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# Models 13382 WiFi and 13383 VoIP Addressable Amplified Speakers Installation Operation and Maintenance Manual

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## Forward

### Confidentiality Notice

This manual is provided solely as an installation, operation, and maintenance guide and contains sensitive business and technical information that is confidential and proprietary to GAI-Tronics. GAI-Tronics retains all intellectual property and other rights in or to the information contained herein, and such information may only be used in connection with the operation of your GAI-Tronics product or system. This manual may not be disclosed in any form, in whole or in part, directly or indirectly, to any third party.

### Computer Software Copyrights

This product contains copyrighted computer programs stored in semiconductor memory. These programs are copyrighted by GAI-Tronics Corporation and may not be reproduced in any form without expressed written permission from GAI-Tronics.

### Scope of Manual

This manual offers descriptive data, installation, and service information for the VoIP and WiFi Addressable Amplified Speaker Assemblies.

### Nomenclature

The model number is located on the nameplate on top of the speaker that specifically identifies GAI-Tronics equipment.

# Safety and General Information

Installation should only be performed by qualified service personnel in accordance with the National Electrical Code or applicable local codes.

**Power Sources**—Operate this unit only from the type of power source indicated on the label. If unsure of the type of power supply to use, contact qualified service personnel.

- **Battery Operated Units**—Refer to the operating instructions.
- **External Power Supply Units**—Use only the recommended approved power supplies.
- **Limited Power Source Units**—The power source must comply with EN60950. Substitutions may damage the unit or cause fire or shock.

**Outdoor Product:**

**Power Lines**—An outdoor system should not be located in the vicinity of overhead power lines, electric lights, or power circuits, or where it may contact such power lines or circuits, as this contact might be fatal. Refer to the National Electrical Code Article 800 regarding installation.

## User Instructions

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

## Exposure to Radio Frequency Energy

This equipment complies with FCC's RF radiation exposure limits set forth for an uncontrolled environment. The antenna(s) used for this transmitter must be installed and operated to provide a separation distance of at least 20 cm from all persons and must not be collocated or operating in conjunction with any other antenna or transmitter. Installers must ensure that 20 cm separation distance will be maintained between the device and users.

### Antenna Care

Unauthorized antennas, modifications, or attachments could damage the radio and may violate FCC regulations.

**Do NOT hold the antenna when the radio is IN USE. Holding the antenna affects the effective range.**

### Approved Accessories

Use only GAI-Tronics Corporation approved accessories. Please visit https://www.gai-tronics.com.

## Electromagnetic Interference/Compatibility

Electronic equipment may be susceptible to electromagnetic interference. If you experience interference, visit the FCC website at http://www.fcc.gov for possible solutions.

# Safe Handling of CMOS Integrated Circuit Devices

Many integrated circuit devices used in communications equipment are CMOS (Complementary Metal Oxide Semiconductor) type devices. Because of their high open circuit impedance, CMOS integrated circuits are vulnerable to damage from static charges. Care must be taken when handling, shipping, and servicing them and the assemblies in which they are used.

Even though protection devices are provided in CMOS integrated circuit inputs, the protection is effective only against overvoltage in the hundreds of volts range such as is encountered in an operating system. In a system, circuit elements distribute static charges and load the CMOS circuits, decreasing the chance of damage. However, CMOS circuits can be damaged by improper handling of the modules, even in a system.

To avoid damage to circuits, observe the following handling, shipping, and servicing precautions:

1. Prior to and while servicing a circuit module, particularly after moving within the service area, momentarily touch both hands to a bare metal, earth-grounded surface. This will discharge any static charge that may have accumulated on the person doing the servicing.

   **NOTE:** Wearing a conductive wrist strap will minimize static build-up during servicing.

2. Whenever possible, avoid touching any electrically conductive parts of the circuit module with your hands.
3. Power down the unit before installing or removing the circuit module.
4. When servicing a circuit module, avoid carpeted areas, dry environments, and certain types of clothing (silk, nylon, wool, etc.) because they contribute to static build-up. Similarly, disconnect the test probe prior to removing the ground lead.
5. All electrically powered test equipment should be grounded. Apply the ground lead from the test equipment to the circuit module before connecting the test probe.
6. If a circuit module is removed from the system, it is desirable to lay it on a conductive surface (such as a sheet of aluminum foil) which is connected to ground through 100 kilohms of resistance.
7. When soldering, be sure the soldering iron is grounded and has a grounded tip.
8. Prior to connecting jumpers, replacing circuit components, or touching CMOS pins (if this becomes necessary in the replacement of an integrated circuit device), be sure to discharge any static build-up as described in step 1. Since voltage differences can exist across the human body, it is recommended that only one hand be used if it is necessary to touch pins on the CMOS device and associated board wiring.
9. When replacing a CMOS integrated circuit device, leave the device in its conductive rail container or conductive foam until it is to be inserted into the printed circuit module.
10. All low impedance test equipment (such as pulse generators, etc.) should be connected to CMOS device inputs after power is applied to the CMOS circuitry. Similarly, such low impedance equipment should be disconnected before power is turned off.
11. Replacement modules shipped separately from the factory will be packaged in a conductive material. Any modules being transported from one area to another should be wrapped in a similar material (aluminum foil may be used). **Never use non-conductive material** for packaging these modules.

# General Information

## Product Overview

The Model 13383 VoIP Addressable Amplified Speaker enables broadcasting to personnel throughout a facility via an existing LAN (Local Area Network). The Model 13382 WiFi Addressable Amplified Speaker provides the same capability as the Model 13383 but permits connection to an existing WLAN (Wireless LAN).

These speaker assemblies are completely self-contained and can easily be added to an existing LAN (10/100 Base-T Ethernet) or WLAN (IEEE 802.11 b/g/n) with minimal cost or effort.

Each speaker model includes an integral VoIP interface and speaker amplifier. The Model 13382 additionally includes a WiFi interface circuit and antenna.

Power can be provided via a PoE connection (Model 13383 only, 802.3af compliant) or the external power supply provided with each unit. Each speaker is capable of providing a maximum 115 dB spl output at 1 meter when powered via PoE or the 15 V dc power supply provided with each unit; or 118 dB spl output at 1 meter via an external 24 V dc power supply.

Each addressable amplified speaker also provides a 600-ohm, 0 dBm audio output for additional design flexibility. This output can be connected to the audio input of a central amplifier or any equipment that requires a 600-ohm audio input, to further expand the broadcast system.

Each VoIP or WiFi Speaker is capable of providing two dry contact NO (normally open) outputs. Each output is programmable for a variety of uses such as activation of a strobe in a high noise area or initiating a door latch remotely.

The GAI-Tronics VoIP and WiFi Speakers provide the flexibility to address a diverse range of applications. A wide variety of functions can be achieved by altering the configuration data stored in the non-volatile memory. Configuration options include:

- web page configuration
- configuration file
- CLI (Command Line Interface)

## Features and Functions

The GAI-Tronics Models 13382 WiFi and 13383 VoIP Addressable Amplified Speakers are equipped with the following features:

