Pub. 42004-789B

GAI-TRONICS®
A HUBBELL COMPANY

SP2 POE Weatherproof Handset/Speaker Amplifier Station

TABLE OF CONTENTS

GAI-TRONICS 3030 KUTZTOWN RD. READING, PA 19605 USA
610-777-1374 ■ 800-492-1212 ■ Fax: 610-796-5954
VISIT WWW.GAI-TRONICS.COM FOR PRODUCT LITERATURE AND MANUALS

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Confidentiality Notice

General Information

Product Overview

The GAI-Tronics SP2 station is a modular industrial multicast VoIP (Voice over Internet Protocol) communication system. The default SP2 weatherproof POE configuration is an outdoor, multi-party, handset/speaker amplifier station using POE with RTU control. They are constructed of engineered plastic with a powder coated aluminum front panel. A number of options are available to add to or modify station capabilities (see the Features and Options sections below).

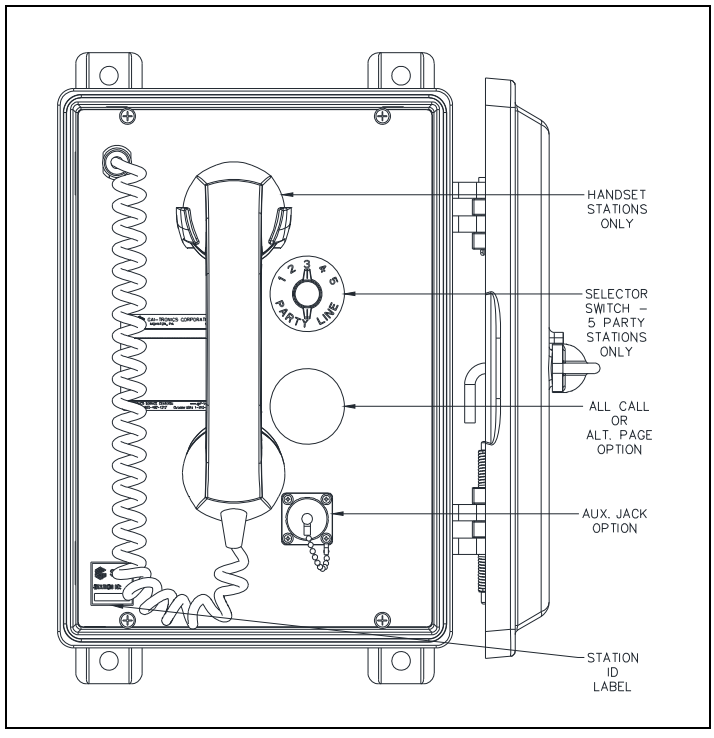

Figure 1. SP2 Station Front Panel

SP2 stations connect to an Ethernet network so the loss of a single station will not adversely affect the entire system. Each station requires a 100 Mbps link to a switch or router using Category 5e or better Ethernet cable. Isolate SP2 network traffic from other network devices and properly configure network switches and routers for IGMP (Internet Group Management Protocol) snooping and multicast filtering to ensure the quality of SP2 audio. Maximum cable runs between SP2 stations and network switches are limited to 100 meters to comply with Ethernet standards.

Features

- flexible and highly configurable SMART technology featuring ALS (ambient level sensing), real time self-diagnostics, and available remote monitoring
- real-time operation providing instantaneous page and party line communication
- no SIP server or conference bridge requirement
- one-way live paging and alarm annunciation over system speakers
- distributed amplifier topology—loss of an individual amplifier will not adversely affect the system as a whole
- mutual provisioning mode allows easy system deployment
- high efficiency (>80%) Class D paging amplifier provides up to 14 watts of speaker output at 8 Ω when powered by POE Plus, 6 watts of speaker output when powered via POE.
- five configurable multicast channels for full-duplex conference communication with party line selector switch
- eight configurable multicast channels for receiving page announcements
- one isolated output for beacon activation
- two isolated inputs
- 600-ohm audio I/O with control
- configurable priority scheme allows urgent/emergency pages to override less important pages
- configuration stored in non-volatile memory
- field adjustable volume control for handset earpiece, headset earpiece, and speaker amplifier
- configurable local and nearby speaker mutual muting to prevent acoustic feedback of live pages
- configurable pre-announcement tone
- off-hook and page switch timeout functionality
- configurable virtual zoning ability
- USB interface for field or bench configuration
- engineered plastic enclosure with powder coated aluminum front panel

Options

All SP2 station options are factory installed.

- speaker amplifier only (no handset)
- headset with page pressbar for loud environments
- five configurable multicast channels for alternate page destinations with page line selector
- All-Call push button for secondary page destination
- PVC or Hytrel® handset cords in 6-, 15-, or 25-foot lengths
- conformal coating for PCBA

Installation

Important Safety Instructions

- **Read, follow, and retain instructions**—All safety and operating instructions should be read and followed before operating the unit. Retain instructions for future reference.
- **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.
- **Servicing**—Do not attempt to service this unit by yourself. Opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

⚠ **ATTENTION** ⚠ —Install equipment without modification and according to all applicable local, national, and international electrical codes. North America—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 the NEC.

⚠ **WARNING** ⚠ —**Do not disconnect equipment while energized.**
Ensure proper grounding to protective earthing.

These enclosures must be installed by trained, qualified, and competent personnel. Installation must comply with state and national regulations, as well as safety practices for this type of equipment. The mounting location must be flat and provide proper clearance, rigidity, and strength to support the enclosure and all contained devices.

Enclosure Mounting and Cable Entries

The mounting location must be flat and provide proper clearance, rigidity, and strength to support the enclosure and all contained devices.

1. Mount the enclosure using the four 0.437-inch (11 mm) diameter holes located on the mounting flanges with 3/8-inch (M8) hardware (see Figure 2).
   - The suggested mounting height for all station enclosures is 48 inches (1219 mm) to the center of the bottom mounting holes of the enclosure.
   - SP2 stations are not supplied with conduit or cable openings.
2. Remove the front panel.
3. Drill or punch entry openings in the rear section of the enclosure (see Figure 2).
   - The station is suitable for bottom and/or side entry.
   - Bottom entry is recommended to prevent moisture intrusion.
   - There must be a minimum of ½ inch (13 mm) of material between entry holes.

