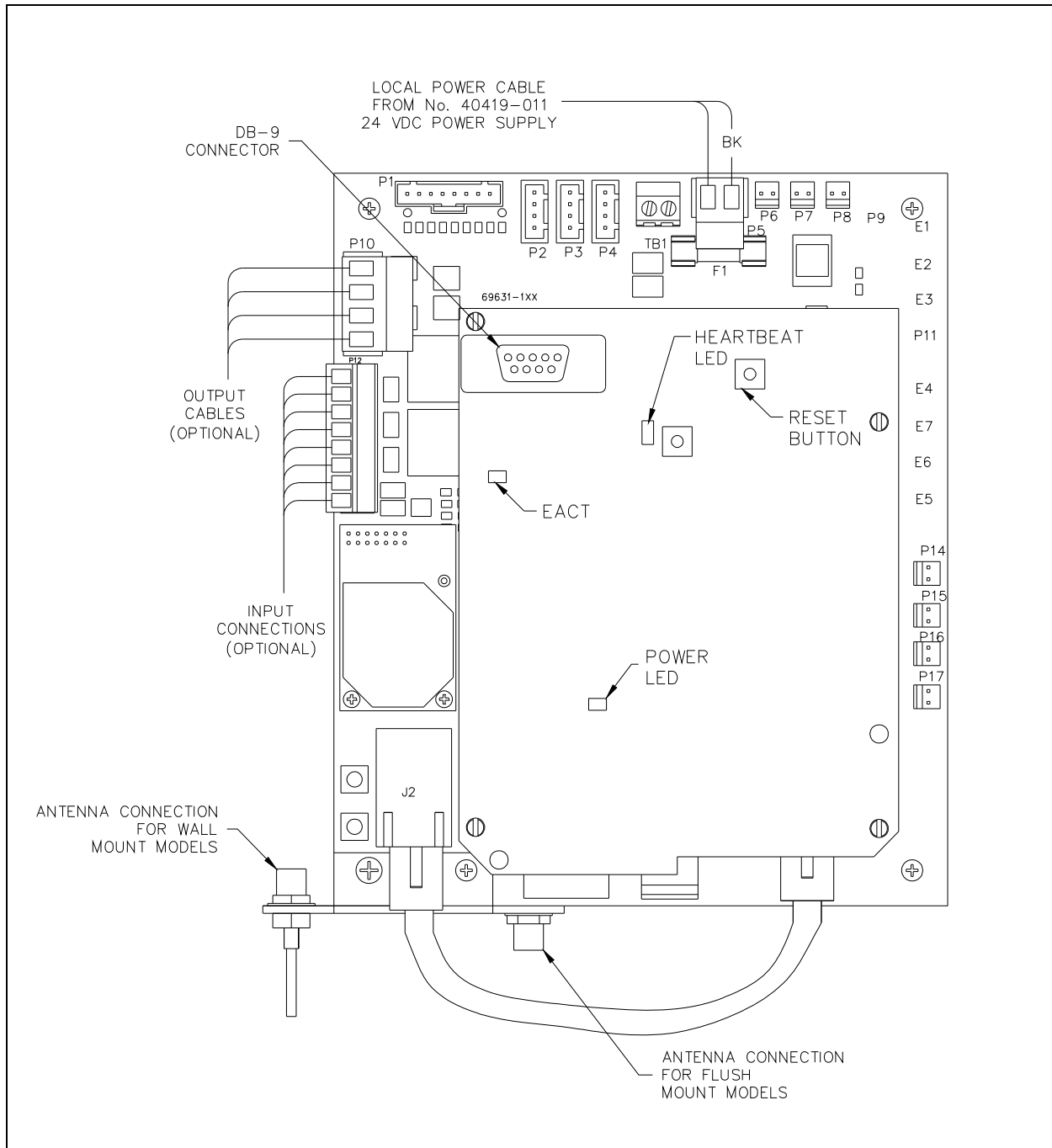


Figure 16. WiFi VoIP Telephone PCB Assembly

I/O

Inputs

Four auxiliary inputs have been provided for customer use. Terminations for these inputs are provided on terminal block P12. Connect each input between the desired input (INPUT 1–4) and common (GND) on terminal block TB1.

Table 3. Auxiliary Inputs – P12

| Pin | Label | Function |
|-----|-------|----------|
| 1 | IN4 | Input 4 |
| 2 | GND | Common |
| 3 | IN3 | Input 3 |
| 4 | GND | Common |
| 5 | IN2 | Input 2 |
| 6 | GND | Common |
| 7 | IN1 | Input 1 |
| 8 | GND | Common |

Outputs

Two outputs have been provided for customer use. Terminations for these outputs are provided on connector P10.