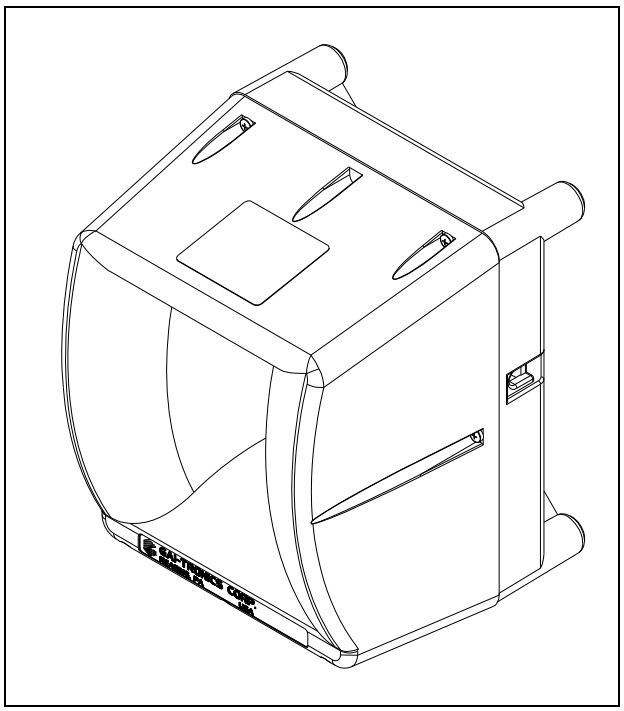


Figure 1. VoIP/WiFi Addressable Amplified Speaker Assembly

- wired or WiFi VoIP
- one-way broadcasting from VoIP network
- weatherproof enclosure
- POE (Power-over-Ethernet, 802.3af compliant) (Model 13383 only)
- wireless 802.11b, IEEE 802.11g compliant (Model 13382 only)
- high-efficiency (>80%) Class D amplifier
- 600-ohm audio output
- two dry contact closure outputs
- SIP compatible (RFC3261)
- real-time status reporting via TMA software (purchased separately)
- configurable via web page, serial link, or download
- multicast capability, up to eight addresses
- universal ac input power supply provided, 15 V dc
- optional local volume control
- provides up to 8 watts into an 8-ohm load (115 dB spl), measured at 1 meter on axis, with PoE power input (or 15 V dc)
- provides up to 30 watts into an 8-ohm load (118 dB spl), measured at 1 meter on axis, with 24 V dc power input

## System Requirements and Limitations

A 100 Base-T Ethernet network with SIP Server is required for systems containing three or more VoIP addressable amplified speaker assemblies. The operation of this equipment is limited by the customer's LAN media capabilities and the services available at each end point. The performance of the VoIP speaker assembly is dependent on the provision of sufficient bandwidth and prioritization on the network to give the quality of service required. In addition, the setup, installation, and software version of key components such as switches and routers can have a significant effect on the operation of this equipment. Improper connections or loose cables can also affect their operation.

The addressable amplified assemblies require a local 15 V dc or 24 V dc power source for operation. Each unit is provided with a universal (120/240 V ac) power supply that provides a 15 V dc output. GAI-Tronics Model 190-003PS Weatherproof Power Supply Kit is available (purchased separately) to provide a 24 V dc output.

The following network facilities should be provided (This may vary widely depending on how your network is deployed):

- SIP proxy server (to route calls)
- SIP registrar server (frequently combined with proxy servers)
- TFTP server (for downloading configuration files).
- TCP Syslog server (for reporting alarms and external inputs)
- SMTP server (for reporting via email)
- STNP server (to synchronize the internal clock)
- STUN server (for NAT firewall traversal)

Dedicated systems, such as Gatekeepers, VoIP-enabled PABXs or soft PABXs may also provide these functions.

The GAI-Tronics VoIP/WiFi Addressable Amplified Speakers only support SIP (Session Initiation Protocol) to RFC3261 call control signaling.

In addition to direct access, peer-to-peer or via a SIP server, each amplified speaker is capable of receiving multicast broadcasts. 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 that specifically supports multicast functionality and each speaker must be configured (enabled) to receive multicast packets.

## Available Models

Table 1. VoIP/WiFi Addressable Amplified Speakers Model Chart

| Part No. | Description |
|---|---|
| 13382 | WiFi VoIP Addressable Amplified Speaker |
| 13383 | VoIP Addressable Amplified Speaker |

# Installation

## Important Safety Information

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.

**Read, follow, and retain instructions**—All safety and operating instructions should be read and followed before operating the unit. Retain instructions for future reference.

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

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

**Heed warnings**—Adhere to all warnings on the unit and in the operating instructions.

**Attachments**—Attachments not recommended by the product manufacturer should not be used, as they may cause hazards.

This permanently connected apparatus must have an ALL-POLE MAINS switch with a contact separation of at least 3 mm in each pole incorporated in the electrical installation of the building.

### Outdoor Installation Product

**Power lines**—Outdoor systems should not be located in the vicinity of overhead power lines, electric lights, or power circuits, where it may contact such power lines or circuits, as this contact might be fatal. Refer to the National Electrical Code Article 800 regarding installation.

### Antenna Care

Unauthorized antennas, modifications, or attachments could damage the radio and may violate FCC regulations.

### Electromagnetic Interference/Compatibility

Electronic equipment may be susceptible to electromagnetic interference. If you experience interference, visit the FCC website at http://www.fcc.gov for possible solutions.

## Mechanical Receipt Inspection

The addressable amplified speaker is shipped in a cardboard container, protected from movement and distress by a self-forming packaging material. Thoroughly inspect it as soon as possible after delivery. In-transit damage should be immediately reported to the transportation company.

## Cable Installation Safety Considerations

Interconnecting, communications, and Class 2 dc power cables should be separated from electrical light or other Class 1 circuits by at least 2 inches. The exception is where Class 1 wiring or power circuits are run in a raceway, or are metal-sheathed or metal-clad, or are permanently separated from the conductors of the other circuitry by a continuous and firmly fixed nonconductor such as porcelain tubes or flexible tubing in addition to the insulation on the wire. Communications cables and in-building wiring should be listed and marked for the purpose according to NEC Article 800.

## Required Tools

- #1 Phillips screwdriver
- 1/16-inch flat blade screwdriver (for TB101, TB1 and TB3 connections only)

## Opening the Addressable Amplified Speaker

The addressable amplified speaker must be opened for programming and installation. **Bench programming and testing is recommended.**

1. Remove the speaker from the carton and position it on a flat surface with the front of the speaker facing up.

   Although the front section attaches to the rear section with six Phillips screws, only two screws have been secured during the production process.

2. Back out the two screws on the left and right side of the speaker.

   All screws are captive and will remain in the front section.

3. Lift the front section straight up and flip to the left-hand side of the rear section (see Figure 2).

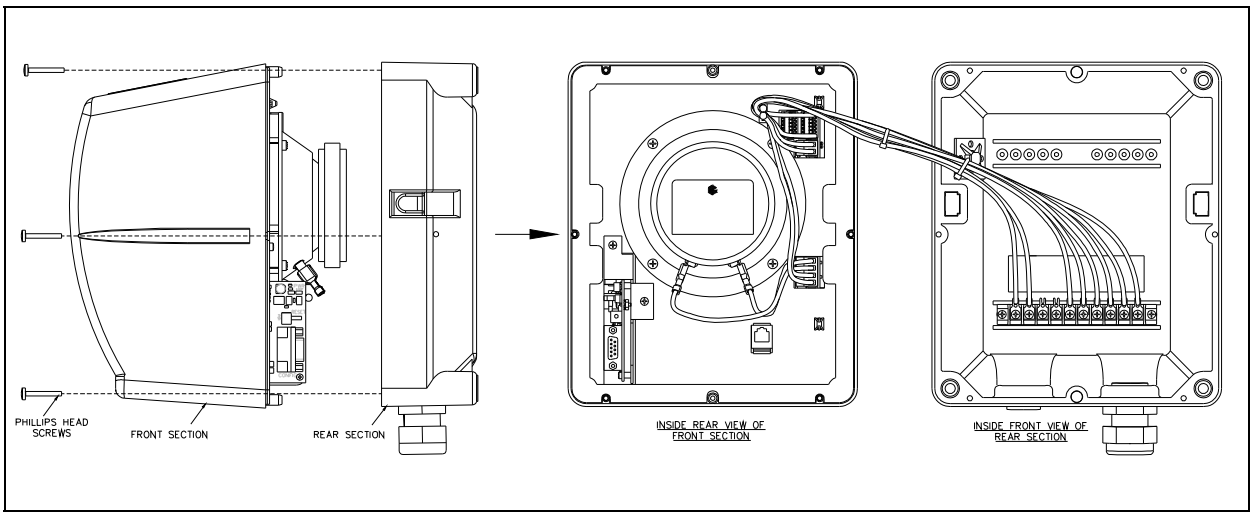



Figure 2: Addressable Amplified Speaker (Model 13382 shown)

## Mounting

After opening the addressable amplified speaker:

1. Untwist the nylon tie used for wire management.
2. Unplug the quick-connect fastons from the speaker.
3. Unplug the dual 7-point connectors (TB1), 2-point connector (TB2), and 4-point connector (TB3) from the PCBA.