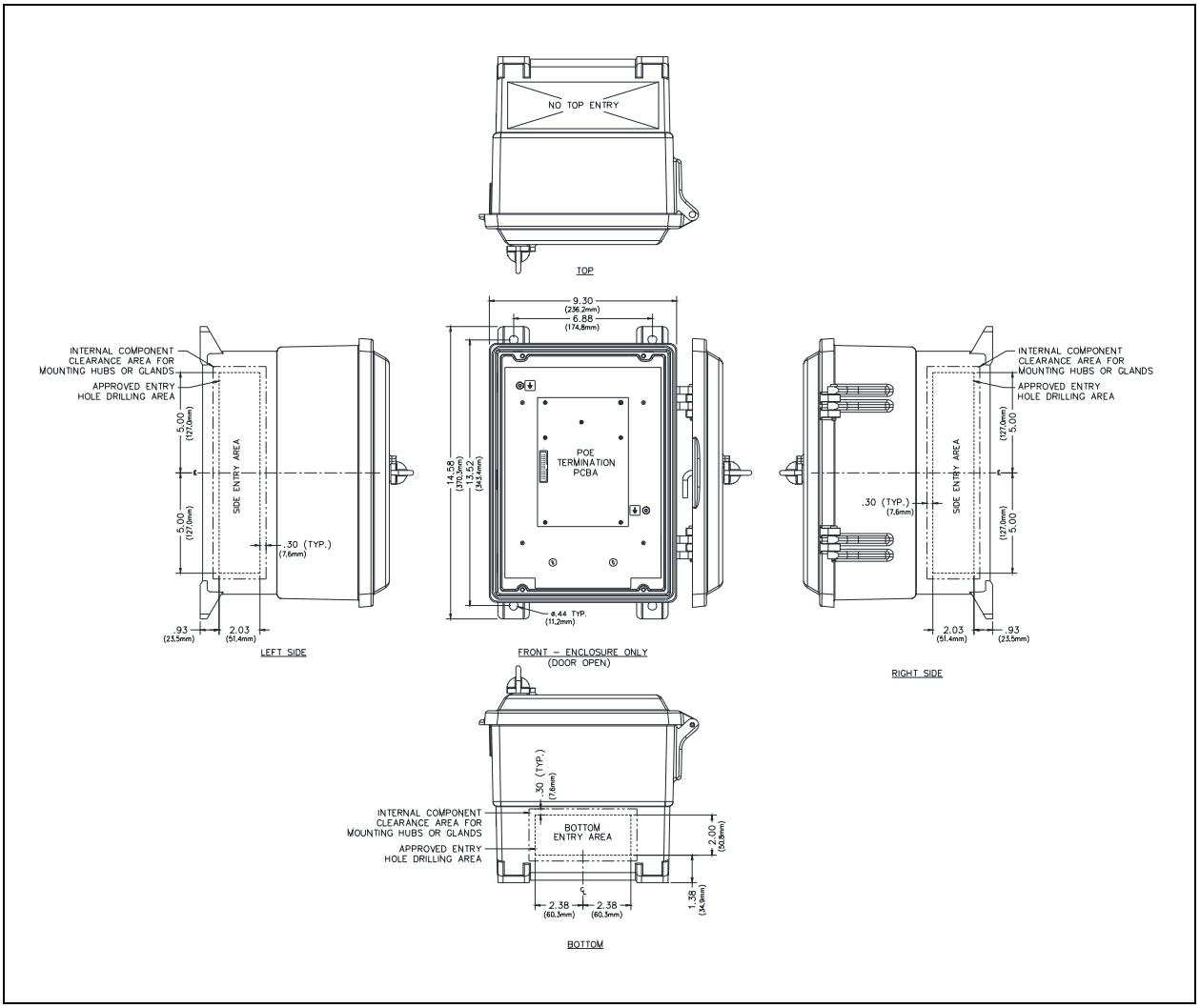

Figure 2. Suggested Wire Entry Locations

Open the Station

Complete the following steps to open the station:

1. Remove the four screws from the front panel and turn it to the left so that the interior surface faces out (see Figure 3).

4. Keep the wiring and ribbon cables connected.

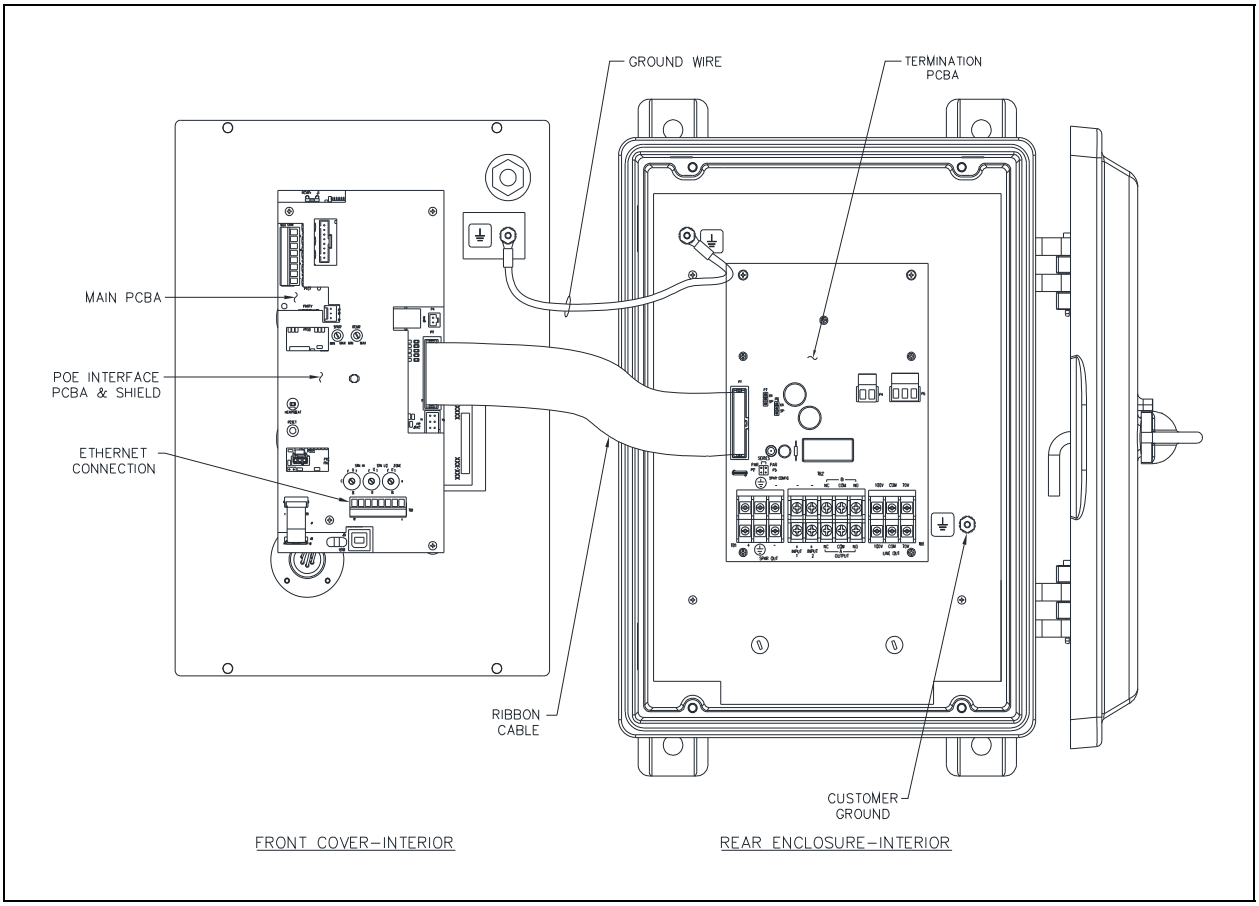

Figure 3. SP2 Weatherproof POE Station—Interior View

Field Wiring and Configuration

The weatherproof POE SP2 station provides terminal blocks on the termination PCBA, located in the rear of the enclosure, for field wiring the speaker and I/O connections. The main PCBA, mounted to the back of the front panel, contains the 600-ohm audio connection. The Ethernet connection is located on the POE interface PCBA, mounted on top of the main PCBA.

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 local and national codes. Class 2 circuit wiring must be performed in accordance with the NEC.

NOTE: Shielded Ethernet cable or metallic conduit is required for installation.