Table 4. Output Contacts – P10

| Pin | Label | Description |
|-----|-------|------------------------|
| 1 | OUT1 | Common Output 1 |
| 2 | | Normally Open Output 1 |
| 3 | OUT2 | Common Output 2 |
| 4 | | Normally Open Output 2 |

Recommended Cabling

Table 5. Recommended Cabling

| Cable Use | Size and Type |
|-----------------|--------------------------------------|
| Power | Two-conductor, No. 22 AWG is typical |
| Inputs | Two-conductor, No. 22 AWG is typical |
| Output contacts | Two-conductor, No. 18 AWG is typical |
| Antenna | RG58 coaxial cable |

WiFi VoIP Telephone Input Contacts

Each RED ALERT® WiFi VoIP Telephone accepts four volt-free inputs. Refer to the “Specifications” section of this manual for the input ratings.

The function of each input is configurable. Inputs can be configured for one of the following modes: On, Off, or On/Off. The signals can also be inverted between active high (INVERT) or active low (NORMAL). Activation of these inputs can be configured to update a SYSLOG or generate an email. Please refer to Figure 16 on page 14 of this manual and the “Logic Settings” section of GTC Pub. 42004-396, “VoIP Telephone Configuration Guide” for programming instructions for these inputs.

WiFi VoIP Telephone Output Contacts

Each RED ALERT® WiFi VoIP Telephone contains two voltage-free output contacts. Refer to the “Specifications” section of this manual for the output ratings. Both outputs are single-pole, single-throw contacts.

The function of each output is configurable. Outputs can be configured for one of the following modes: On, Off, Pulse, Mute, Ring, Call, Connect, Hook, In Use, Ring Cadence, Ring Out, Page, Registered, or Emergency. In some modes, the duration of the activation or on/off times can also be set. Please refer to Figure 16 on page 14 of this manual and the “Logic Settings” section of GTC Pub. 42004-396, “VoIP Telephone Configuration Guide” for programming instructions for these outputs.

Strobe Connection

Each RED ALERT® WiFi VoIP Hands-free Telephone includes two solid state relays, as previously noted. Contact 1 and Contact 2 each allow peripheral equipment, such as beacons, video cameras, and alarm generators, to be activated when the EMERGENCY push button is pressed. The relay can remain energized for the duration of the emergency call.

In most applications, an output is used to operate a GAI-Tronics Model 530-001/531A Strobe (sold separately). For connection details, please refer to Figure 17 or the Model 530-001/531A installation instructions included with the strobe (GTC Pub. 42004-395).