The front section can now be completely separated from the rear section (see Figure 3).

4. Mount the rear section to any flat surface using 1/4-inch diameter customer-provided screws in each of the four 0.280-inch mounting holes in the corners of the rear section (see Figure 3 for the mounting hole pattern dimensions).

A Model 231-001 Pole Mounting Kit can also be used for pole or surface mounting. Two customer-provided mounting screws are required to surface mount this kit. The kit includes four mounting screws needed to secure the speaker to the kit's bracket.

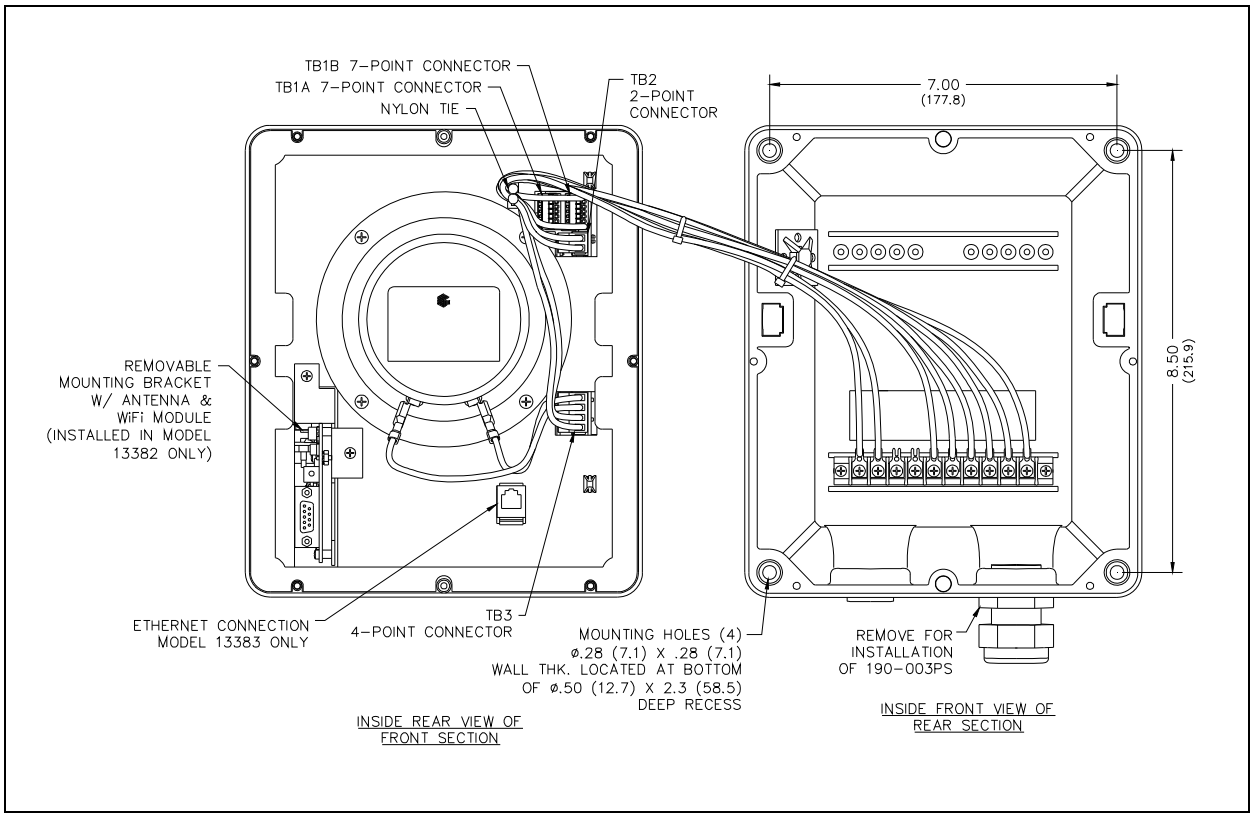



Figure 3. Mounting Detail

## Cable Installation

The speaker assemblies are designed for bottom cable entry, where two ¾-inch conduit entries are located. Field wiring can enter the speaker housing using the installed ¾-inch NPT cable bushing (bottom right), or with rigid or flexible conduit, by removing the installed bushing. The ¾-inch male conduit plug (bottom left) can be removed for additional conduit connections (see Figure 4). The speaker is completely rain-tight when the conduit entries are closed and sealed.

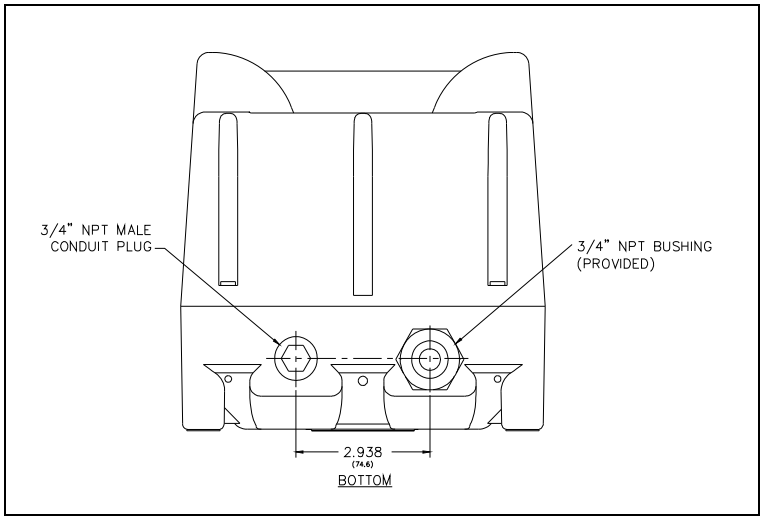



Figure 4. Bottom view of speaker assembly

Install the necessary cable for wiring the speaker.

## Field Wiring Connections

The addressable amplified speaker provides terminal blocks inside the rear portion of the housing for most field wiring. Each terminal block is labeled to indicate its functionality (see Figure 5). Use spade or ring lug connectors for connections to TB101.

