



GAI-TRONICS®  
A HUBBELL COMPANY

# Model 7085-004-UL and 7085-004-EX SmartSeries Multi-Party Hazardous Area Amplifier Enclosures with Alternate Page

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## Confidentiality Notice

This manual is provided solely as an operational, installation, 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.

## General Information

The Model 7085-004-UL and 7085-004-EX Multi-Party Amplifier Enclosures with Alternate Page are components of the 700 Series Page/Party® system. These enclosures are configured for multi-party systems, which can accommodate conversations on up to five party lines simultaneously. Additionally, alternate page designations can be software configured when used with a GAI-Tronics ADVANCE system. Control of these alternate page destinations is through a second selector switch.

They are constructed of cast aluminum and are extremely weatherproof and corrosion-resistant. These enclosures are equipped with terminal strips for connecting system cable. The Model 709-901 SmartSeries Amplifier mates directly with this enclosure.

Models 7085-004-UL and 7085-004-EX differ in design by their conduit or cable entries. The Model 7085-004-UL Enclosure contains NPT threads and the Model 7085-004-EX Enclosure contains metric threads.

## Installation

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.

**⚠ CAUTION ⚠ Do not install this equipment in hazardous 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**

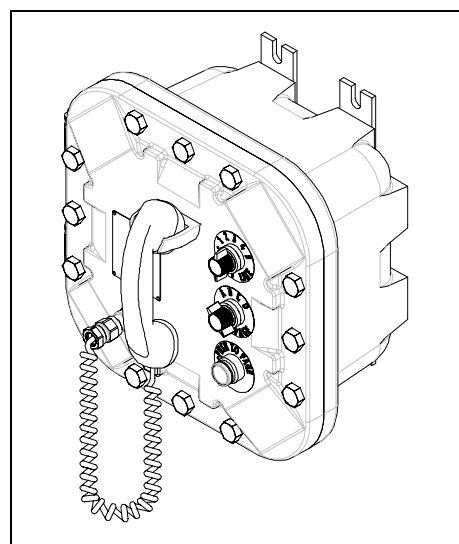




Figure 1. The Model 7085-004-UL/EX

**or property damage.**

The mounting location must be flat and provide proper clearance, rigidity and strength to support the enclosure and all contained devices. The enclosures are equipped with factory-installed hinges. The enclosures should be mounted with hinges on the left.

 **WARNING**  **Do not** mount the enclosure with hinges on the top or bottom side.

Securely fasten the enclosure to the mounting location, using 1/2-inch diameter steel mounting bolts and washers, or washer head bolts.

 **WARNING**  **Do not disconnect equipment while energized.**

**Insure proper grounding to protective earthing.**

Inspect and clean the machined flange flame joint surfaces of both the cover and box. Surfaces must be smooth, free of nicks, scratches, dirt or any foreign particle build-up that would prevent a proper seal. Surfaces must seat fully against each other to provide a proper explosion-proof joint. Clean surfaces by wiping with a clean lint-free cloth.

Apply a light coat of Killark “LUBG” lubricant to flange surfaces and close the cover. Install and tighten all cover bolts to 30 ft.-lbs. Make certain no cover bolts are omitted. Use only those bolts supplied with the enclosure.

When installing an add-on station, consult the appropriate system layout diagrams. These figures, when used in conjunction with the station installation information and cable layout guide, should provide all the information necessary to install additional Page/Party® stations.

## Enclosure Placement

All GAI-Tronics Page/Party® units are wired in parallel. Good system layout design minimizes the cable required for each installation. GAI-Tronics multi-conductor cable, designed especially for this application, is recommended. For the number, size, and color-coding of conductors refer to the appropriate system connection diagrams.

System layout and power cable length are very important when installing Page/Party® equipment. Although it varies for different systems, the general guideline is that the total power cable length should not exceed one mile (5280 feet) for 120 V ac systems. The total cable length is the most important consideration while cable length between the stations is generally not a factor.

## Hardware Configuration

### External

The multi-party enclosures each contain a handset with an approved gland, push-to-page operator, a party line selector switch, alternate page selector switch, and applicable approval labeling. The handset rests on a cradle, which has a magnetic reed switch located behind it to signal an off-hook condition. The enclosure itself has 12 cover mounting bolts located around the perimeter of the enclosure, and a set of aluminum hinges located on the left side. See Figure 2.