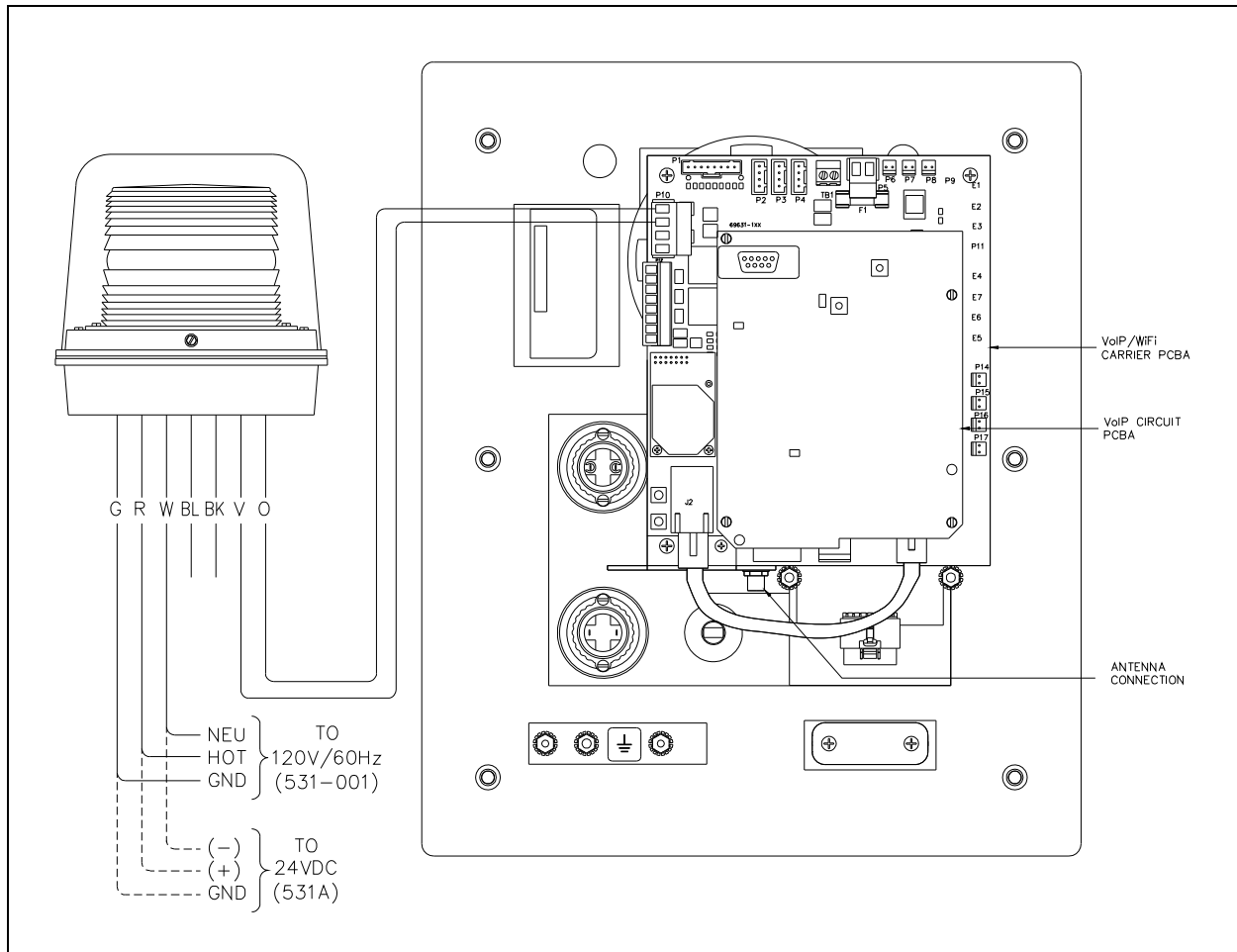


Figure 17. GAI-Tronics Models 530-001 and 531A Strobe Connection Details

Status Indication

Power

The Power LED located on the VoIP PCBA illuminates when power is applied to the telephone. Refer to Figure 18 for location.

Heartbeat

The Heartbeat LED located on the VoIP PCBA will flash when the telephone is operational over the WLAN. Refer to Figure 18 for location.

EACT

The EACT LED located on the VoIP PCBA will turn ON when VoIP PCBA is connected to an Ethernet device and flash when data is being transmitted. Refer to Figure 18 for location.

WiFi Activity (WiFi Units Only)

The WiFi Activity LED located on the WiFi module will turn ON when the VoIP telephone is powered and flash when data is being transmitted. Refer to Figure 18 for location.

WiFi Ready (WiFi Units Only)

The WiFi Ready LED, a green LED on the RJ-45 connector J2 located on the VoIP carrier PCBA, illuminates when the WiFi Interface is ready to connect to a wireless network. Refer to Figure 18 for location.

WiFi Connected (WiFi Units Only)

The WiFi Connected LED, a yellow LED on the RJ-45 connector J2 located on the VoIP carrier PCBA, illuminates when the WiFi Interface is connected to a wireless network or device. Refer to Figure 18 for location.