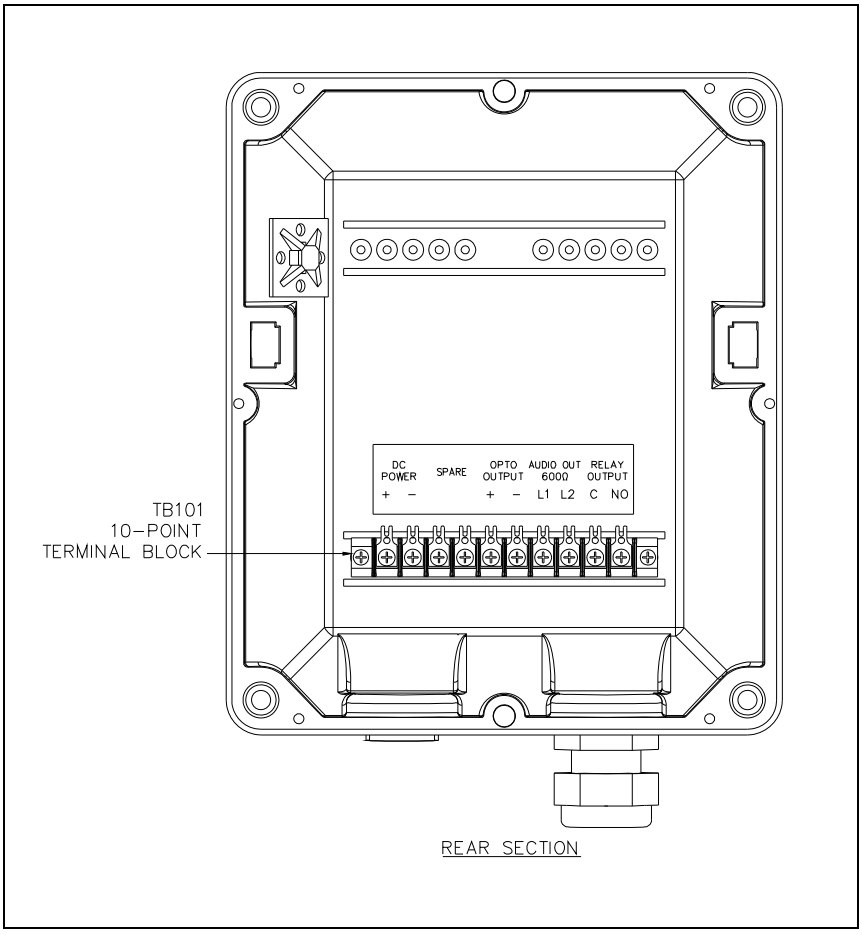



Figure 5. TB101 Wiring Location

## VoIP PCBA Connection in the Model 13383

Power the unit by either local power or PoE.

For local power, connect dc power to the terminal blocks on the back box (observing polarity) and connect Ethernet port of VoIP PCBA to a 10/100 Base-T Ethernet Network. PoE would be applied via the RJ45 connection.

## VoIP PCBA Connections in the Model 13382

The Model 13382 WiFi PCBA must be configured prior to configuring the assembly (See the First Time WiFi Interface Setup (Model 13382) section).

Power the unit by local power by connecting dc power to the terminal blocks on the back box.

Terminal Block TB101 is located on the rear section of the speaker assembly. The screw terminal designations for all models are as shown below (see Figure 5 for the terminal block location).

Table 2. TB101 Wiring Description

| Terminal Strip Label | Connection | Gauge Wire | Function |
|---|---|---|---|
| DC POWER + | TB2-1 | No. 20 AWG | ground reference (local supply) |
| DC POWER − | TB2-2 | No. 20 AWG | ground reference (local supply) |
| SPARE | | | |
| SPARE | | | |
| OPTO OUTPUT NO (2) | TB1-7 | No. 22 AWG | solid state relay positive output |
| OPTO OUTPUT C (2) | TB1-14 | No. 22 AWG | solid state relay negative output |
| AUDIO OUT 600 Ω L1 | TB1-8 | No. 22 AWG | positive audio output |
| AUDIO OUT 600 Ω L2 | TB1-1 | No. 22 AWG | negative audio output |
| RELAY C (1) | TB3-4 | No. 18 AWG | common relay connection |
| RELAY NO (1) | TB3-3 | No. 18 AWG | normally open relay |

## Connectors

### TB1 Wiring Connector

The pin-out for the dual, seven-point wiring connector (14 points total) on the front section of the speaker assembly is described below (see Figure 6 for the numbering orientation).

Table 3. TB1 Wiring Description

| Pin No. | Pin Name | Connection | Function |
|---|---|---|---|
| 1 | LINE OUT − | TB101-8 | 600-ohm audio output |
| 2 | INPUT 2 | Not used | Monitored Input 2 |
| 3 | INPUT 4 | Not used | Monitored Input 4 |
| 4 | INPUT 3 | Not used | Monitored Input 3 |
| 5 | INPUT 1 | Not used | Monitored Input 1 |
| 6 | SPARE | | |
| 7 | OUTPUT CLOSURE + | TB101-5 | Solid state relay output |
| 8 | LINE OUT + | TB101-7 | 600-ohm audio output |
| 9 | INPUT 2 GND | Not used | Monitored Input 2 ground reference |
| 10 | INPUT 4 GND | Not used | Monitored Input 4 ground reference |
| 11 | INPUT 3 GND | Not used | Monitored Input 3 ground reference |
| 12 | INPUT 1 GND | Not used | Monitored Input 1 ground reference |
| 13 | SPARE | | |
| 14 | OUTPUT CLOSURE − | TB101-6 | Solid state relay output |

### TB2 Wiring Connector

The numbering orientation is shown in Figure 6.

Table 4. TB2 Wiring Description

| Pin No. | Pin Name | Connection | Function |
|---|---|---|---|
| 1 | LOCAL POWER + | TB101-1 | 24 V dc positive power supply input |
| 2 | LOCAL POWER − | TB101-2 | 24 V dc negative power supply input |

### TB3 Wiring Connector

The numbering orientation is shown in Figure 6.

Table 5. TB3 Wiring Description

| Pin No. | Pin Name | Connection | Function |
|---|---|---|---|
| 1 | SPEAKER OUT + | Internal Speaker | class D audio speaker audio |
| 2 | SPEAKER OUT − | Internal Speaker | class D audio speaker audio |
| 3 | RELAY OUT NO | TB101-10 | NO relay connection |
| 4 | RELAY OUT COM | TB101-9 | common relay connection |

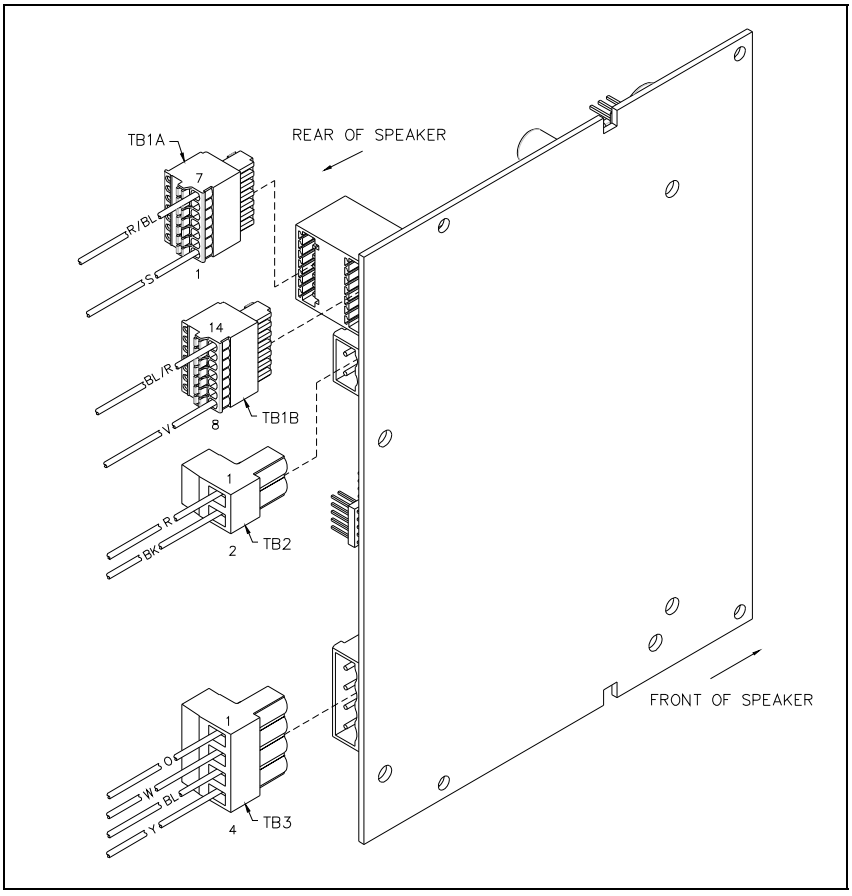



Figure 6. TB1 (A & B), TB2, and TB3 Connector Orientation Diagram

## Closing the Addressable Amplified Speaker

When wire terminations have been completed:

1. Reconnect the dual 7-point connectors (TB1A and TB1B) to their associated terminal block plug on the PCBA.
2. Reconnect the 2-point connector (TB2) to its associated terminal block plug on the PCBA
3. Reconnect the 4-point connector (TB3) to its associated terminal block plug on the PCBA.
4. Route the wires through the nylon tie.
5. Re-twist the nylon tie to secure the wires (see Figure 3 for wire routing).
6. Assemble the speaker sections and torque the front panel screws to 16 to 20 in·lb.