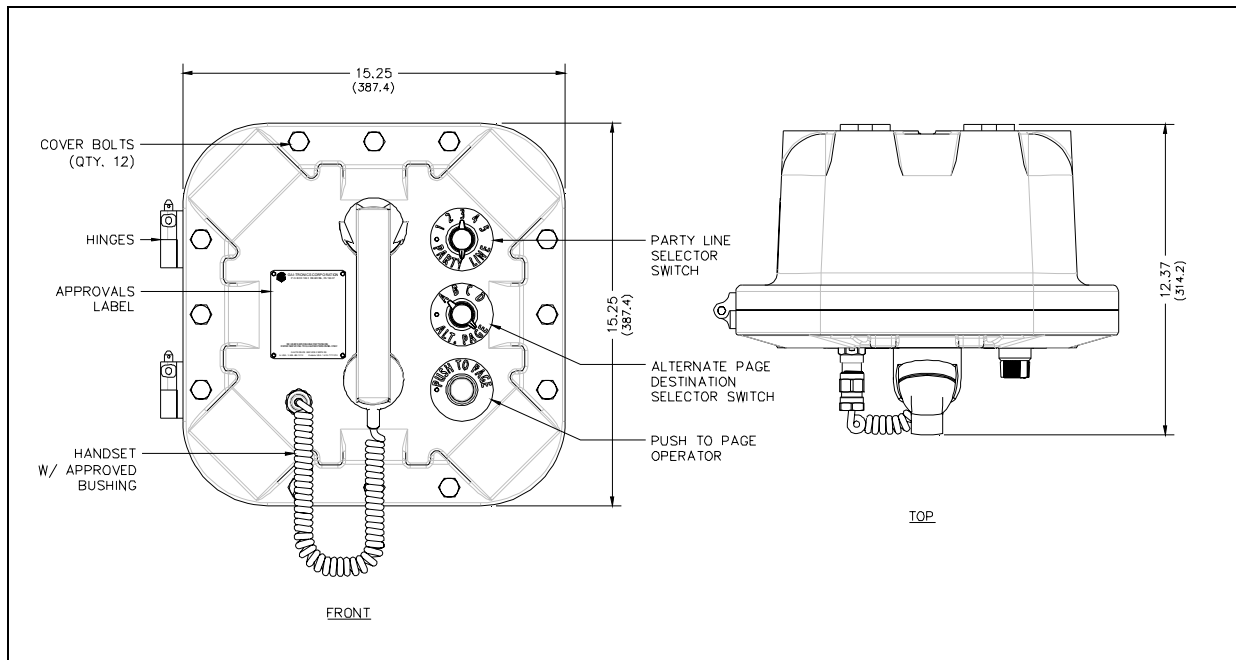


Figure 2. Model 7085-004-UL/EX Outline Drawing

Internal

The multi-party enclosures contain three terminal blocks, an interior mounting plate, an amplifier bridging plate, and a connector for the mating Model 709-901 Amplifier. The amplifier bridging plate is hinged on one side and attached on the opposite side with two #10-32 screws. For system cable installation, the screws to this plate must be removed and the bridging plate swung open 90°. Upon installation of the wiring cable, the amplifier bridging plate can be rotated closed and reattached with the two #10-32 screws. This plate will then serve as a protection for the amplifier and the switches from the system cable when the unit is completely closed. Refer to Figure 3.

The alternate page destination selector switch is connected through an additional 8-point terminal block, with wiring directly to the front door. The 8-point terminal block is located on the right side of the internal mounting plate. See Figure 3.

The party line selector switch can be disconnected from the amplifier bridging plate by means of the 12-pin connector. Upon installation of system cable, after the amplifier bridging plate has been reattached, plug the 12-pin connector back into its receptacle.