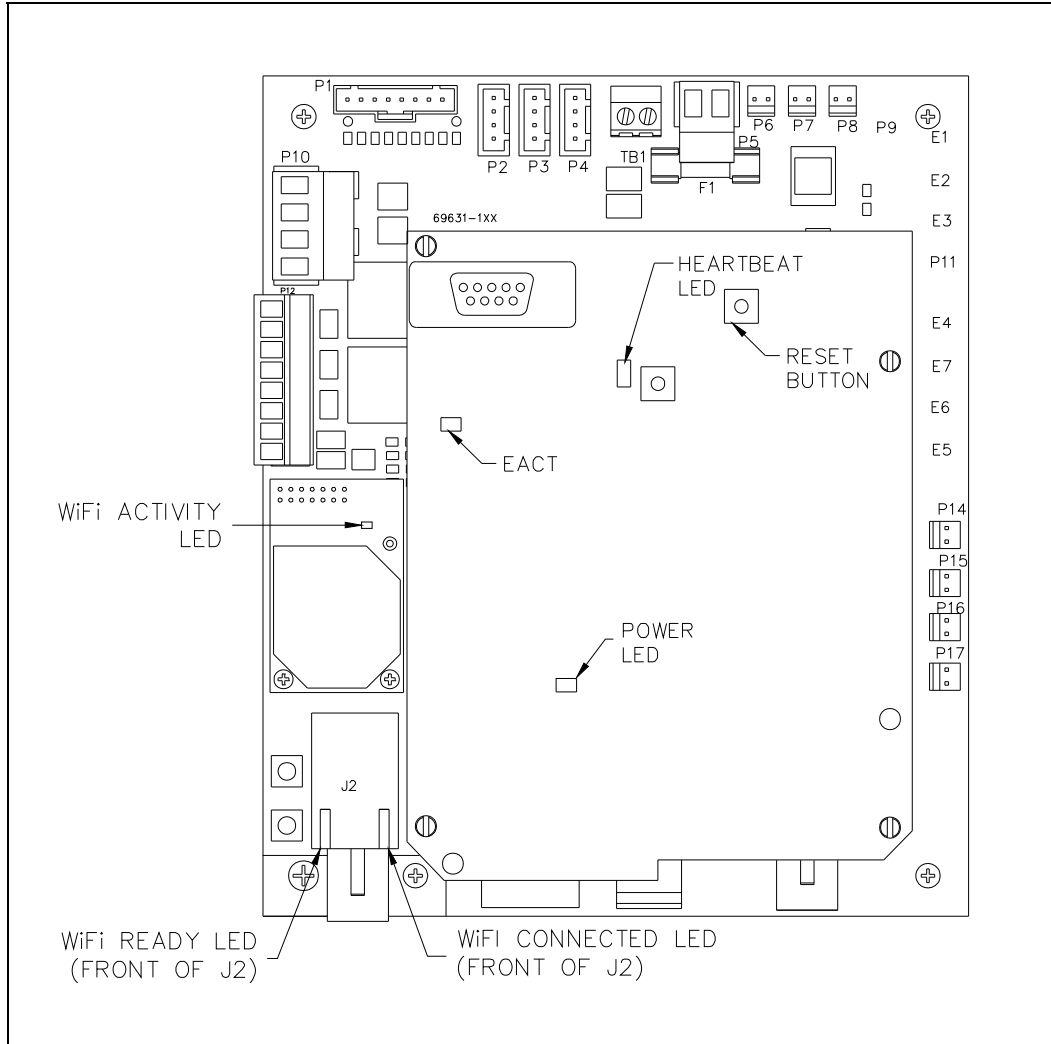


Figure 18. VoIP Carrier PCBA Component Locations

Programming

The installer should ensure that the network is configured to allow VoIP communications (using the SIP protocol) between the desired locations before attempting to configure the GAI-Tronics VoIP Telephones.

First Time WiFi Interface Setup

Configuration of the WiFi interface is required to set up security of the WLAN unit’s connection.

Power the telephone by connecting 24–48 V dc to P5.

While the VoIP telephone’s WiFi interface is still using the factory default configuration it will be an Access Point to a network called **HF-A11_AP**. Using a PC/laptop with wireless capability, connect to the HF-A11_AP network. When the PC shows that it is connected to the HF-A11_AP network the Yellow LED on the WiFi interface should be ON.

When you are connected to the HF-A11_AP network open a web browser on the PC and type **10.10.100.254** into the address field and press **Enter**. The HF-A11_AP WiFi Log In Window will open. Enter **admin** for both the user and password, and then log in. The Working Mode Configuration Web page will open. Select **STA Mode** then click the **Apply** button.

If you are having a problem connecting to the **HF-A11_AP** network verify that the PC’s wireless network adapter is set to DHCP (Obtain an IP address automatically).

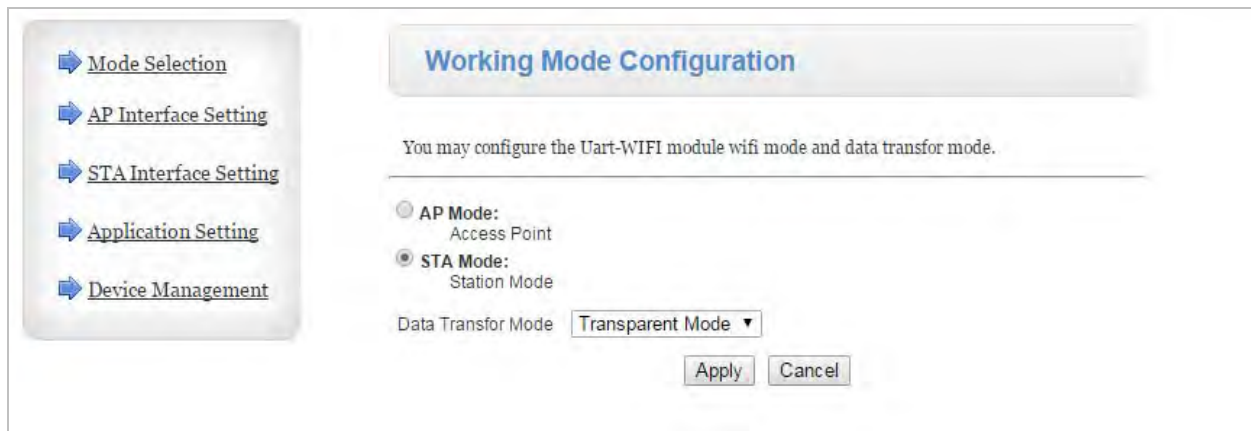


Figure 19. WiFi Interface Working Mode Configuration Web page

After the configuration has updated the Web page will show **Set Successfully, Restart to use new setting**. Then click on the **STA Interface Setting** selection. The STA Interface Setting Web Page will open.