Station Ground

The station enclosure must be connected to earth ground:

1. Install a #6 ring lug on the ground conductor.
2. Secure it to the ground terminal located in the lower right corner at the back of the rear enclosure (see Figure 3).

Termination PCBA

Direct Speaker Connection and Jumper Settings

Terminate the station's 8 or 16-ohm remote speaker(s) at terminal block TB1:

1. Pull the speaker cable(s) into the enclosure.
2. Connect spade lugs to the wires.
3. Install the speaker wires to terminal block TB1 (see Table 1).
4. Torque the terminal block screws to 8–10 in·lb (0.90–1.13 N·m).
5. Configure the speaker jumpers; P2 and P3, for the appropriate impedance for use with 8-ohm or 16-ohm speakers (see Figure 4 and Figure 5).
6. Configure jumpers P6 and P7 for 8/16-ohm operation by placing the jumpers in the SP position.

A redundant set of terminals enables connection of a second speaker branch connected in series or parallel with the primary speaker.

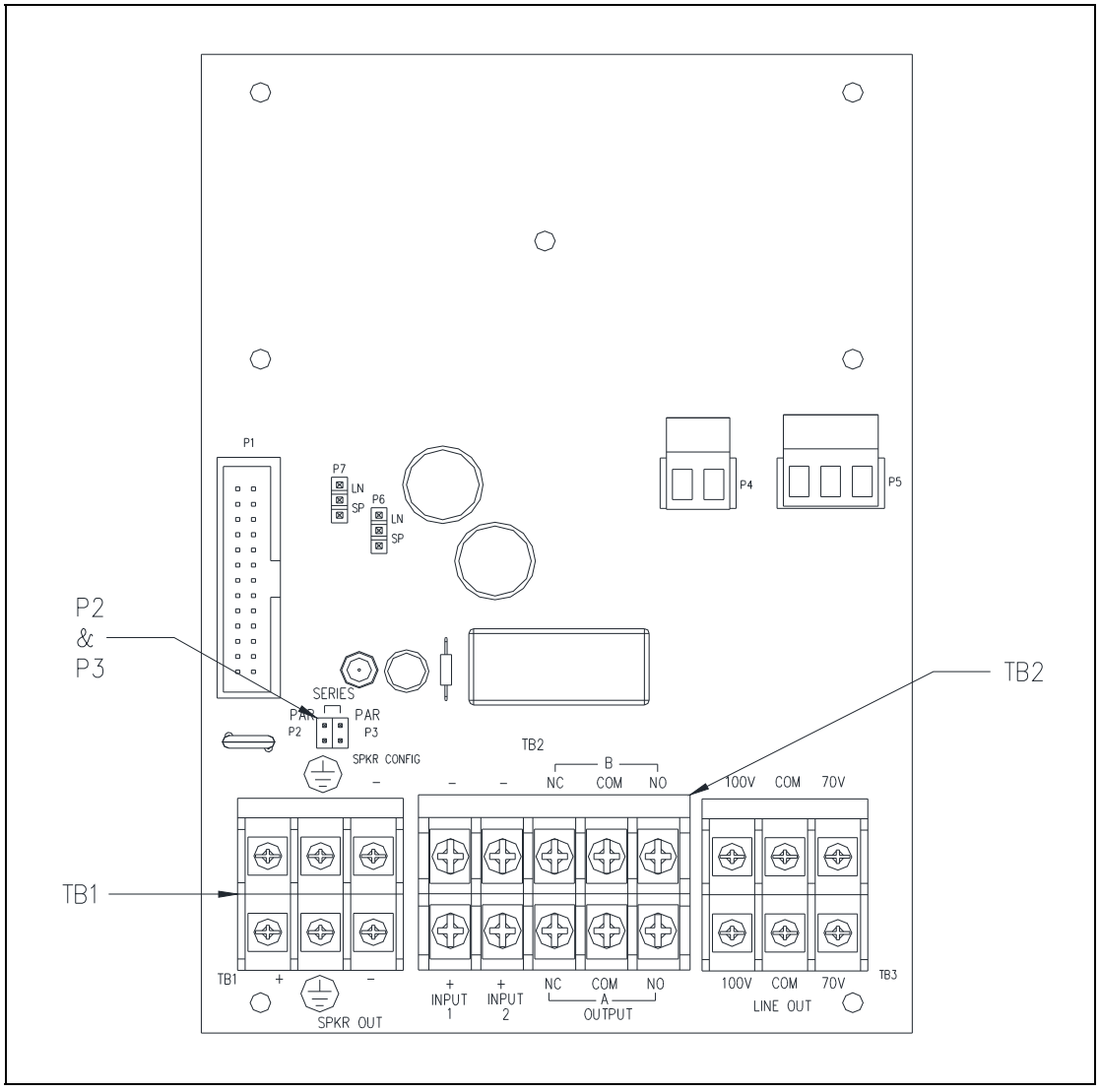

Figure 4. SP2 Termination PCBA (POE Stations)

NOTE: The LINE OUT terminal block, TB3, is not applicable to weatherproof stations. Do not make any connections to this terminal block.

Table 1. Direct Speaker Connections—TB1

Pin	Label	Description
TB1-1	+	Parallel/SPEAKER A Series—Output
TB1-2	⏚	Earth Reference
TB1-3	−	Parallel/SPEAKER A Series—Output
TB1-4	+	Parallel/SPEAKER B Series—Output
TB1-5	⏚	Earth Reference
TB1-6	−	Parallel/SPEAKER B Series—Output