**NOTE:** The front door can be swung approximately 120° before the plug must be disconnected.

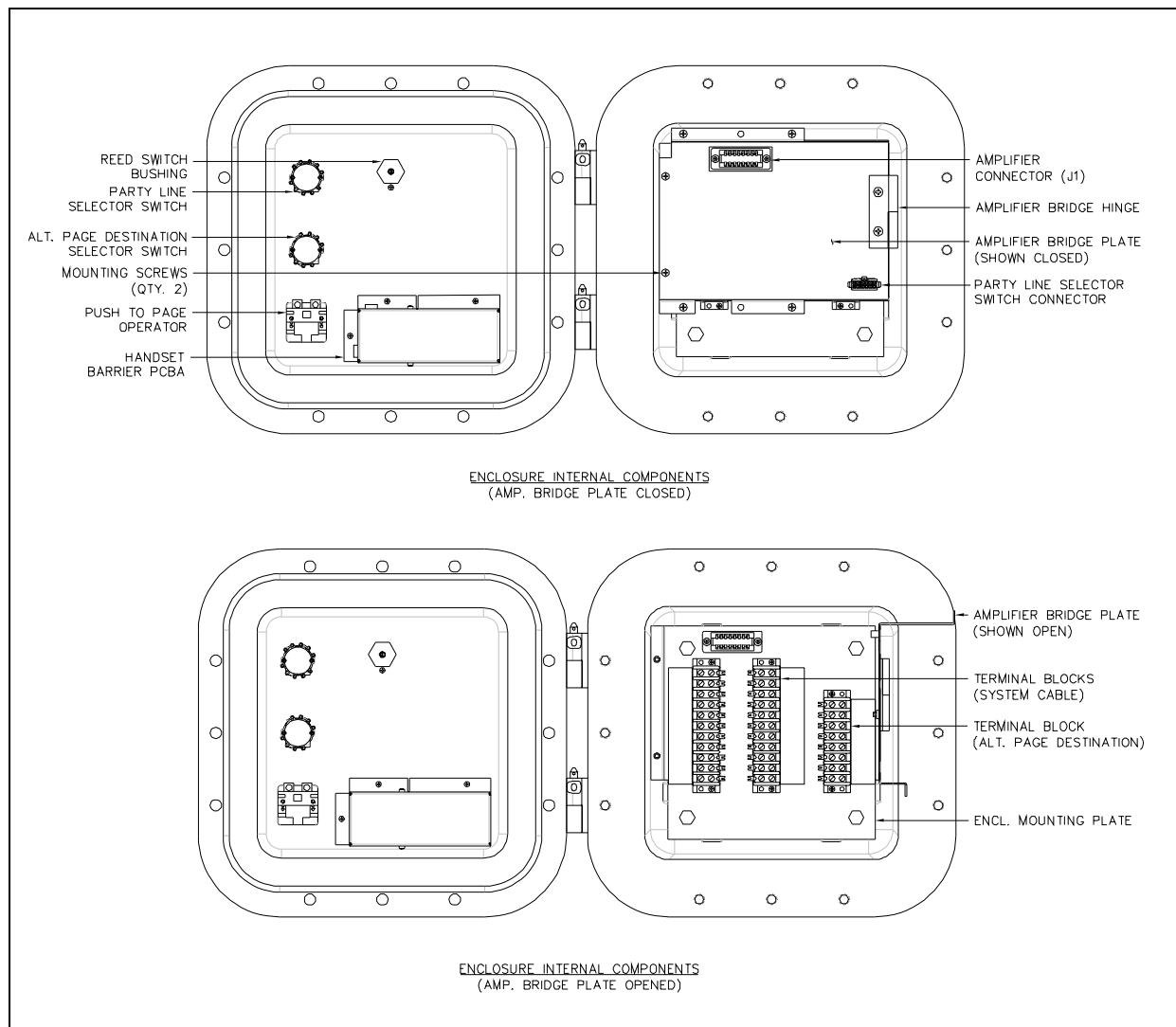


Figure 3. Model 7085-004-UL/EX Amplifier Enclosures - interior view

## Mounting

**NOTE:** The mounting surface must be able to support the weight of the aluminum enclosure. See the Specification section for the weights and dimensions of the unit.

The enclosure comes standard with mounting feet capable of being rotated 90°. This allows for top and bottom mounting feet or side-to-side mounting feet. The enclosure ships with the mounting feet in the top-to-bottom configuration, for ease of installation. Refer to Figure 4 for both sets of dimensions.