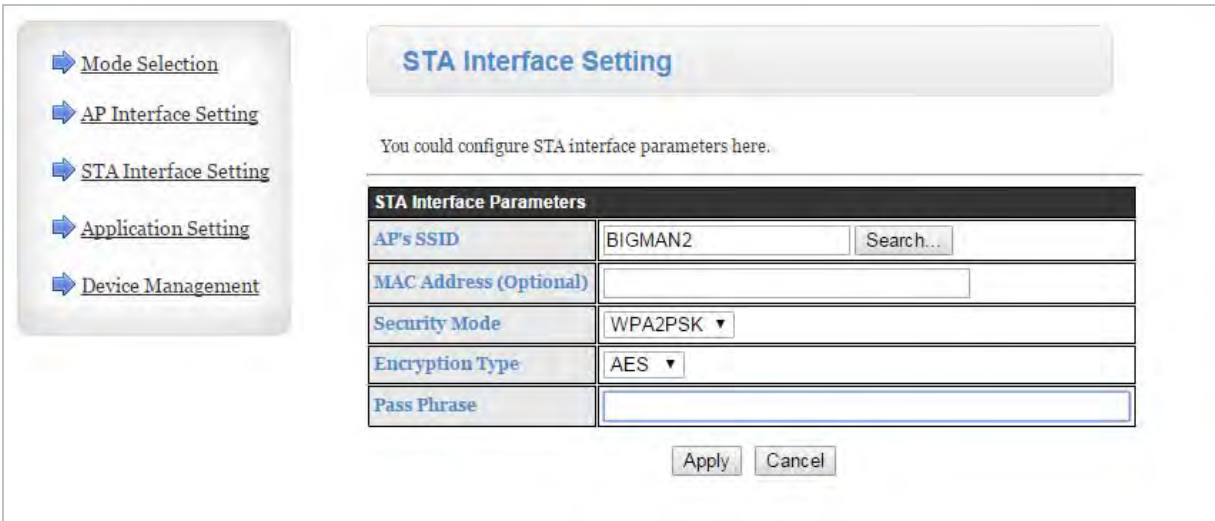


Figure 20. WiFi Interface STA Interface Setting Web page

Click the **Search** button in the **AP's SSID** section to find the WiFi network that the VoIP telephone will operate in. The **Site Survey** Web page will open showing all available networks. Select the desired network and click the **Apply** button.

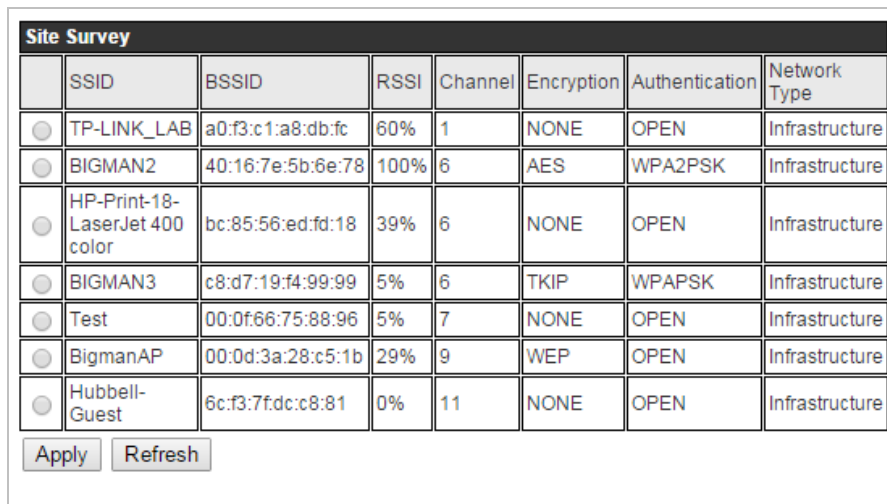


Figure 21. WiFi Interface Site Survey Web page

A reminder window for entering the WEP Key will pop up. Click the OK button.

When the STA Interface Setting Web page opens again, the AP's SSID, Security Mode and Encryption Type fields will automatically be filled in. Now enter the **WEP Key** or **Pass Phrase** for the selected network and click the **Apply** button.

If the VoIP telephone is not within the range of the wireless network that it is being configured to operate in, the AP's SSID, Security Mode, Encryption Type and WEP Key or Pass Phrase fields must be manually filled in before you click the Apply button.

After the configuration has updated the Web page will show **Set Successfully, Restart to use new setting**. Then click on the **Device Management** selection. The Device Management Web Page will open. In the Restart Module section, click the **Restart** button.