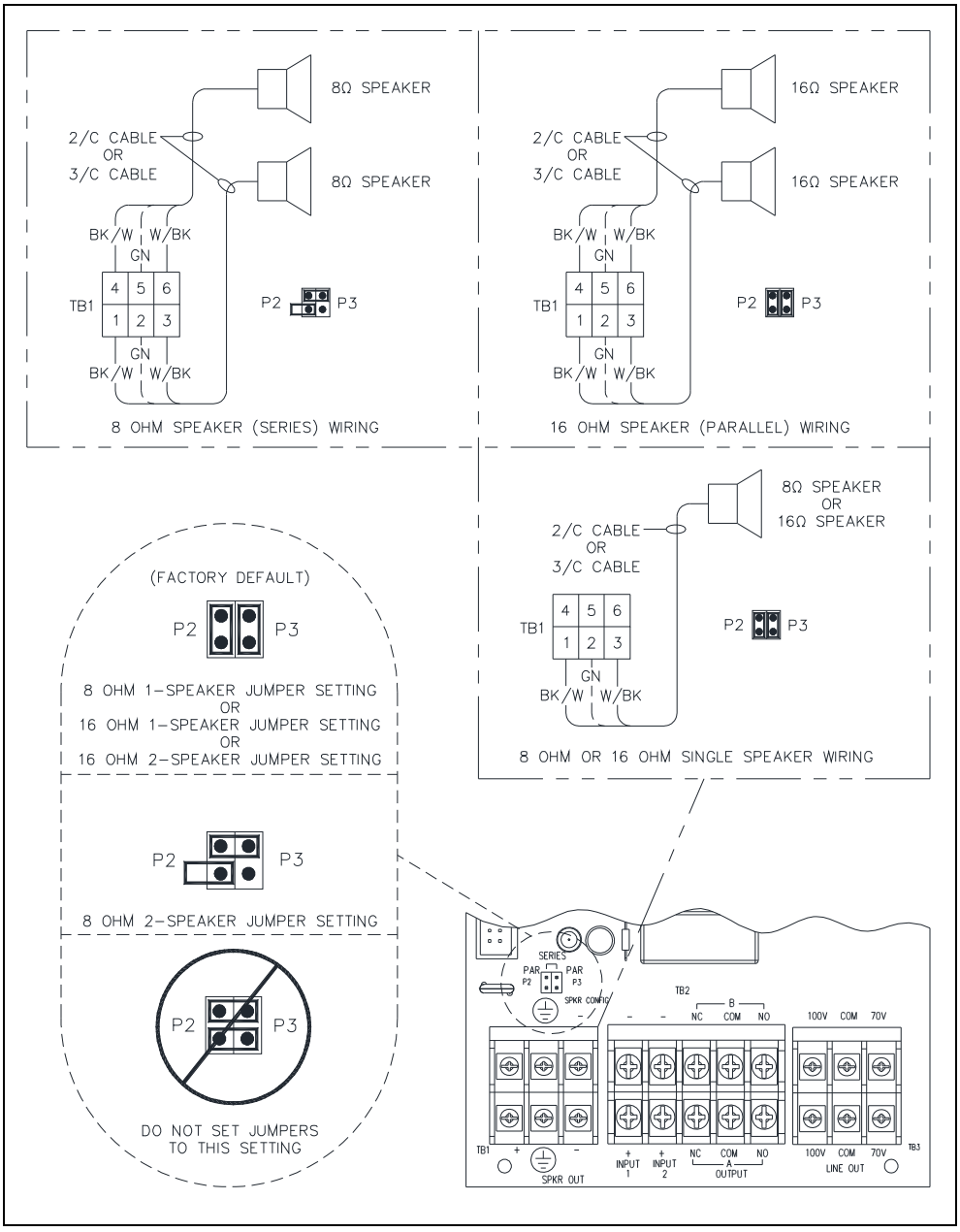

Figure 5. 8/16-ohhm Speaker Impedance Configuration

RTU Inputs

The termination PCBA contains two auxiliary RTU inputs. Terminate the inputs at terminal block TB2 (see Figure 4).

1. Pull the RTU Input cable(s) into the enclosure.
2. Install spade lugs on the wires.
3. Connect the RTU Input wires to terminal block TB2 (see Table 2).
4. Torque the terminal block screws to 8–10 in·lb (0.90–1.13 N·m).

Table 2. RTU Input Contacts—TB2

Pin	Label	Function
TB2-1	+ RTU 1 INPUT	RTU Input 1 +
TB2-2	−	RTU Input 1 −
TB2-3	+ RTU 2 INPUT	RTU Input 2 +
TB2-4	−	RTU Input 2 −

RTU Output

A single output relay provides two form C contacts to switch external power to a beacon (see Figure 6). Terminate the output at terminal block TB2 (see Figure 4).

1. Pull the RTU output cable into the enclosure.
2. Connect spade lugs to the wires.
3. Install the RTU output wires to terminal block TB2 (see Table 3).
4. Torque the terminal block screws to 8–10 in·lb (0.90–1.13 N·m).

Table 3. RTU Output Contacts—TB2

Pin	Label	Description
TB2-5	NC A	Normally Closed Output A
TB2-6	NC B	Normally Closed Output B
TB2-7	COM A	Common Output A
TB2-8	COM B	Common Output B
TB2-9	NO A	Normally Open Output A
TB2-10	NO B	Normally Open Output B

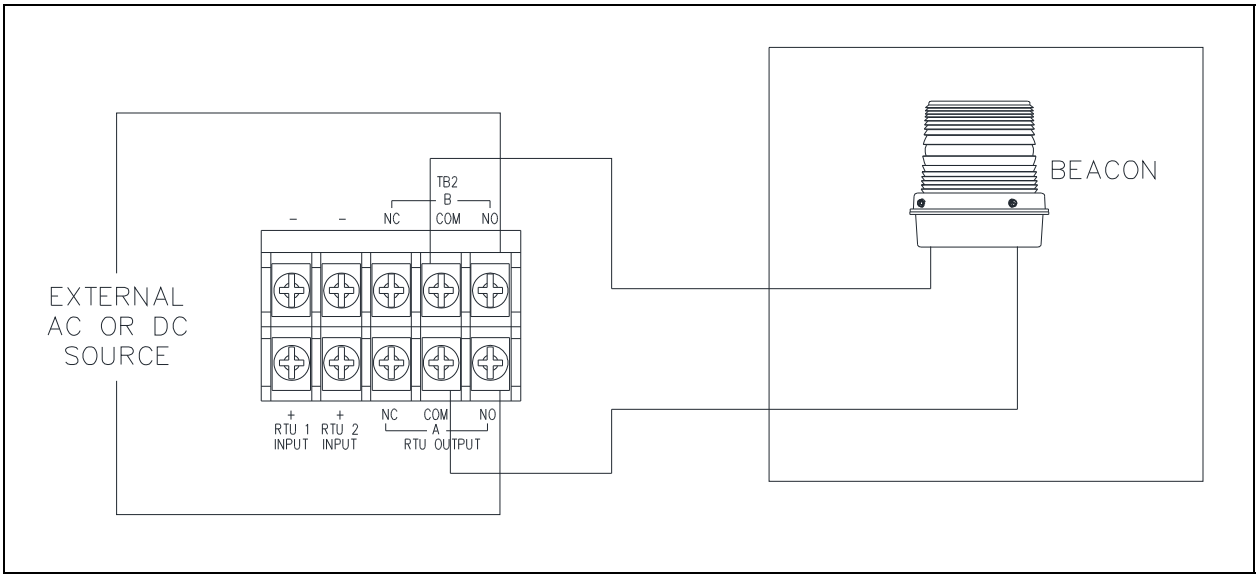

Figure 6. RTU Output Wiring—TB2

Main PCBA—600-Ohm Audio I/O with Control

SP2 stations provide a 600-ohm audio input to facilitate broadcasting line level audio over the page line. A control input exists that requires a normally open dry contact closure to enable the station to broadcast the 600-ohm input audio. SP2 stations also provide a 600-ohm audio output for sending page line audio to a remote audio amplifier. A solid-state dry contact output is provided to control when the remote audio amplifier plays the audio.

1. Pull the cable for the 600-ohm audio I/O into the enclosure.
2. Install ferrules onto the wire ends.
3. Connect the 600-ohm audio wires to the pluggable terminal block for the 600-ohm audio I/O connection (see Table 4 and Figure 7).
4. Connect the pluggable terminal block to terminal block receptacle TB1.