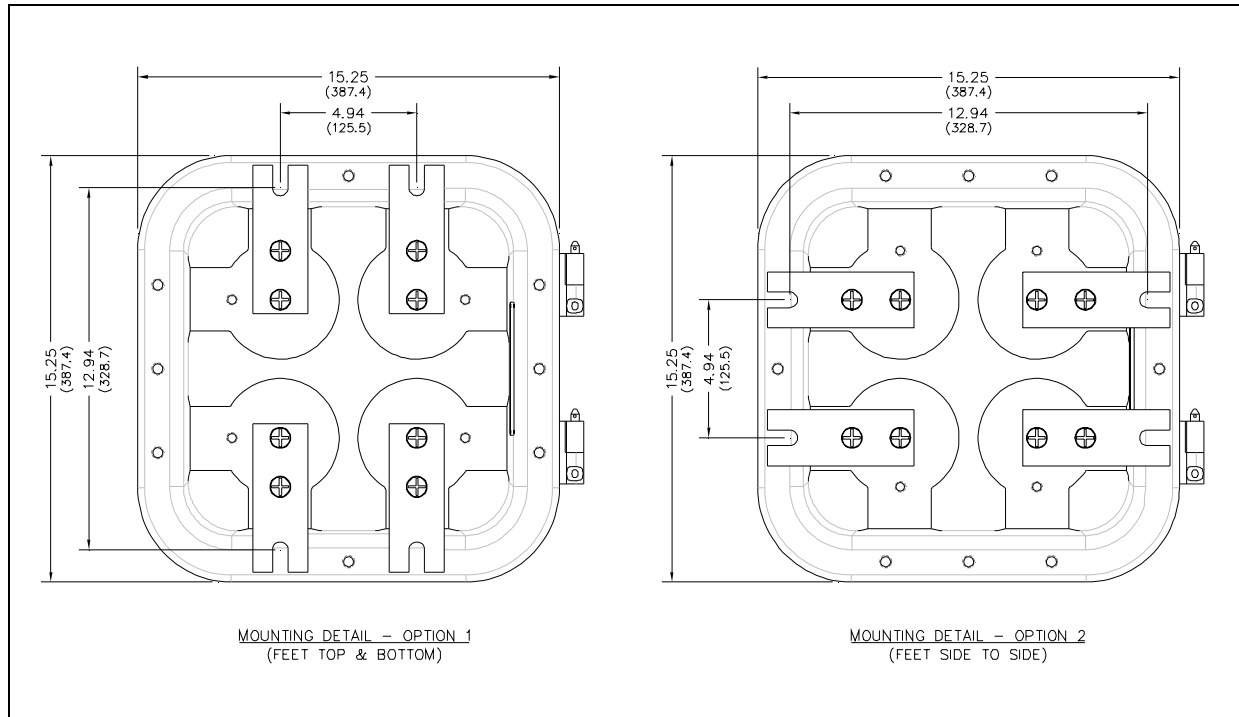


Figure 4. Model 7085-004-UL/EX Enclosure Mounting Details

The enclosure must be securely fastened with 1/2-inch diameter steel mounting bolts located on all four mounting feet. Stainless steel hardware is recommended in outdoor applications.

**NOTE:** Refer to the Killark Installation, Operation, and Maintenance Data Sheet enclosed with the unit for additional information.

### Cable Entries

Refer to Figure 5 for the UL conduit entries, and to Figure 6 for the EX cable gland entries. Ensure any unused openings are sealed with proper fittings per local standards.