# Programming and Set Up

The network must be configured to allow VoIP communications (using the SIP protocol) between the desired locations before attempting to configure the GAI-Tronics VoIP Addressable Amplified Speakers.

**NOTE:** The Model 13382 VoIP WiFi and 13383 VoIP Addressable Amplified Speakers include the same embedded browser as do GAI-Tronics' VoIP and VoIP WiFi telephones. There are many programmable parameters utilized by our telephones that are not utilized by the VoIP Amplified Speakers. All speakers are factory programmed for maximum operating proficiency. **Please do not make any programming changes other than those directed in this manual.**

## Opening the Addressable Amplified Speaker

The addressable amplified speaker must be opened for programming and installation. **Bench programming and testing is recommended.**

1. Remove the speaker from the carton and position it on a flat surface with the front of the speaker facing up.

   Although the front section attaches to the rear section with six Phillips screws, only two screws have been secured during the production process.

2. Back out the two screws on the left and right side of the speaker.

   All screws are captive and will remain in the front section.

3. Lift the front section straight up and flip to the left-hand side of the rear section (see Figure 7).

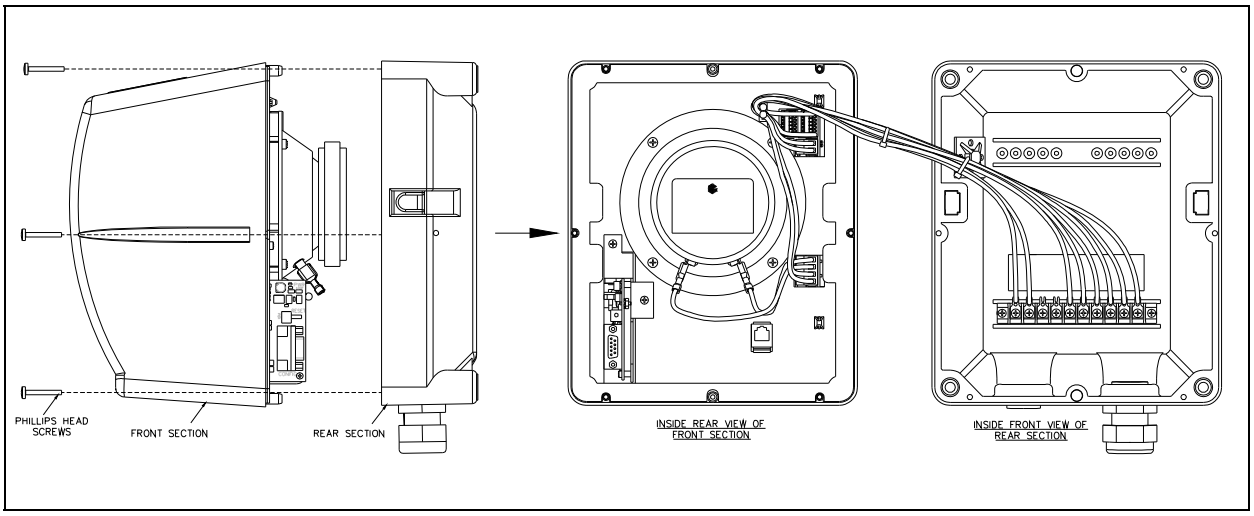



Figure 7: Addressable Amplified Speaker (Model 13382 shown)

## First Time WiFi Interface Setup (Model 13382)

Configuration of the WiFi interface is required to set up security of the WLAN unit's connection:

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

   The factory default configuration of the VoIP Addressable Speaker's WiFi interface is an access point to a network named (SSID) **HF-A11_AP**.

2. Connect to the HF-A11_AP network using a PC/laptop with wireless capability.

   The yellow LED on the speaker's WiFi interface should be ON when the PC is connected to the HF-A11_AP network.

3. Open a web browser on the PC and enter **10.10.100.254** into the address field and press **ENTER**.

   The HF-A11_AP WIFI LOG IN window will open.

4. Enter **admin** for both the user and password and then log in.

   The WORKING MODE CONFIGURATION web page will open:

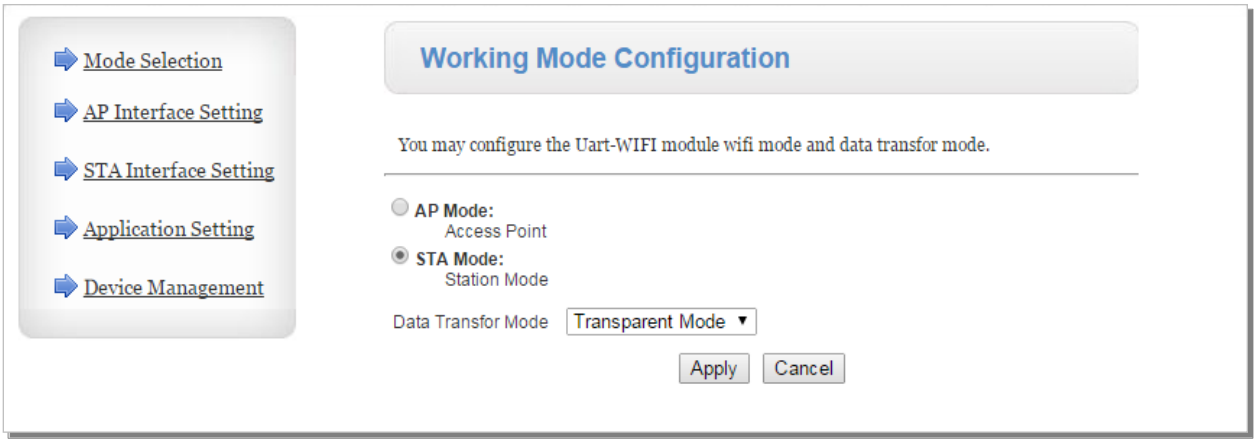



Figure 8. WiFi Interface Working Mode Configuration Web Page

5. Select **STA Mode** then click the **APPLY** button.

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

   The Web page will show **Set Successfully, Restart to use new setting**.

6. Restart to use the new setting, and then click on the **STA Interface Setting** selection.

   The STA INTERFACE SETTING web page will open:

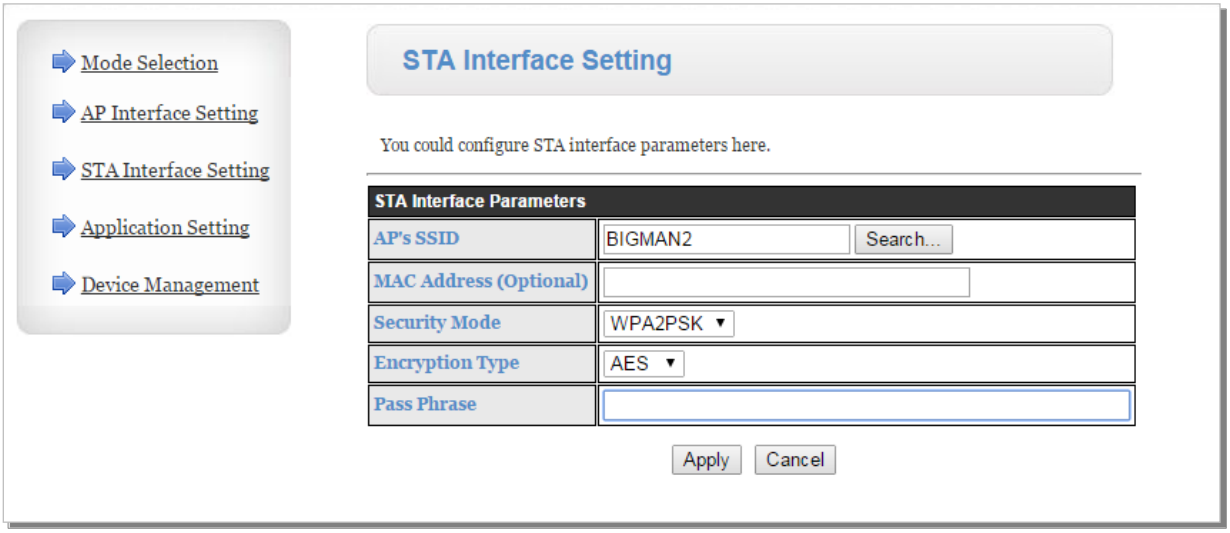
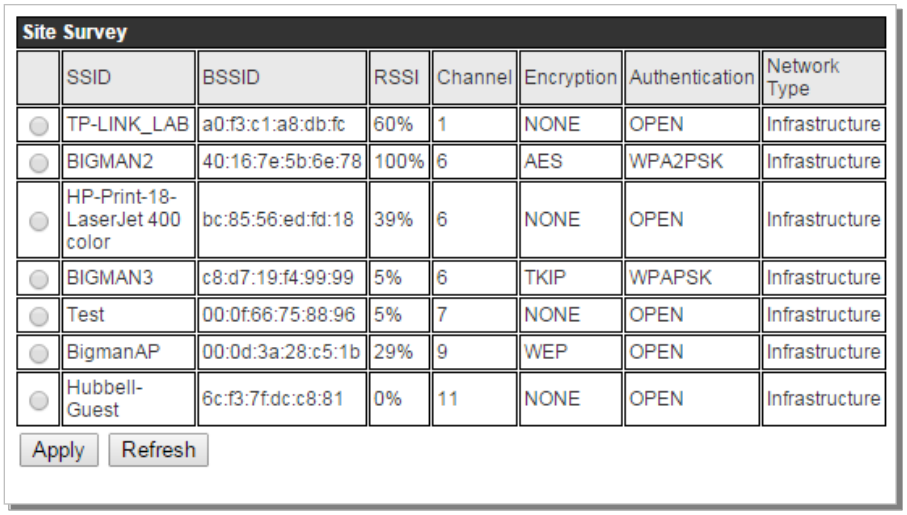



Figure 9. WiFi Interface STA Interface Setting Web Page

7. Click the **SEARCH** button in the AP's SSID section to find the WiFi network that the VoIP addressable amplified speaker will operate in.

   The Site Survey Web page will open showing all available networks.



Site Survey

| | SSID | BSSID | RSSI | Channel | Encryption | Authentication | Network Type |
|---|---|---|---|---|---|---|---|
| ○ | TP-LINK_LAB | a0:f3:c1:a8:db:fc | 60% | 1 | NONE | OPEN | Infrastructure |
| ○ | BIGMAN2 | 40:16:7e:5b:6e:78 | 100% | 6 | AES | WPA2PSK | Infrastructure |
| ○ | HP-Print-18-LaserJet 400 color | bc:85:56:ed:fd:18 | 39% | 6 | NONE | OPEN | Infrastructure |
| ○ | BIGMAN3 | c8:d7:19:f4:99:99 | 5% | 6 | TKIP | WPAPSK | Infrastructure |
| ○ | Test | 00:0f:66:75:88:96 | 5% | 7 | NONE | OPEN | Infrastructure |
| ○ | BigmanAP | 00:0d:3a:28:c5:1b | 29% | 9 | WEP | OPEN | Infrastructure |
| ○ | Hubbell-Guest | 6c:f3:7f:dc:c8:81 | 0% | 11 | NONE | OPEN | Infrastructure |

Apply Refresh

Figure 10. WiFi Interface Site Survey Web page

8. Select the desired network and click the **APPLY** button.

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

9. Click the **OK** button.

   The AP's SSID, Security Mode, and Encryption Type fields will automatically be filled in when the STA Interface Setting web page opens again.

10. Enter the **WEP Key** or **Pass Phrase** for the selected network and click the **APPLY** button.

    **NOTE:** The AP's SSID, Security Mode, Encryption Type, and WEP Key or Pass Phrase fields will need to be manually entered before clicking the **APPLY** button if the VoIP Addressable Amplified Speaker is not within the range of the wireless network that it is being configured to operate in.

    The web page will show **Set Successfully, Restart to use new setting** after the configuration has updated.

11. Restart to use the new setting, and then click on the **Device Management** selection.

    The DEVICE MANAGEMENT web page will open:

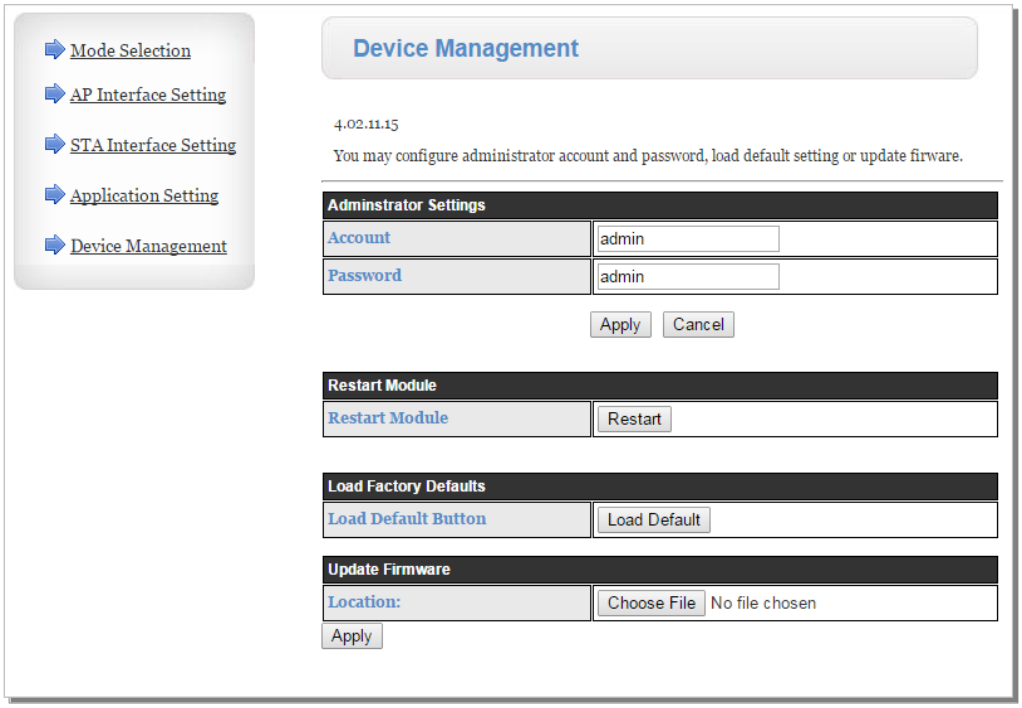



Figure 11. WiFi Interface Device Management Web page

12. Click the **RESTART** button in the **Restart Module** section.

When the WiFi module is restarting the web page will show **Rebooting…**. Both LEDs on the RJ45 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, (Resetting the 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.

## Resetting the WiFi Interface Configuration

The RLOAD button (PB1) is used to reset the addressable amplified speaker's WiFi interface to its factory default settings. It is located on the VoIP PCBA near the WiFi module and J2. Press and hold the **RLOAD** button (PB1) for 10 seconds to return the WiFi interface to its default settings. Both LEDs on the RJ45 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 (Model 13382) section to connect the HF-A11_AP network and change the configuration settings.

**NOTE:** After changing the WiFi Interface configuration, if the VoIP addressable amplified speaker has been configured for DHCP, the power must be cycled before it will connect to the wireless network. After power is reapplied, the green and yellow LEDs on the RJ45 Jack (J2) are ON, and the Heart Beat LED on the VoIP PCBA is flashing, proceed to the next section, VoIP PCBA Configuration to set up the VoIP Addressable Amplified Speaker configuration.