Table 4. 600-Ohm Audio I/O Interface Connections—TB1

Pin	Label	Description
TB1-1	IN CT1+	Input Control Positive
TB1-2	IN CT1–	Input Control Negative
TB1-3	IN AUD+	Input Audio Positive
TB1-4	IN AUD–	Input Audio Negative
TB1-5	OUT AUD+	Output Audio Positive
TB1-6	OUT AUD–	Output Audio Negative
TB1-7	OUT CT1+	Output Control Positive
TB1-8	OUT CT1–	Output Control Negative

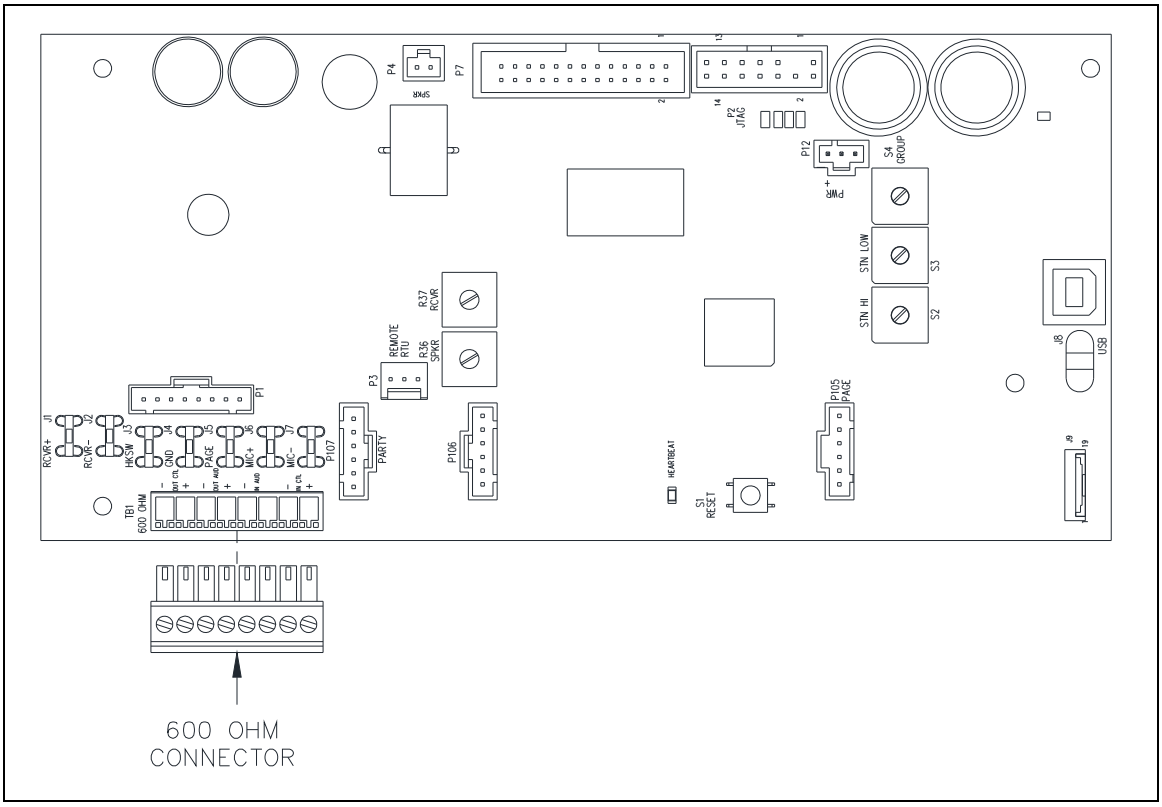

Figure 7. SP2 Main PCBA (POE)

POE Interface PCBA

Terminate the Ethernet cable to the POE interface PCBA (see Figure 8):

1. Pull a dedicated category-5e or better Ethernet cable into the rear enclosure.
2. Install ferrules onto the wire ends.
3. Connect the Ethernet cable to the 8-position pluggable terminal block (see Table 5).
4. Connect the pluggable terminal block to the POE interface PCBA (see Figure 8).
5. Connect the other end of the Ethernet cable to an 802.af (POE) or 802.at (POE Plus) compliant switch.

NOTE: Shielded Ethernet cable or metallic conduit is required for installation.

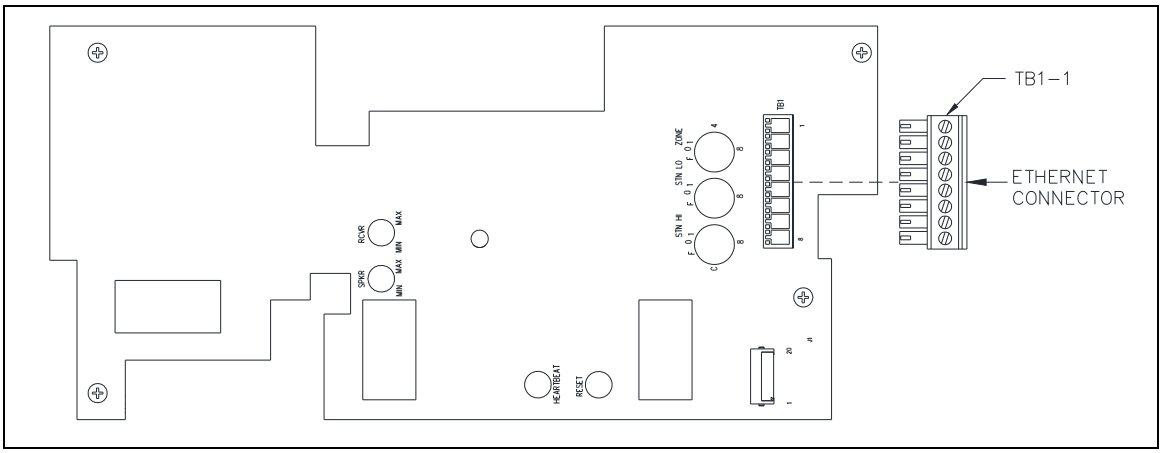

Figure 8. POE Interface PCBA

Table 5. Ethernet Connection—TB1

Pin	Label	Description
TB1-1	DC−	Negative dc voltage
TB1-2	DC−	Negative dc voltage
TB1-3	RX−	Data receive −
TB1-4	DC+	Positive dc voltage
TB1-5	DC+	Positive dc voltage
TB1-6	RX+	Data receive +
TB1-7	TX−	Data transmit −
TB1-8	TX+	Data transmit +

Settings and Adjustments

Open the Station

1. Remove the four screws from the front panel and turn it to the left so that the interior surface faces out.
2. Keep the wiring and ribbon cables connected.

