



**GAI-TRONICS®**  
A HUBBELL COMPANY

# Zone 2/22 ICS Termination PCBA Upgrade Kits

Models 12831-003 and 12831-004

## Confidentiality Notice

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## General Information

The Model 12831-003 and 12831-004 Zone 2/22 Termination PCBA Upgrade Kits are designed to be used in Zone 2/22 ICS stations equipped with first-generation termination PCBAs (Part No. 69554-xxx.) Each kit provides all components required to upgrade the termination PCBA to the latest version (Part No. 69630-xxx.)

These kits provide the following components:

| Qty | Description                                       |
|-----|---|
| 1   | ICS Termination PCBA                              |
| 6   | Screw, 4-40 × ¼-inch PHMS                         |
| 1   | Input power cable assembly (Model 12831-004 only) |
| 1   | 24 V dc power input label (Model 12831-004 only)  |
| 1   | Upgrade kit label                                 |

## Installation

 **WARNING**  **EXPLOSION HAZARD** – Do not disconnect equipment unless power has been removed or the area is known to be non-hazardous.

### Opening the Station

Remove the four screws from the front panel and turn it to the right so that the interior surface faces you. Allow the wiring and ribbon cables to remain connected. The front panel can be hung from the front door by hooking a small piece of wire in the mounting holes of the panel. The front panel interior surface and the back box interior now face you. This configuration presents the easiest access for troubleshooting and setting adjustments. See Figure 1.

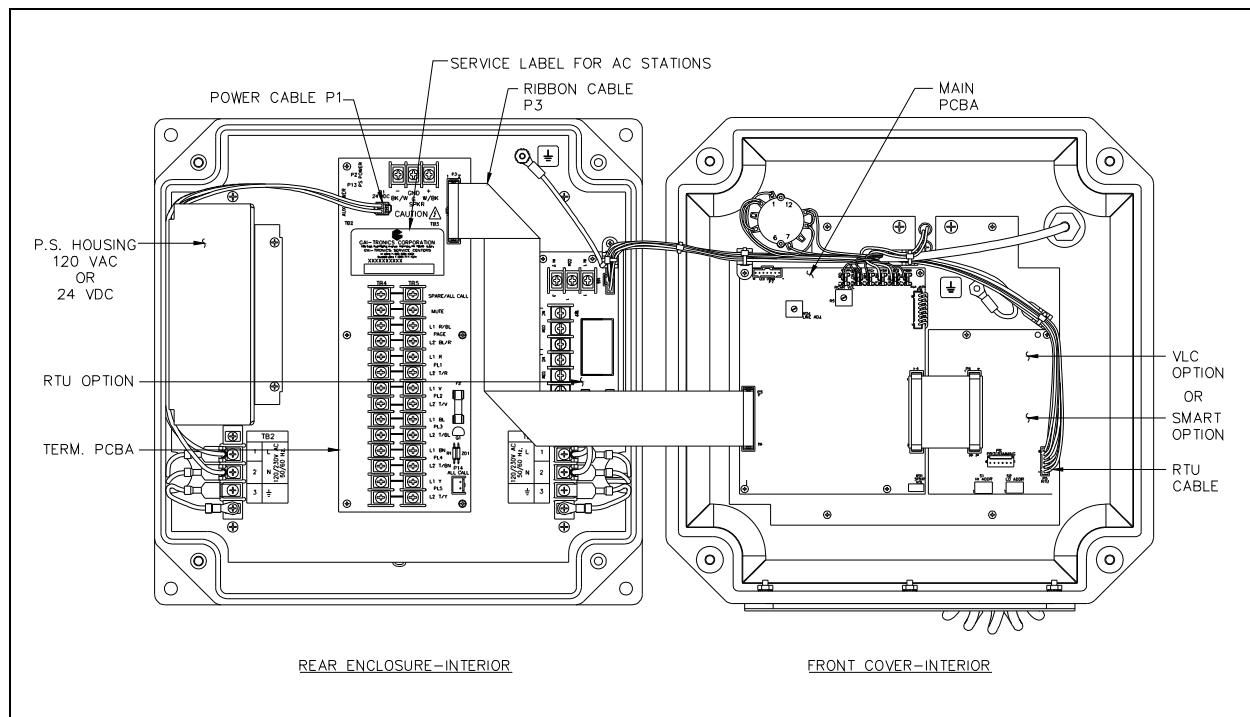


Figure 1. ICS Zone 2/22 Station – Interior View

## Installing the Termination PCBA

1. On the Termination PCBA, unplug the ribbon cable at P3 and the power cables at P1 and P2 (dc only).
2. Remove the six screws that secure the Termination PCBA to the rear mounting plate and remove the Termination PCBA.