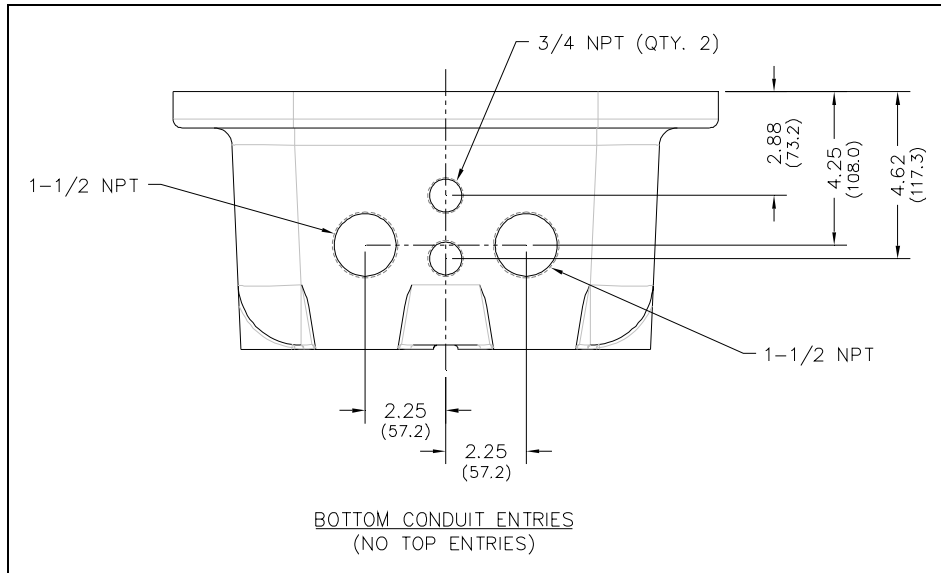


Figure 5. Model 7085-004-UL Conduit Entries

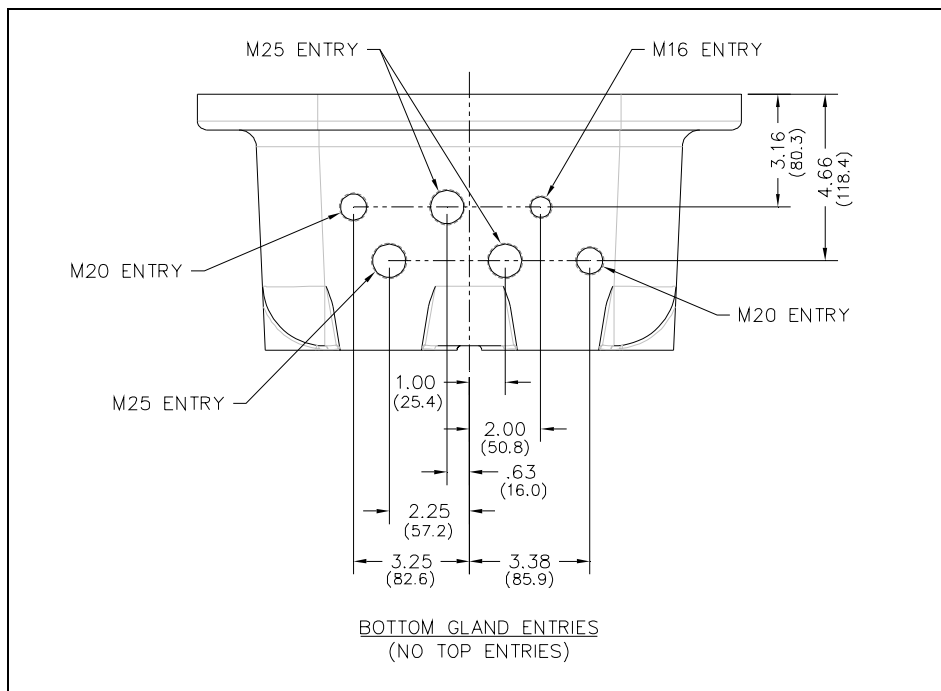


Figure 6. Model 7085-004-EX Cable Gland Entries

## Wiring

Attach the conduit or cable glands to the enclosure. Feed the wiring through these and bring it into the enclosure. Attach the wires to the terminal blocks located behind the amplifier bridging plate. Follow the wire colors carefully because the colors correspond to GAI-Tronics cable. The wires must be spade-lugged and connected carefully and completely to the terminal block. An improper termination may result in diminished station performance. See Figure 7.



**For safe operation, connect terminal 3 of TB1 to system ground.**

## Local Muting

Figure 7 illustrates local speaker muting when stations are completely assembled and paging operation occurs. Normally, when the station button is pressed, the paging speaker connected to that station is silenced (muted) to prevent acoustic feedback to the handset microphone. However, while the handset is in use for party line conversations, the paging speaker is “live” to enable paging calls from other stations.

To disable the mute feature, follow these instructions:

1. Locate the lugged violet wire attached to terminal point 7 (mute) on the terminal block within the enclosure.
2. Transfer the lugged violet wire to terminal point 8 (Page L1).

After any muting changes are made, unpack the station amplifier and install.

## Mutual Muting

In the event that feedback occurs within an area and repositioning of the system speakers does not help, mutual muting may be used to correct this problem.

The following steps mutually mutes adjacent amplifiers/handsets within a zone.

1. Ensure that the purple lugged wire is connected to terminal 7 of TB1.
2. Connect terminal TB1-7 of the handset station to TB1-7 of the station within the zone that is causing feedback. This is done by using the spare system wire (orange conductor) from within the system cable that runs between the stations.