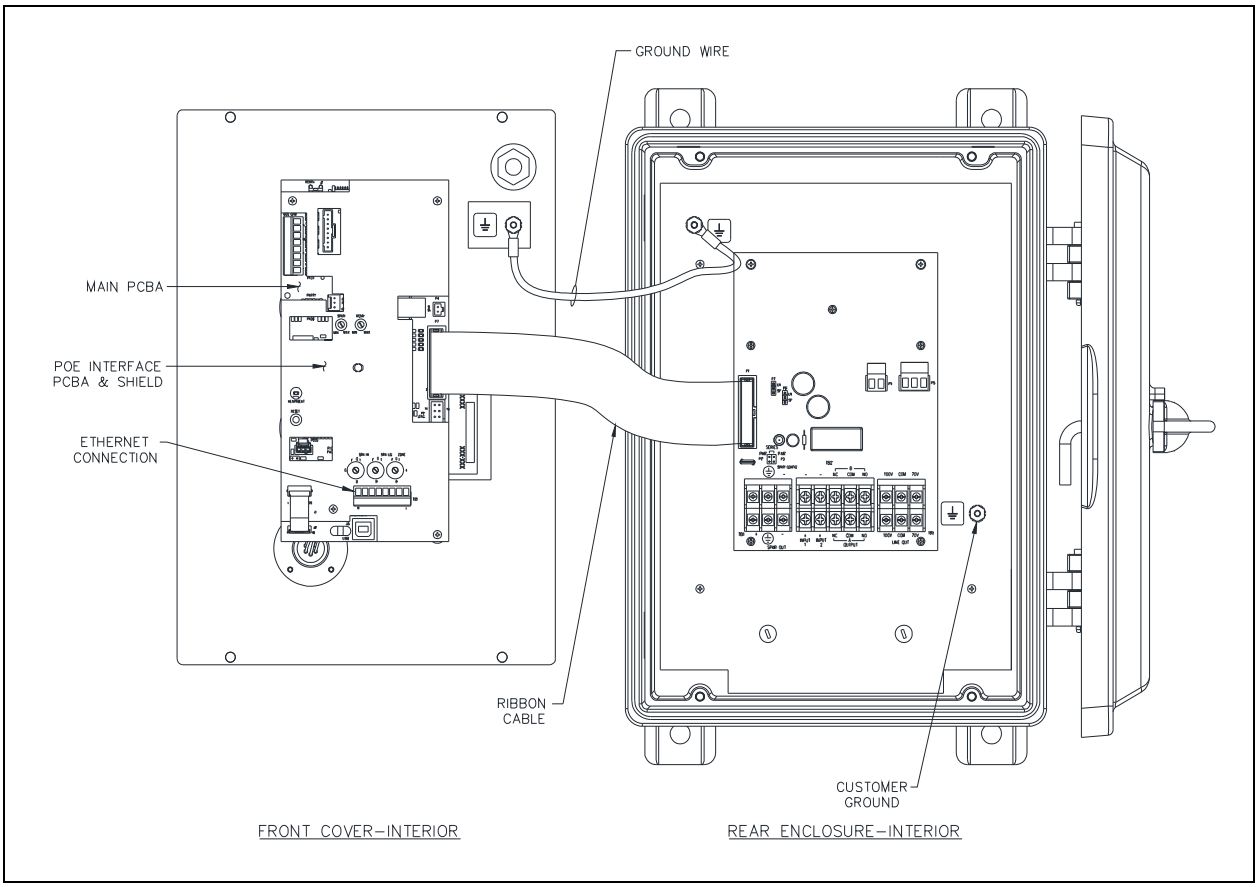

Figure 9. SP2 Weatherproof POE Station—Interior View

Main PCBA Configuration

Refer to Figure 10 for switch, jumper, and LED locations on the Main PCBA.

Write Protect (EEPROM) Jumper

NOTE: This jumper should not be changed in the field.

WDOG Enable (Watchdog) Jumper

Watchdog jumper, P11, enables a watchdog feature for software purposes and should not be adjusted in the field. The default setting is installed.

Boot Enable Jumper

Jumper P8 – BOOT, is required for development purposes and should not be adjusted in the field. The default setting for this jumper is open.

Reset Switch

Reset switch, S1 reboots the station to its initial state. All configuration settings remain programmed.

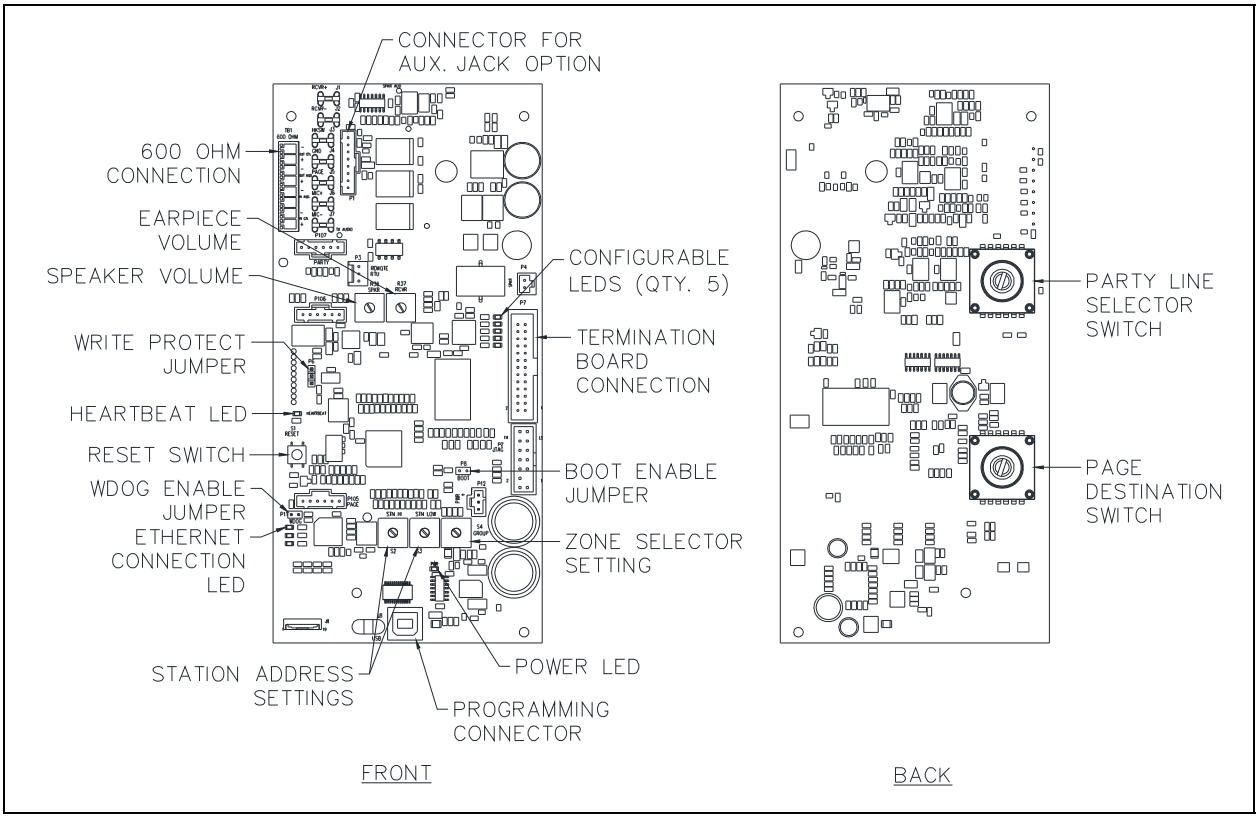

Figure 10. Main PCBA (Front and Rear Views)

Speaker and 600-ohm Audio Output Volume

The speaker volume potentiometer, R36, adjusts the signal level to the speaker from the page line (see Figure 10). When 600-ohm audio is also connected, R36 will adjust the volume for both. Use the CLI (Command Line Interface) to configure the output level when only 600-ohm audio is utilized. The default setting is 4 watts from an 8-ohm speaker and 2 watts from a 16-ohm speaker.

⚠**WARNING**⚠ —Maximum output power may exceed rated speaker wattage resulting in speaker damage.

To adjust the speaker or speaker and 600-ohm output volume:

1. Turn the SPKR speaker volume potentiometer R36 fully counter-clockwise. An audible test-tone will be heard from the speaker.
2. Slowly turn R36 clockwise until the desired output volume is reached. The test-tone ceases three seconds after no adjustment has been made.

This setting can also be configured via USB or Ethernet connection using the CLI.

NOTE: This setting is overridden if it is configured for the station using the SP2 Console in a mutually provisioned system. See the SP2 Configuration Guide, Pub. 42004-784.