### For the Model 12831-004 Kit (dc version) only:

- a. Remove the two screws that secure the power supply housing to the rear mounting plate.
  - b. Unplug the input power cable assembly from the ac or dc power supply. The ac power connector is a three-position plug and the dc power connector is a five-position plug.
  - c. Plug in the new input power cable assembly provided with the kit into the power supply.
  - d. Reattach power supply housing to the rear mounting plate with two screws, routing the wires behind the power supply and housing.
3. Attach the new Termination PCBA to the rear mounting plate with six screws.
  4. Plug the ribbon cable back into P3 of the Termination PCBA.
  5. Plug the power cables back into P1 and P2 (dc only) of the Termination PCBA. Refer to Figure 2 for the completed assembly configuration.
  6. Place the upgrade kit label on the power supply housing as shown in Figure 2.

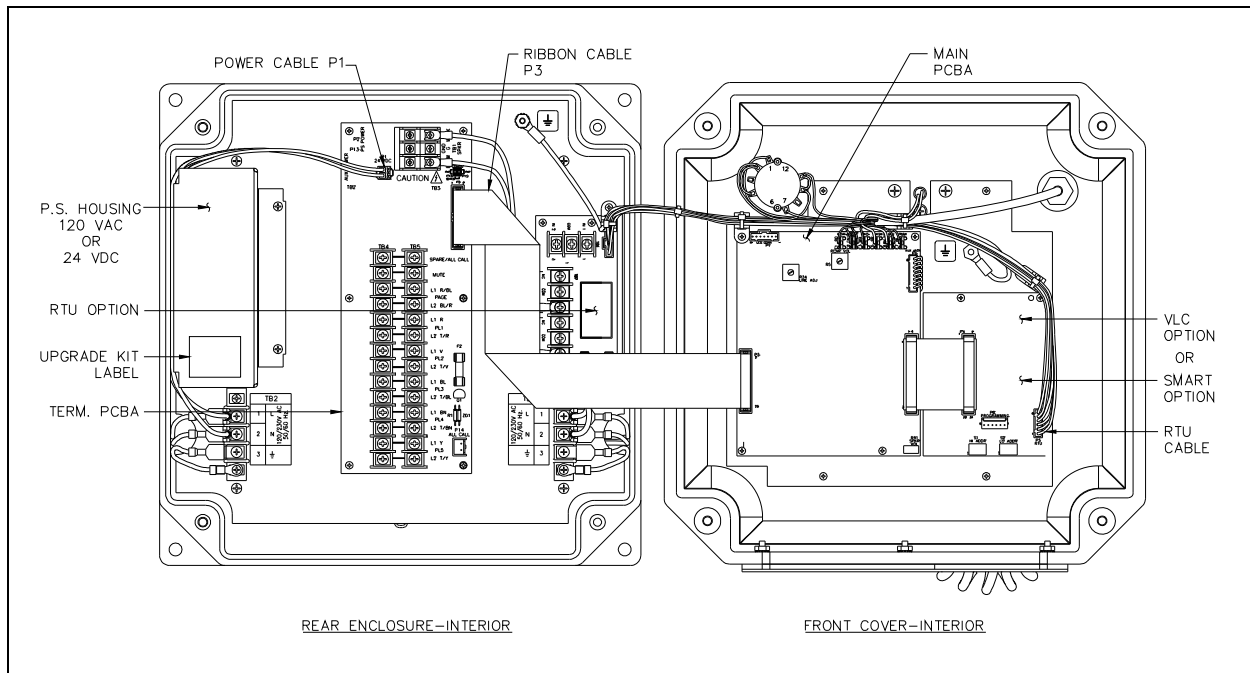


Figure 2. Upgraded ICS Hazardous Area Station – Interior View

7. For dc kits, attach the 24 V dc power input label to the Termination PCBA at the location shown in Figure 3.

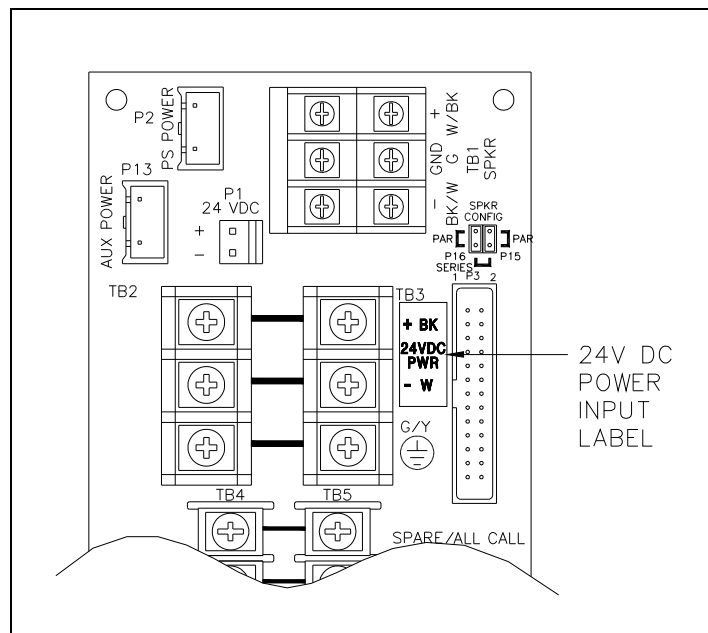


Figure 3. Location for placement of 24 V dc power input label on the Termination PCBA

## Field Wiring

**NOTE:** Use conductors with a temperature rating of a minimum of 10k above the ambient temperature.

The Zone 2/22 ICS Page/Party<sup>®</sup> station provides terminal blocks for field wiring. Each connection for the system cable has two terminals for daisy-chain wiring. Attach #6 spade lugs to the wires before attachment to the terminal blocks for the most secure connection.

The terminal blocks on the Termination PCBA are labeled to coincide with the color code used on GAI-Tronics 60029 Series multi-party cable or 60038 Series single party cable. Refer to Figure 4 for a sample wiring diagram.