## VoIP PCBA Configuration

For the first time configuration of the VoIP PCBA:

1. Power the unit by connecting dc power to TB101.
2. Connect the Ethernet port of the VoIP PCBA to a 10/100 Base-T Ethernet network (see Figure 5)
3. Verify the PC is connected to the same network as the VoIP addressable amplified speaker.
4. Log onto the unit 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**

5. Change the user name and password.

   This security measure helps to prevent unauthorized changes to the VoIP PCBA Interface's configuration.

**NOTE:** The audio output level is set by configuring the **Hands-free Output** on the AUDIO SETTINGS webpage during the configuration of the speaker.

## 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. |

GAI-Tronics Pub. 42004-482 contains detailed programming instructions of this VoIP device.

## Closing the Addressable Amplified Speaker

Assemble the speaker sections and tighten the front panel screws to 16 to 20 in·lb of torque.

# Field Installed Options

## Model 12506-001 Remote Volume Control Assembly

The Model 12506-001 Remote Volume Control Assembly allows local, mechanical control of the speaker's output volume. The local volume adjustment can only adjust the output level lower than the maximum programmed level. The Model 12506-00l Remote Volume Control assembly is designed for indoor installation but can easily be installed in a single gang outlet box, mounted inside a weatherproof enclosure for outdoor applications

Complete the following steps (See Figure 12 for the required wiring configuration of the L-Pad connection for local volume adjustment):

1. Separate the front section from the rear section, and mount the rear of the speaker.
2. With the rear section securely mounted and field wiring in place, remove the white wire from TB3-1 and connect it to the orange wire from L-pad.
3. Connect the yellow wire from L-Pad to TB3-1.
4. Connect the black wire from L-Pad to TB3-2.

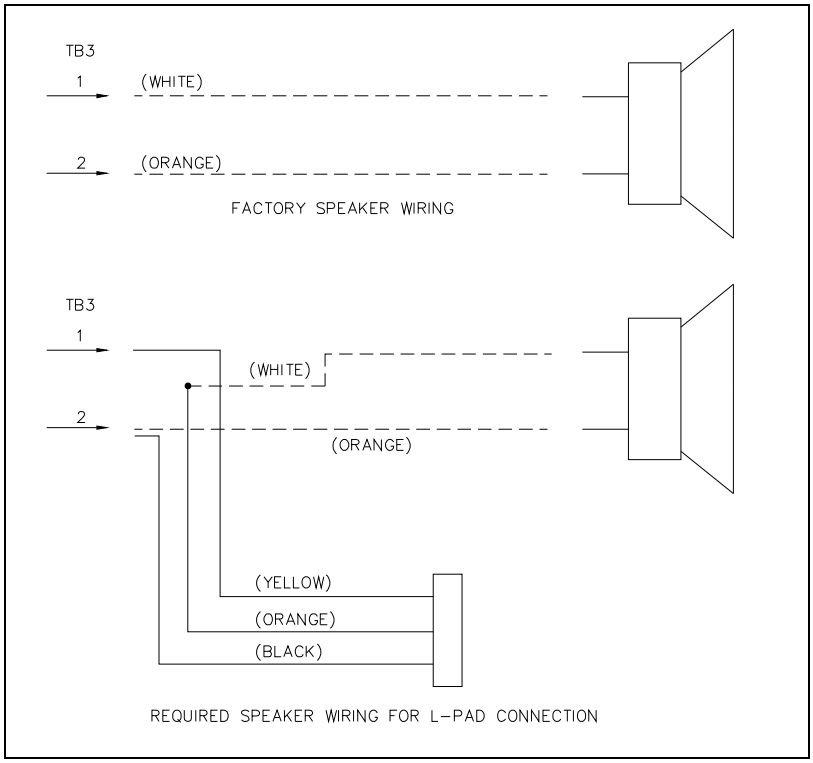



Figure 12. L-Pad Connection Wiring

5. Reconnect the connectors to the PCBA and route the wires through both nylon ties (See Figure 6 for the connector orientation).
6. Re-twist the nylon ties to secure the wires (See Figure 3 for the wire routing).
7. Assemble the speaker sections and tighten front panel screws to 16 to 20 in·lb of torque.

**NOTE:** Be careful not to pinch wiring between the front and rear speaker sections when securing them together.

## Model 190-003PS Weatherproof Power Supply Kit

The Model 190-003PS Weatherproof Power Supply Kit is designed for mounting to the bottom of a VoIP Addressable Speaker. The kit includes a three-gang weatherproof electrical box, 24 V dc power supply, mounting bracket, 2-point terminal block, cable assemblies, 3-inch pipe nipple, ¾-inch NPT conduit hub, tamper-resistant hardware, and a security bit (T15 Torx) (See Figure 13 and Figure 14 and GAI-Tronics Pub. 42003-266 for installation details).