Receiver Volume

Use the receiver volume potentiometer, R37, to adjust the volume for the handset or optional headset (see Figure 10):

1. Remove the handset from the cradle.
2. Turn the RCVR potentiometer, R37, fully counter clockwise. An audible test-tone will be heard in the handset.
3. Slowly turn R37 clockwise until the desired output volume is reached. The test-tone ceases three seconds after no adjustment has been made.

This setting can also be configured via USB or Ethernet connection using the CLI.

NOTE: This setting will be overridden if it is configured for the station using the SP2 Console in a mutually provisioned system. See the SP2 Configuration Guide, Pub. 42004-784.

Group and Station Number Selector Switches

One group-number and two station-number hex-selector switches are used to configure SP2 stations for *mutual provisioning* (see Figure 10). Each hex switch has a small arrow to indicate the current setting.

1. Adjust the position of the group-number selector switch to the desired group [0-F].
2. Adjust the two station-number switches to assign the station number [00–FF]. No two stations can be assigned the same address.

At least one SP2 station must be configured as a master station to utilize mutual provisioning in an SP2 system. Master stations must be assigned addresses [0.01], [0.02], or [0.03] using the selector switches. Master station(s) store the configuration of all SP2 stations on the network. As SP2 stations are powered on, they retrieve the mutual provisioning configuration from the master station. See Publication 42004-784, SP2 Configuration Guide, for detailed information on configuring SP2 stations and SP2 system mutual provisioning. GAI-Tronics' product documentation is located on the GAI-Tronics website at https://www.gai-tronics.com.

Main PCBA Indicators

Power LED

The *power* LED located on the main PCBA illuminates when power is applied to the station indicating the main board power supply is operational (see Figure 10).

Heartbeat LED

The *heartbeat* LED located on the main PCBA flashes to indicate the microprocessor is operational (see Figure 10).

Ethernet Connection LEDs

Three Ethernet connection LEDs are located on the main PCBA; Link (LNK), Link Speed (SPD), and Activity (ACT). The LNK LED is blue, the SPD LED is green, and the ACT LED is yellow. The LNK and SPD LEDs must be off to indicate that a 100 Mbps Ethernet link is active. The activity LED; ACT, will blink yellow to indicate Ethernet data activity (see Figure 10).

Five Configurable LEDs

Five LEDs are located on the main PCBA (see Figure 10). These LEDs are configured through firmware. Information for configuring these LED indicators is provided in the SP2 Configuration Guide, Pub. 42004-784. GAI-Tronics' product documentation is located on the GAI-Tronics website at https://www.gai-tronics.com.

Attach the Front Cover

After all adjustments have been completed:

1. Place the front cover onto the rear enclosure

   Do not pinch any cables.
2. Secure the front cover using the four screws and washers provided.
3. Torque the screws to 50 in·lb (5.65 N·m).

Programming

SP2 stations are factory configured to provide basic Page/Party® functions upon power-up. For custom configurations and larger system designs the stations may need to be reconfigured. Refer to Publication 42004-784 SP2 Configuration Guide located on the GAI-Tronics website at https://www.gai-tronics.com.

Operation

Standard Handset Paging

Complete the following steps to make a page announcement from an SP2 handset station:

1. Lift the handset from the cradle.
2. If party line conversation is desired, rotate the selector switch to an unoccupied party line.
3. Press and hold the handset pressbar (not necessary when using the optional ALL-CALL button).
4. After the short pre-announcement tone is heard (if configured), speak directly into the microphone to broadcast your page announcement.

NOTE: SP2 stations incorporate a noise-canceling microphone to reduce transmitted ambient noise. This requires the user to place the microphone as close as possible to their mouth.

5. Release the handset pressbar and wait for a response on the party line (if requested) or replace the handset in the cradle.

Party Line Communication

To respond to a page:

1. Turn the selector switch on any SP2 station in the system to the requested party line.
2. Pick up the station handset and party line communication can occur.

   NOTE: SP2 stations incorporate a noise-canceling microphone to reduce transmitted ambient noise. This requires the user to place the microphone as close as possible to their mouth.

3. Return the handset to the cradle following the party line conversation.

Party line conversations are not broadcast over the system speakers. Other individuals can join the conversation at any time by picking up a handset rotating the selector switch to the party line in use.

All-Call Button Use

Use the ALL-CALL option button to page an alternate destination that has been programmed for the station (see Figure 11). The All-Call option must be software configured for the SP2 station. To initiate a page using the ALL-CALL feature:

1. Lift the handset from the cradle.
2. If party line conversation is desired, rotate the selector switch to an unoccupied party line.
3. Press and hold the ALL-CALL button.

   The ALL-CALL button eliminates the need to press the handset or headset pressbar when paging.

4. After a short pre-announcement tone is heard (if configured), speak directly into the microphone to broadcast your page announcement.

   NOTE: SP2 stations incorporate a noise-canceling microphone to reduce transmitted ambient noise. This requires the user to place the microphone as close as possible to their mouth.

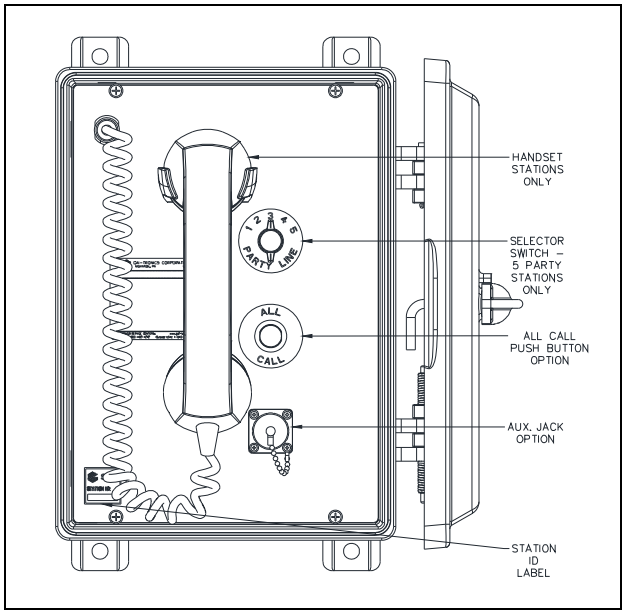

Figure 11. All-Call Button Option

5. Release the ALL-CALL button and wait for a response on the party line (if requested).
6. Return the handset to the cradle when finished.

Alternate-Page Destination Switch Use

Use the ALT-PAGE option selector switch to page one of five alternate destinations that have been programed for the station (see Figure 12). Alternate page destinations must be software configured for the SP2 station. To initiate a page using the ALL-CALL feature:

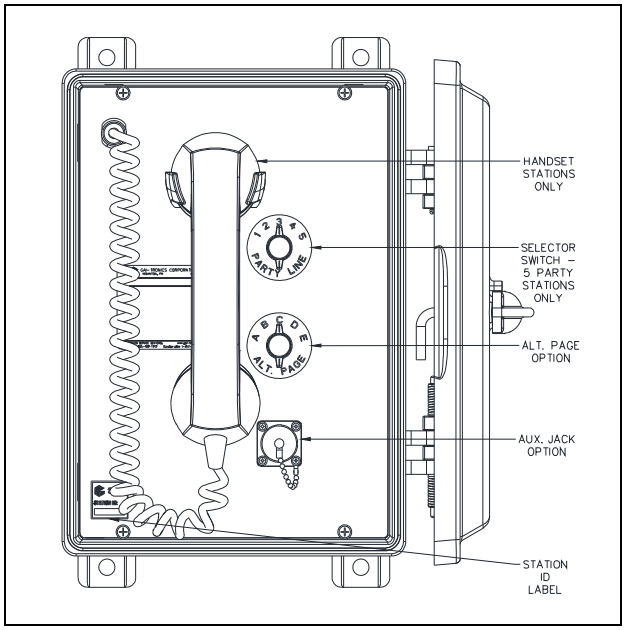

Figure 12. Alternate-Page Switch Option

1. Lift the handset from the cradle.
2. If party line conversation is desired, rotate the selector switch to an unoccupied party line.
3. Select the desired page destination using the ALT-PAGE selector switch.
4. Press and hold the handset pressbar.
5. After the short pre-announcement tone is heard (if configured), speak directly into the microphone to broadcast your page announcement.