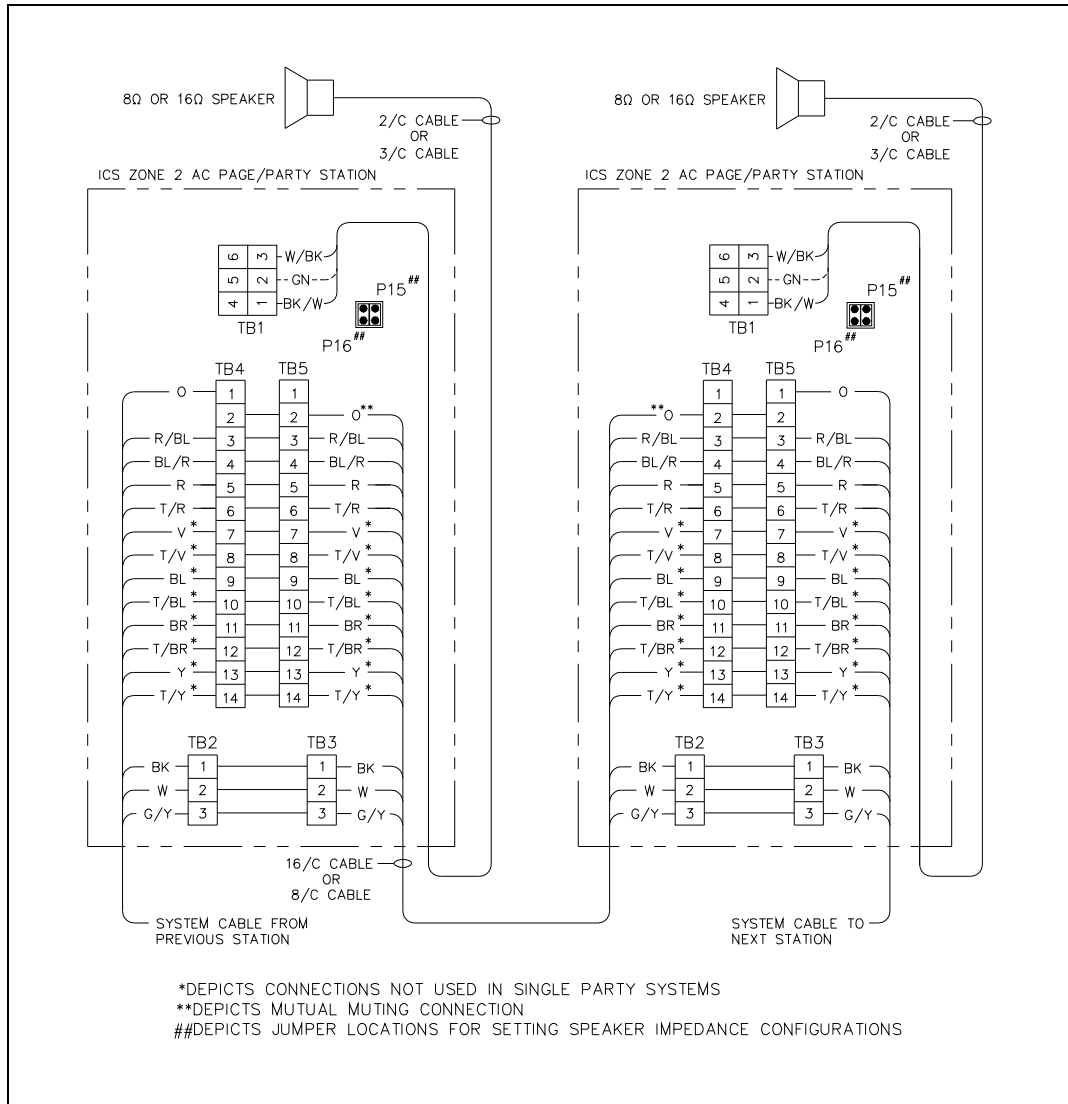


Figure 4. Typical ICS Zone 2/22 Weatherproof Station Wiring Diagram

In certain circumstances where paging audio induces feedback, muting the speakers of two or more stations during a page, referred to as mutual muting, can eliminate such feedback problems. This function is enabled by connecting the spare orange wire between stations to terminal block TB4-2 or TB5-2.