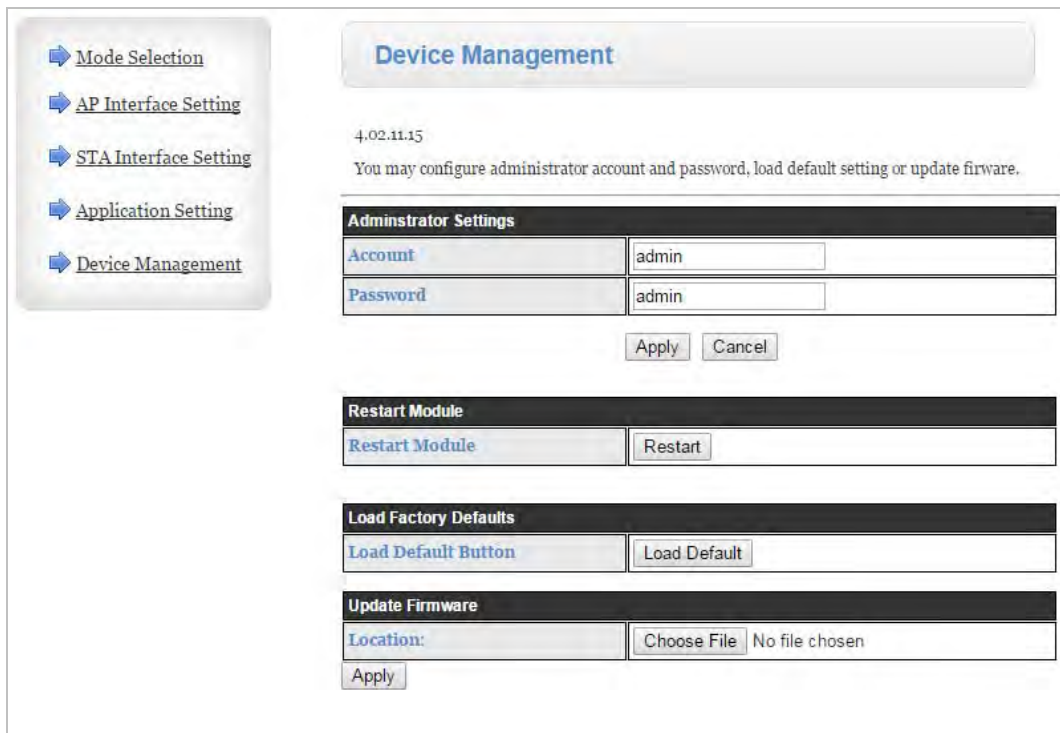


Figure 22. WiFi Interface Device Management Web page

When the WiFi module is restarting the web page will show **Rebooting....** Both LEDs on the RJ-45 Jack J2 will turn OFF for several seconds while the WiFi interface is restarting. The green LED will turn ON first when the WiFi interface is done restarting. The yellow LED will turn ON if the WiFi interface can connect to the newly configured network.



If the VoIP Telephone does not connect to the wireless network, due to an incorrect WEP Key or Pass Phrase, follow the instructions in the next section, "Change WiFi Interface Configuration."

NOTE: The WiFi module is no longer an Access point to its own network (HF-A11_AP). The WiFi module should now be connected to or trying to connect to the newly configured wireless network. The browser Web page will not change from showing Rebooting because the PC is no longer connected to the HF-A11_AP network.

Change WiFi Interface Configuration

To change the configuration of the WiFi interface first press the RLOAD button (PB1) for 10 seconds to return the WiFi interface to its default settings. The RLOAD button is located on the VoIP telephone PCBA near the WiFi module and J2. Both LEDs on the RJ-45 jack (J2) will turn OFF for several seconds while the WiFi interface is resetting. Wait for the green LED to turn ON before trying to connect to the HF-A11_AP network.

With the default settings loaded and the green LED on the RJ-45 jack (J2) ON, follow the instructions in the “First Time WiFi Interface Setup” section to connect the HF-A11_AP network and change the configuration settings.

 **WARNING**  After changing the WiFi Interface configuration if the VoIP telephone has been configured for DHCP the telephone’s power must be cycled before the telephone will connect to the wireless network. After power is reapplied, the green and yellow LEDs on the RJ-45 jack (J2) are ON, and the Heart Beat LED on the VoIP telephone PCBA is flashing, you can go to the next section “VoIP PBCA Setup” and start setting up the VoIP telephone configuration.

VoIP PCBA Setup

Verify the PC is connected to the same network as the VoIP telephone.

The easiest way to get started is to make a network connection to the unit and log on via a web browser. The unit is initially set with a static IP address:

IP address 192.168.1.2

A user name and password will be requested. The initial factory settings are:

User Name **user**

Password **password**

Changing the user name and password is recommended. This security measure helps to prevent unauthorized changes to the VoIP Telephone Interface’s configuration.

VoIP PCBA Initial Network Configuration

Each VoIP PCBA must be set up for the network prior to installation. Assign a local ID, domain, proxy, and registrar.

Assign a host name The host name provides identification of the different VoIP PCBAs on the network.

Test Verify that calls can be made successfully.

Maintain Monitor alarms. Set up auto-updates.

Refer to Pub. 42004-481, VoIP Telephone Basic Programming Guide for detailed programming instructions for this VoIP device.

Maintenance

 **WARNING**  **This product can contain hazardous voltages. Always remove power to this station prior to servicing.**

General Information

1. Inspect and replace frayed or cracked wiring.
2. Secure/replace loose wires and terminal lugs.
3. Remove corrosion from terminals.
4. Inspect fuse F1 on the WiFi VoIP Carrier PCBA.

Preventive Maintenance for Models 397-80xA and 398-80xA

Stainless steel does require maintenance to prevent corrosion from occurring. Different installation locations may require more regular maintenance than others, depending on the environment and exposure to airborne contaminants. The following maintenance steps should be performed on a regular basis or when corrosion is first noticed on your Model 397-80xA and 398-80xA Telephones.