   NOTE: SP2 stations incorporate a noise-canceling microphone to reduce transmitted ambient noise. This requires the user to place the microphone as close as possible to their mouth.
6. Release the handset pressbar.
7. Return the handset to the cradle or wait for a response on the party line (if requested).

Headset Use

Initiate a call with the optional headset feature as follows:

1. Attach the headset assembly to the auxiliary jack on the station (see Figure 11 or Figure 12).
2. If party line conversation is desired, rotate the selector switch to an unoccupied party line.
3. Rotate the ALT-PAGE selector switch (if available) or press the ALL-CALL button (if available) to select the desired optional destination for the page announcement.
4. Press and hold the headset pressbar (not necessary when using the optional ALL-CALL button).
5. After the short pre-announcement tone is heard (if configured), speak directly into the microphone to broadcast your page announcement.
6. Release the headset pressbar.
7. Wait for a response on the party line (if requested).

NOTE: For stations with an auxiliary jack, the Model 10401-201 Headset and 10416-103 Extension Cord allow the user to be hands-free and mobile while maintaining communication. When connected, the handset microphone is disabled.

Maintenance

Replacement Parts

Part No.	Description
12508-002	Screw Kit (Qty. 32)

Troubleshooting

The following table is provided to aid qualified service personnel in troubleshooting problems with the SP2 Station.

Problem	Solution
station not functional	• check wiring and cable terminations • check the POE setting on the Ethernet switch • Power LED on Main PCBA illuminated • Heartbeat LED blinking once per second for normal operation
network communication not functional	• verify LNK LED on main PCBA is off • verify SPD LED on main PCBA is off • verify IP connection settings using telnet • ping station IP address from an admin PC • verify network switch settings for IGMP (Internet Group Management Protocol) snooping and multicast filtering
handset receiver audio too high/low	• adjust the Receiver Volume • check potentiometer R37 setting • check handset connections • check cable terminations between the Termination and Main PCBAs • check hookswitch operation • replace handset
speaker volume too high/low	• adjust the Speaker and 600-ohm Audio Output Volume • check potentiometer R36 setting • P2 and P3 Termination PCBA jumper positions incorrect (see Figure 5) • check speaker wiring configuration on TB1 • replace the speaker or driver
RTU output not functional	• verify no output faults exist • check connected device operation
RTU input not functional	• verify no input faults exist • check operation of connected device

Service

Contact a regional service center for a return authorization number (RA#) if the equipment requires service. Equipment must be shipped prepaid to GAI-Tronics with a return authorization number and a purchase order number. Repairs or a replacement will be made in accordance with GAI-Tronics' warranty policy if the equipment is under warranty. 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.

Specifications

Power Consumption

POE, IEEE802.3af Class 0 ..... 4 W/12.95 W (idle/maximum)
POE Plus, IEEE 802.3at Class 4 ..... 4 W/ 25.5 W (idle/maximum)

Ethernet

Cable ..... Category 5e or better
Speed ..... 100 Mbps
Maximum stations 4096
Maximum cable length ..... 100 m

RTU

Input Control

Switch type ..... NO or NC dry contacts
Cable resistance ..... 100 Ω maximum loop resistance
Contact closure resistance ..... 1 kΩ maximum

Output Control

Maximum load current ..... 8 A
Maximum in-rush current ..... 15 A
Maximum voltage ..... 250 V ac

Audio

Handset

Microphone ..... dynamic, noise-canceling
Receiver ..... dynamic, hearing aid compatible
Cord ..... retractile, 6-foot extended, PVC
Material ..... ABS

Handset Amplifier

Frequency response ..... 250–3,000 Hz, +0/–3 dB ref. to 1 kHz
Distortion ..... <1.5% THD @ 1 kHz
Receiver level ..... 200 mV nominal, adjustable 100–350 mV

Headset Earpiece

Level ..... 125 mV nominal, adjustable 50–200 mV

Speaker Amplifier

Maximum output:
8-ohm speaker*
POE Plus ..... 14 W +/−1.0 dB into 8-Ω load with −6 dBFs data signal, default: 4 W @ 8 Ω
POE ..... 6 W +/−1.0 dB into 8-Ω load with −6 dBFs data signal, default 4 W @ 8 Ω

16-ohm speaker*.....

POE Plus..... 7 W +/−1.0 dB into 16-Ω load with −6 dBFs data signal, default: 2 W @ 16 Ω

POE .....3 W +/−1.0 dB into 8 Ω load with −6 dBFs data signal, default: 2 W @ 16 Ω

* 100 m maximum cable length with minimum category 5e Ethernet cable.

Frequency response..... 250–3,000 Hz, +0/−3 dB ref. to 1 kHz

Distortion ..... <3% THD @ 1 kHz to 14 W

600-ohm Audio Input

Audio Level ..... 1 $V_{(RMS)}$ maximum

Control type .....NO dry contact

Control cable resistance ..... 1 kΩ maximum loop resistance

600-ohm Audio Output

Frequency response.....250–3,000 Hz, +0/−3 dB reference to 1 kHz

Distortion .....<1% THD @ 1 kHz to 1 $V_{(RMS)}$ into 600 Ω

Audio level.....adjustable 100 mV $_{(RMS)}$ to1 $V_{(RMS)}$ into 600 Ω

Control type .....NO solid-state output, maximum on resistance; 35 Ω

Control maximum load current..... 100 mA

Control maximum load voltage.....24 V ac/dc

Mechanical

Construction/finish.....engineered glass-reinforced plastic

Mounting.....wall or column, four 0.44-inch (11 mm) mounting holes

Termination connections.....screw-type barrier terminal blocks for speaker and RTU
Phoenix connector pluggable terminal for Ethernet and 600 Ω audio

Enclosure Dimensions .....14.2 H × 10.9 W × 10.5 D in (371 × 276 × 267 mm)

External controls

Multi-party stations .....handset hookswitch and party line selector switch

Multi-page stations .....page line selector switch

Net weight.....standard amplifier: 11.0 lb
multi-party and options stations: 12.0 lb

Shipping weight .....standard amplifier: 12.0 lb
multi-party and options stations: 13.0 lb

Environmental

Temperature range (operation and storage) ..... −22 ºF to 140 ºF (−30 ºC to 60 ºC)

Humidity ..... 95% non-condensing

Outdoor environmental rating.....Type 3R, Type 4X with door closed

Reference Documentation

SP2 Configuration Guide.....42004-784

Approvals

Electrical Safety.....UL60950
CAN/CSA-22.2 No. 60950

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.