Figure 5 shows the rear enclosure with the Model 12831-004 DC Termination PCBA installed.

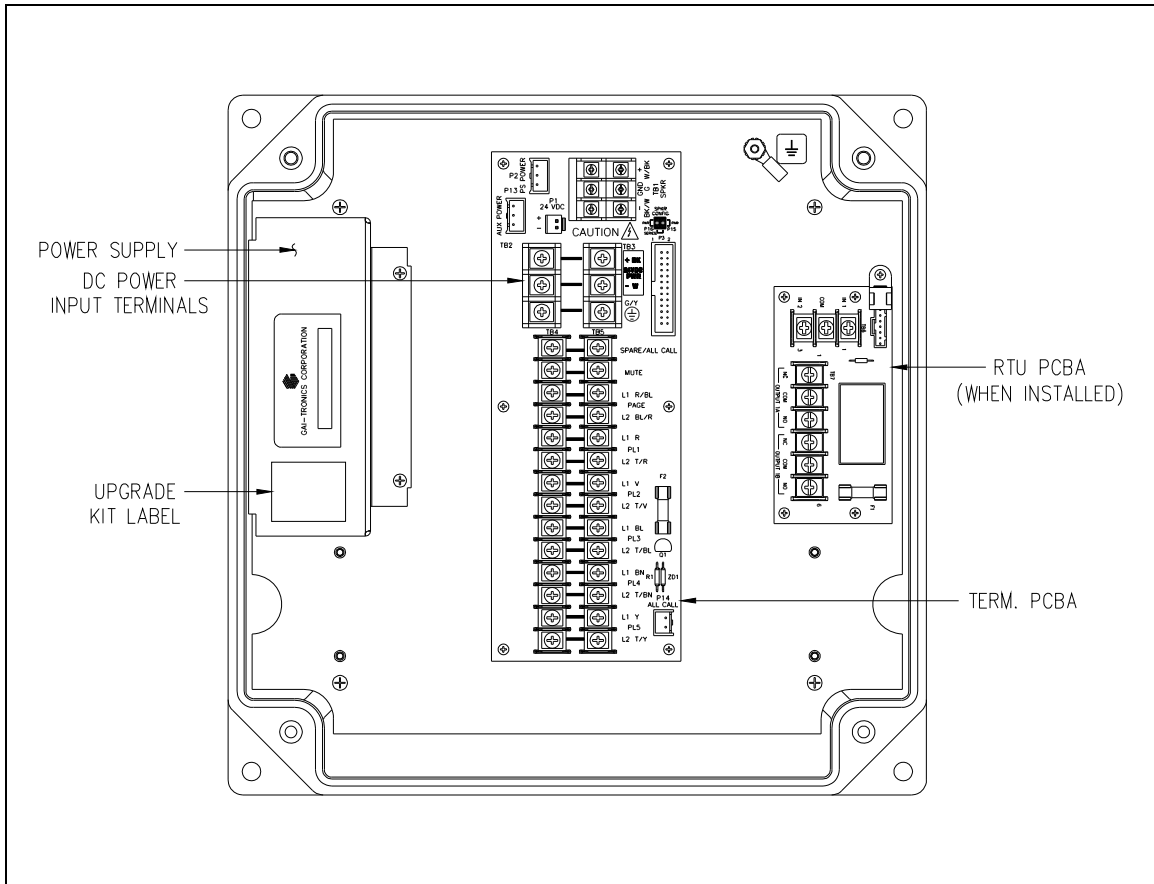


Figure 5. DC Option – Interior View

## Speaker Jumper Impedance Configuration

Configure speaker jumpers P15 and P16 for the appropriate impedance for either 8-ohm or 16-ohm speakers as shown in Figure 6 below.