Cleaning

For general cleaning, wipe surface with a cleanser or cleanser and water mixture. Any cleanser that is safe for glass is usually safe for stainless steel. Wipe dry.

If corrosion or rusting is noticed, remove with a non-abrasive commercial cleanser and water. Rub stained areas in the same direction as the existing grain. Stubborn stains may be removed with a paste made from magnesium oxide, ammonia, and water. Wipe clean with water rinse and dry.

Prevention

Automotive wax provides the best results in preventing corrosion on stainless steel. Simply apply wax, let dry to a haze, and buff to a shine with a clean dry cloth. This application should protect the telephone surface for many months as it will allow natural re-formation of the chromium oxide layer.

DO NOT use steel wool, sandpaper, mineral acids, bleaches, or chlorine cleansers on the stainless steel.

Service

If your RED ALERT® WiFi VoIP Telephone requires depot service, contact your Regional Service Center for a return authorization number (RA#). Equipment should be shipped prepaid to GAI-Tronics with a return authorization number and a purchase order number. If the equipment is under warranty, repairs will be made without charge. Please include a written explanation of all defects to assist our technicians in their troubleshooting efforts.

Call 800-492-1212 inside the USA or 610-777-1374 outside the USA for help identifying the Regional Service Center closest to you.

Troubleshooting

Table 6. Troubleshooting Chart

| Problem | Possible Solution |
|--|--|
| Low volume | If the volume is low, increase the volume level in the telephone's programming configuration. |
| High volume | If the volume is high, decrease the volume level in the telephone's programming configuration. |
| Front panel push buttons are not operational | Verify the push buttons are properly configured. Verify power is applied to the unit. |
| Inputs not operational | Check the input connections. Verify the inputs are properly configured. |
| Outputs not operational | Check the output connections. Verify the outputs are properly configured. |
| Cannot make or receive calls | Verify that power is applied to the unit. Verify the WLAN parameters have been configured properly. Verify the telephone has been set up on the network. |
| No power indication | Check the power connections. |

Specifications

Power requirements 24–48 V dc, 6 watts
Antenna connector (supplied) RP-SMA female connector

WiFi Network

Standards IEEE 802.11b/g/n
Frequency 2.412–2.484 GHz
Call control signaling SIP (RFC3261 compliant) loose routing
Configuration Embedded web server
Configuration file download
Direct serial connection
Password protection

Inputs

Keypad* 3 × 4 matrix
Push buttons* Call, Assistance, Emergency/Help
Configurable inputs (quantity = 4) Internal pull-up 3.3 V dc tolerant

Outputs

Output 1 8 amps @ 30 V ac/dc (resistive load)
Output 2 8 amps @ 30 V ac/dc (resistive load)

Indicators

External Off-hook indicator light
Internal on VoIP Circuit Board Power, Heartbeat, & EACT LEDs
Internal on VoIP Carrier Board RF Activity, Speed and LAN Activity
Audio output 85 dB SPL or greater @ 1.0 meters (@ 1 kHz)

*Not available on all models.

Mechanical

Temperature range

Operating -4° F to +131° F (-20° C to +55° C)
Storage -40° F to 158° F (-40° C to +70° C)

Relative humidity Up to 95%, non-condensing
PCBA (printed circuit board assembly) Conformal coated

Model 393-800A

Enclosure construction Engineered plastic, safety yellow
Dimensions 9.50 H × 8.00 W × 4.00 D inches (241.3 × 203.2 × 101.6 mm)
Weight 4.0 lbs. (1.8 kg)

Models 393AL-800A and 394AL-802A

Enclosure construction Cast aluminum painted safety yellow
Braille keypad (Model 394AL-802A only) Chrome-plated zinc
Dimensions 9.50 H × 8.00 W × 4.00 D inches (241.3 × 203.2 × 101.6 mm)

Weight

Model 393AL-800A 7.8 lbs. (3.5 kg)
Model 394AL-802A 8.5 lbs. (3.8 kg)

Models 397-800A, 397-801A, 398-801A and 398-802A

Construction

Front panel..... 14-gauge, type 304 brushed stainless steel
 Back box..... 16-gauge cold-rolled steel with black polyurethane finish
 Braille keypad (Model 398-80xA only) Chrome-plated zinc

Dimensions

Front panel..... 12.00 H × 10.00 W inches (304.8 × 254.0 mm)
 Back box (overall)..... 10.06 H × 8.43 W × 2.50 D inches (255.5 × 214.1 × 63.5 mm)
 Cutout for mounting back box..... 10.13 H × 7.63 W inches (257.3 × 193.8 mm)

Weight

Model 397-800A 6.5 lbs. (2.9 kg)
 Model 397-801A 6.5 lbs. (2.9 kg)
 Model 398-801A 7.2 lbs. (3.3 kg)
 Model 398-802A 7.2 lbs. (3.3 kg)

Approval Standards

Compliance to Standard..... FCC CRF 47 Part 15
 Safety of Information Technology Equipment UL/CSA 60950
 Enclosures for Electrical Equipment.....3R