## Alternate Page Destination

Alternate page destinations must be software configured in the central control cabinet of a GAI-Tronics ADVANCE system. Refer to Figure 7 for the connection points located on TB3.

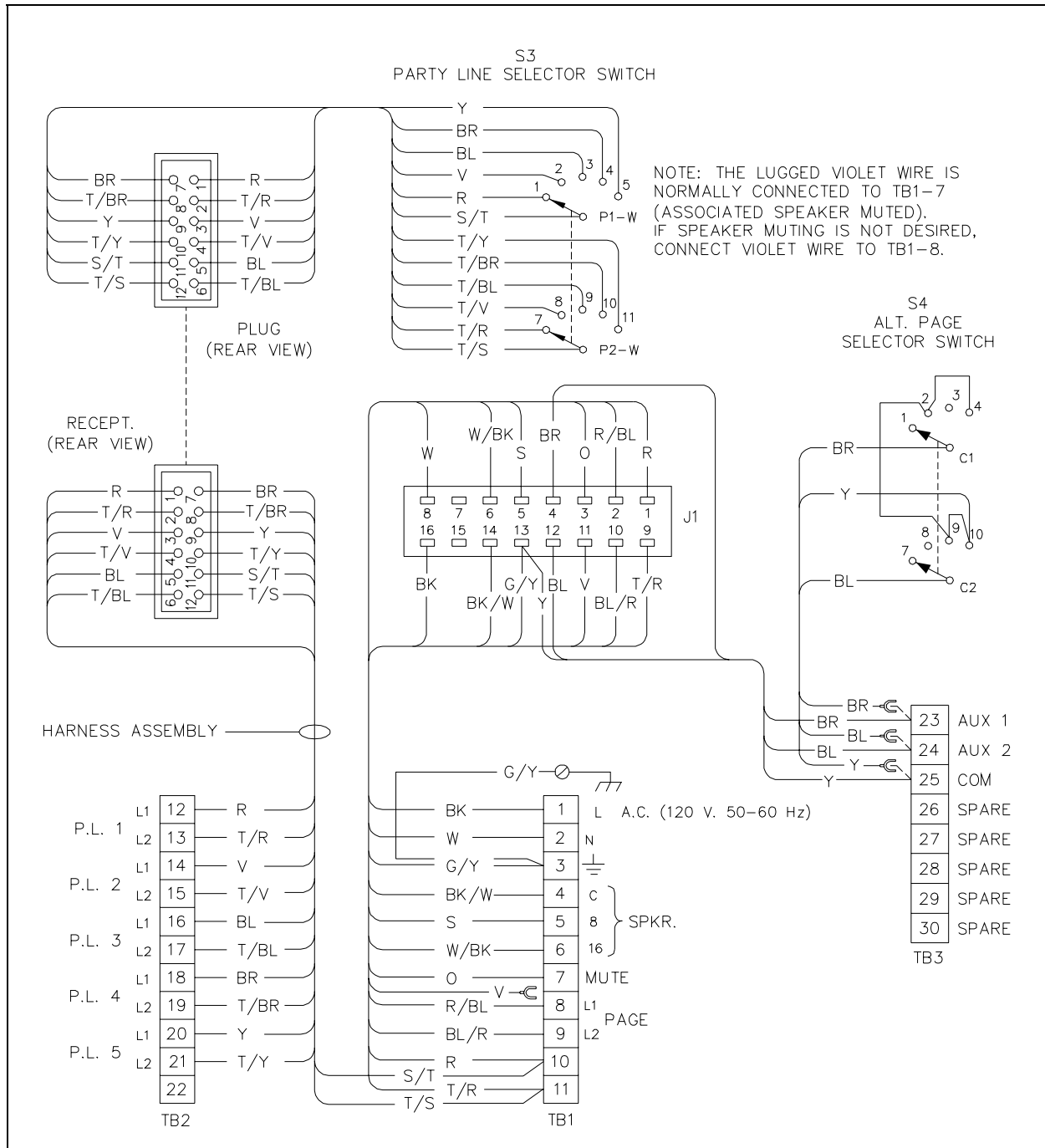


Figure 7. Wiring Diagram

## Operation

Refer to GAI-Tronics Pub. 42004-699L2 for Model 709-901 Handset/Speaker Amplifier for detailed operational instructions.