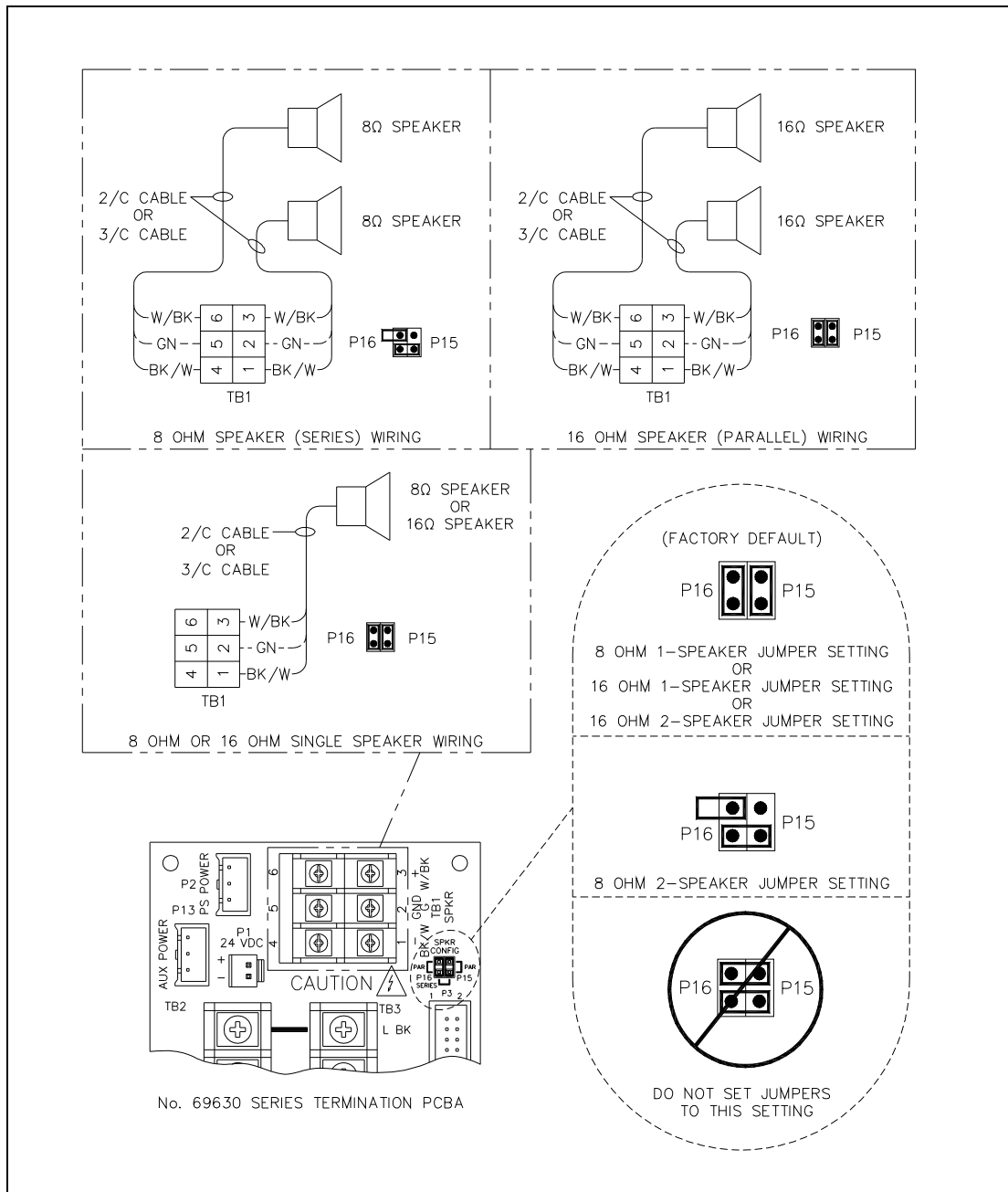


Figure 6. Speaker Jumper Impedance Configuration Options for 8-ohm or 16-ohm Speakers

## Attaching the Front Panel

After all adjustments have been completed, place the front cover in the rear enclosure, being careful not to pinch any cables. Secure the front cover using the four screws and washers provided. Torque the screws to 50 in-lbs (5.65 n-m).

# Warranty

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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

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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.