Replacement Parts

| Part No. | Description | 393 -800A | 393AL- 800A | 394AL- 802A | 397 -800A | 397 -801A | 398 -801A | 398 -802A |
|------------|--|--------------|----------------|----------------|--------------|--------------|--------------|--------------|
| 233-001 | Model 233-001 Security Screwdriver | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 12565-802 | Carrier/WiFi VoIP PCBA Replacement Kit | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 51035-005A | PCBA, Keypad, metallic (Flush-Mount Telephones) | | | | | | ■ | ■ |
| 12542-002 | Security Screws (Torx T-25), ½-inch, Pack of 15 | | | | ■ | ■ | ■ | ■ |
| 12516-003 | Security Screws, (Torx T-25), 1-1/8 inches, Pack of 10 | ■ | ■ | ■ | | | | |
| 12520-009 | Push Button Replacement Kit (Help) | ■ | ■ | ■ | ■ | ■ | | ■ |
| 12520-010 | Push Button Replacement Kit (Call or Assistance) | | | ■ | | ■ | ■ | ■ |
| 12521-004 | Microphone Replacement Kit | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 12522-007 | Piezo Speaker Replacement Kit | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 21245-003 | Terminal Block Connector, 2-Position (External power) | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 21245-002 | Terminal Block Connector, 4-Position (Outputs) | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 62317-208 | 8-Point Connector (Inputs) | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 51035-019 | Keypad with Connector (Surface-Mount Telephones) | | | ■ | | | | |
| 40419-011 | Plug-in Power Supply, 120/240 V ac input, 24 V dc output | ■ | ■ | ■ | ■ | ■ | ■ | ■ |

Warranty

Equipment. GAI-Tronics warrants for a period of one (1) year from the date of shipment, that any GAI-Tronics equipment supplied hereunder shall be free of defects in material and workmanship, shall comply with the then-current product specifications and product literature, and if applicable, shall be fit for the purpose specified in the agreed-upon quotation or proposal document. If (a) Seller's goods prove to be defective in workmanship and/or material under normal and proper usage, or unfit for the purpose specified and agreed upon, and (b) Buyer's claim is made within the warranty period set forth above, Buyer may return such goods to GAI-Tronics' nearest depot repair facility, freight prepaid, at which time they will be repaired or replaced, at Seller's option, without charge to Buyer. Repair or replacement shall be Buyer's sole and exclusive remedy. The warranty period on any repaired or replacement equipment shall be the greater of the ninety (90) day repair warranty or one (1) year from the date the original equipment was shipped. In no event shall GAI-Tronics warranty obligations with respect to equipment exceed 100% of the total cost of the equipment supplied hereunder. Buyer may also be entitled to the manufacturer's warranty on any third-party goods supplied by GAI-Tronics hereunder. The applicability of any such third-party warranty will be determined by GAI-Tronics.

Services. Any services GAI-Tronics provides hereunder, whether directly or through subcontractors, shall be performed in accordance with the standard of care with which such services are normally provided in the industry. If the services fail to meet the applicable industry standard, GAI-Tronics will re-perform such services at no cost to buyer to correct said deficiency to Company's satisfaction provided any and all issues are identified prior to the demobilization of the Contractor's personnel from the work site. Re-performance of services shall be Buyer's sole and exclusive remedy, and in no event shall GAI-Tronics warranty obligations with respect to services exceed 100% of the total cost of the services provided hereunder.

Warranty Periods. Every claim by Buyer alleging a defect in the goods and/or services provided hereunder shall be deemed waived unless such claim is made in writing within the applicable warranty periods as set forth above. Provided, however, that if the defect complained of is latent and not discoverable within the above warranty periods, every claim arising on account of such latent defect shall be deemed waived unless it is made in writing within a reasonable time after such latent defect is or should have been discovered by Buyer.

Limitations / Exclusions. The warranties herein shall not apply to, and GAI-Tronics shall not be responsible for, any damage to the goods or failure of the services supplied hereunder, to the extent caused by Buyer's neglect, failure to follow operational and maintenance procedures provided with the equipment, or the use of technicians not specifically authorized by GAI-Tronics to maintain or service the equipment. **THE WARRANTIES AND REMEDIES CONTAINED HEREIN ARE IN LIEU OF AND EXCLUDE ALL OTHER WARRANTIES AND REMEDIES, WHETHER EXPRESS OR IMPLIED BY OPERATION OF LAW OR OTHERWISE, INCLUDING ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.**

Return Policy

If the equipment requires service, contact your Regional Service Center for a return authorization number (RA#). Equipment should be shipped prepaid to GAI-Tronics with a return authorization number and a purchase order number. If the equipment is under warranty, repairs or a replacement will be made in accordance with the warranty policy set forth above. Please include a written explanation of all defects to assist our technicians in their troubleshooting efforts.

Call 800-492-1212 (inside the USA) or 610-777-1374 (outside the USA) for help identifying the Regional Service Center closest to you.