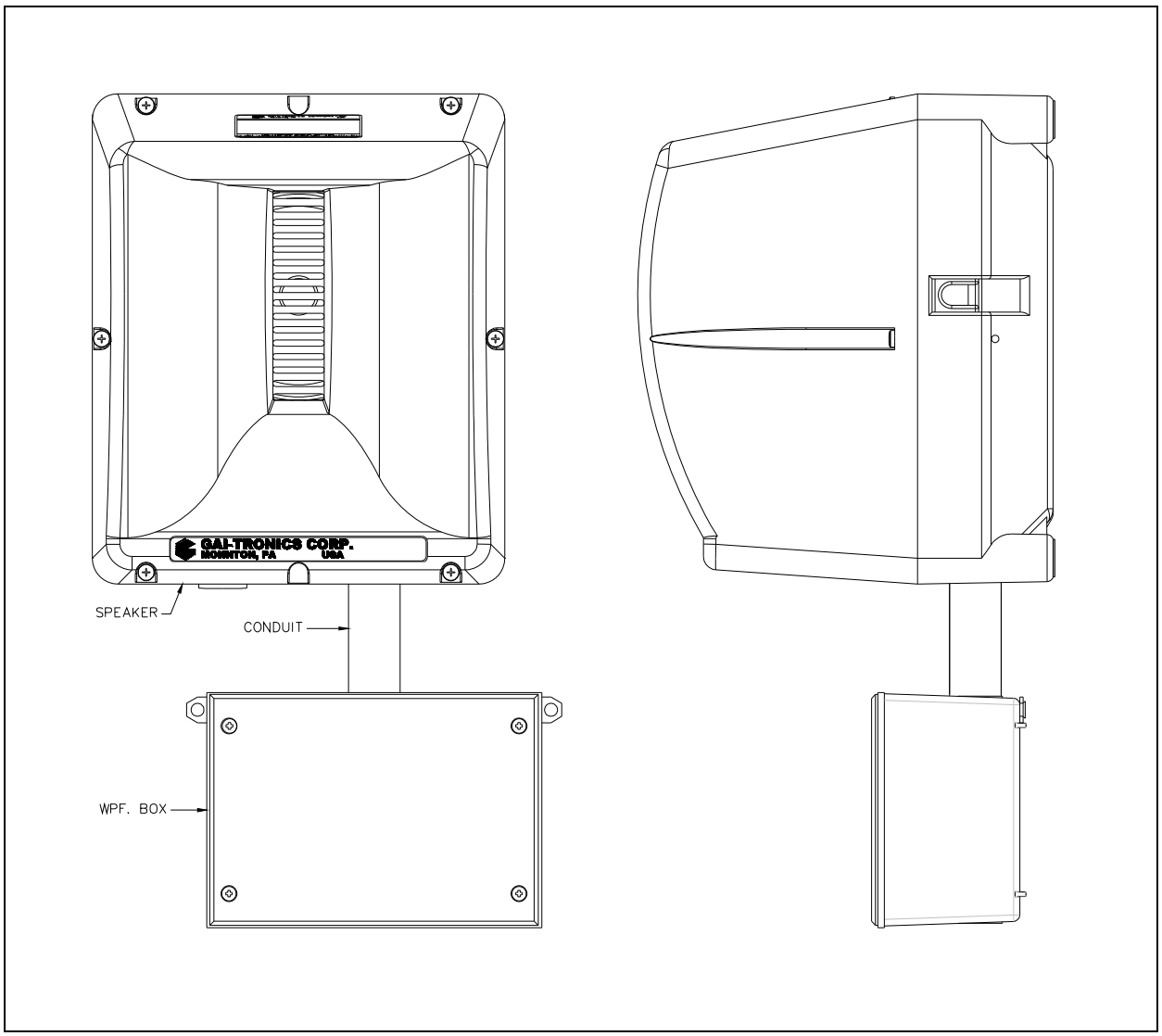



Figure 13. Model 190-003PS Mounting Details

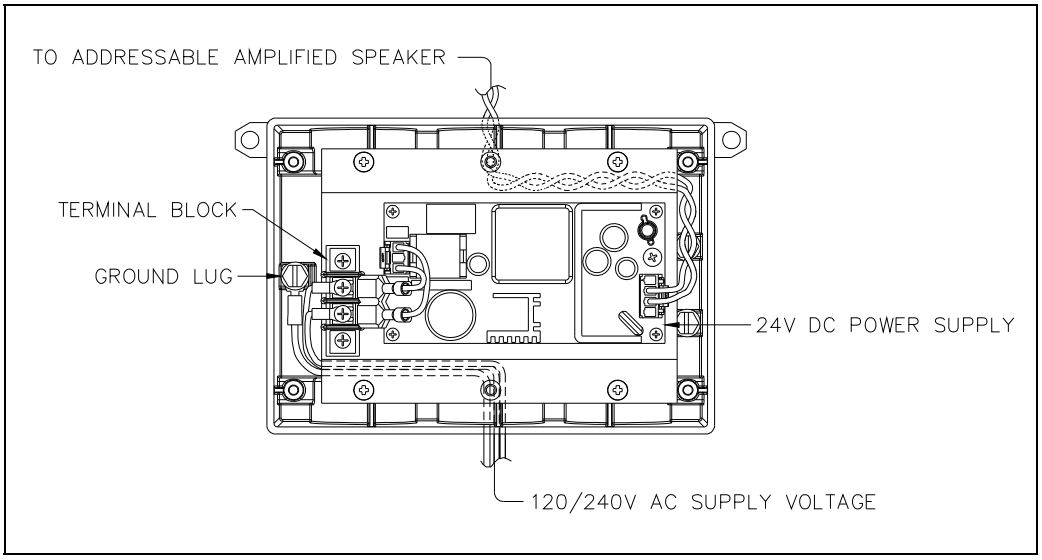



Figure 14. Model 190-003PS Wiring Details

# Maintenance

## Service and Repair

Inoperative or malfunctioning equipment should be returned to the factory for repair. Please call **1-800-492-1212** or **610-777-1374** to obtain a Return Authorization number, published repair prices, and shipping instructions.

**NOTE:** A purchase order or credit card number is required prior to processing non-warranty repairs.

## Replacement Parts and Kits

Table 6. Replacement Parts and Kits

| Part No. | Description | 13382 | 13383 |
|---|---|---|---|
| 61512-038 | Wiring Harness, VoIP Weatherproof Amplified Speaker | ■ | ■ |
| 13327-021 | Speaker | ■ | ■ |
| 19101-037 | WLAN Antenna, SMA Wireless | ■ | |
| 61531-055 | Cable, WiFi Power | ■ | |
| 69625-001 | PCBA, VoIP Broadcast Carrier | ■ | ■ |
| 69868-101 | PCBA, Ethernet Wireless Interface | ■ | |
| 12506-001 | Remote Volume Control L-Pad (optional) | ■ | ■ |
| 40419-015 | Power Supply, 120/240 V ac, 15 V dc output | ■ | ■ |
| 190-003PS | Power Supply, Weatherproof, 24 V dc, 110/220 V ac input | ■ | ■ |
| 61007-043 | Patch Cable, Cat5e 350 MHz | ■ | ■ |
| 100-02-7013-000 | VoIP Interface PCBA | ■ | ■ |

# Ordering Replacement Parts

Please include the complete product identification number when ordering replacement parts or requesting equipment information. This applies to all components, kits, and chassis. If the component part number is not known, the order should include the number of the chassis or kit of which it is a part and sufficient description of the desired component to identify it. Order parts from:

**Customer Service**
GAI-Tronics Corporation
3030 Kutztown Rd.
Reading, PA 19605
US: 800-492-1212
Outside US: 610-777-1374

# Specifications

## Power Options

### AC Power Requirements (utilizing plug-in power supply provided with unit)

Input voltage ..... 120/240 V ac, 50/60 Hz
Input current ..... 0.35 A @ 120 V ac, 0.2 A @ 240 V ac

### Power over Ethernet (PoE) Requirements (Model 13382 only)

Power ..... 802.3af compliant (via RJ45)

## Audio

### Output

Speaker output power
With PoE or 15 V dc power supply ..... 8 W into 8-Ω load
With 24 V dc power source ..... 30 W into 8-Ω load
Sound pressure level
@ 8 W ..... 115 dB SPL, at 1 m
@ 30 W ..... 118 dB SPL, at 1 m
Line out (into 600 ohms) ..... 1.0 $V_{RMS}$
Frequency response ..... 300–3000 Hz

### Dispersion

Nominal coverage when surface-mounted to wall (ref. −6 dB)
Vertical ..... Upward: 40°
Downward: 60°
Horizontal ..... 90°

## Network (Ethernet)

Signaling ..... SIP (RFC3261 compliant) loose routing
Configuration ..... embedded web server
embedded telnet server
configuration file download
configuration file building tool (Vconf.exe)
direct serial connection
(nine-way D-type female connector
command line interface
SNTP with time zone and daylight saving
automatic updating via TFTP
password protection
Compliance to Standards ..... FCC CFR 47 Part 15

**WiFi Module (Model 13382 only)**

Antenna (internal) ..... 2.4 GHz, 2.0 dBi, 50 Ω, omni-directional,
¼ wavelength dipole configuration, VSWR ≤2.0
Standards ..... IEEE 802.11b/g/n
Static IP provisioning or DHCP STUN client (NAT traversal)
Frequency ..... 2.412–2.484 GHz

### Control Outputs

Output 1 (isolated solid state switch) ..... 50 mA @ 30 V ac/dc (resistive load)
Output 2 (isolated SPST relay) ..... 10 A @ 30 V dc (resistive load)
10 A @ 250 V ac (resistive load)

### Mechanical

Physical dimensions ..... 8.02 × 8.12 × 9.52 in (203.7 × 206.2 × 241.8 mm)
Enclosure material ..... glass-reinforced polyester, 0.20-inch thick
Hardware ..... urethane gaskets, stainless steel hardware
Color ..... black
Shipping weights
Model 13382 ..... 7.3 lb (3.3 kg)
Model 13383 ..... 7.0 lb (3.2 kg)

### Environmental

Temperature range ..... −4 ºF to +140 ºF (−20 °C to +60 °C)
Weatherproof rating ..... rainproof
Humidity ..... 95% non-condensing

## Approvals

USA ..... FCC Modular Approval, FCC ID: FCC ID: XM5-SM2144N1
CFR Title 47 FCC Part 15, Subpart B and C
Canada ..... Industry Canada Module Approval IC: 8516A-SM2144N2
Industry Canada ICES-003, RSS-Gen, RSS-210
EU ..... EN 300 328 (R&TTE Directive 1999/5/EC)
EN 301 489 (EMC Directive 2004/108/EC)

# 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.