# Maintenance

Regular inspection and a good preventive maintenance program will increase the reliability of your GAI-Tronics station. The GAI-Tronics Field Service Department can formulate a service contract suited to your facility's specific need for preventive maintenance.

In addition, the following procedure can be used to keep Page/Party® systems operating effectively.

 **WARNING**  **Before performing any of the following preventive maintenance steps, remove all power from the station.**

 **CAUTION**  **To reduce the risk of ignition of hazardous atmospheres, disconnect the equipment from the supply circuit before making any adjustments to the amplifier's handset level.**

1. Remove the amplifier from the enclosure.
2. Visually check the interior of the enclosure for signs of contamination such as dust, condensation or process liquid.
3. Using the No. 10440-002 Maintenance Cable, plug the amplifier into the connector in the enclosure. Check, and if necessary, adjust the amplifier to maximize performance.
4. Reinstall the amplifier in the enclosure. Ensure that all gaskets and hardware are in place. Failure to install the gaskets, which also act as spacers, can result in damage to the connectors on the amplifiers and inside the enclosures and can cause system faults.

Inspect and clean the machined flange flame joint surfaces of both the cover and box. Surfaces must be smooth, free of nicks, scratches, dirt or any foreign particle build-up that would prevent a proper seal. Surfaces must seat fully against each other to provide a proper explosion-proof joint. Clean surfaces by wiping with a clean lint-free cloth.

Apply a light coat of Killark "LUBG" lubricant to flange surfaces and close the cover. Install and tighten all cover bolts to 30 ft.-lbs. Make certain no cover bolts are omitted. Use only those bolts supplied with the enclosure.

It may become necessary to re-terminate some or all of the enclosures in a system. If so, strip the wires back to clean copper and connect only one wire to each connector to allow for easier future troubleshooting.

**NOTE:** Refer to the Killark Installation, Operation, and Maintenance Data Sheet enclosed with the unit for additional information.

## Troubleshooting

The following table lists some hints to aid technicians in troubleshooting.

Problem	Solution
Feedback occurs only during page.	<ol style="list-style-type: none"><li data-bbox="431 401 1398 499">1. If a speaker is close to the station, try using the muting feature in the amplifier enclosure at the terminal blocks. Connect the violet wire at TB1-8 to TB1-7. Refer to the wiring diagram.</li><li data-bbox="431 516 1398 680">2. Ensure that speakers attached to other stations located nearby are not pointed in your direction. If changing the orientation of the other speakers has no effect, mutual muting may be required. Mutual muting silences all the speakers within proximity to the affected stations during a page from any one of the mutually muted stations. Connect the orange wire (spare) to the TB1-7 of all the stations to be mutually muted. Note: If too many stations are selected, paging coverage can be adversely affected.</li><li data-bbox="431 810 1398 869">3. Check line terminations at the line balance assembly. Line balance assembly connections are critical.</li></ol>
Crosstalk occurs.	One or more system cable pairs may be improperly terminated. Visually inspect the system cable connections for accidental crossing of the cable pairs or grounds.

# Specifications

Construction/finish.....	Cast aluminum/gray polyurethane
Mounting.....	Wall or column, four 1/2-inch mounting feet with slots
Connections.....	Internal screw-type barrier terminal blocks
Dimensions.....	15.25 H × 15.25 W × 12.375 D inches (387.4 × 387.4 × 314.3 mm)
Temperature range (operating and storage)	
Model 7085-004-UL .....	(-4° F to +151° F) -20° C to +66° C
Model 7085-004-EX .....	(-4° F to +140° F) -20° C to +60° C
Shipping weight.....	75 lbs. (34.02 kg)
Enclosure.....	IP66/Type 4X

## Approvals

### Model 7085-004-UL

NRTL listed.....	Hazardous locations Class I, Div. 1, Groups B, C, D;
(USA and Canada)	Class II, Div. 1, Groups F, G;
	Class III, Div. 1
	T6, Type 4X

### Model 7085-004-EX

CE Mark.....	Complies with Low Voltage Directive 73/23/EEC, and the EMC Directive 89/336/EEC amended by the Directive 93/68/EEC.
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Certificate No. DEMKO 05 ATEX 0526157X  
 Notified Body Id No. 0539  
 UL International DEMKO A/S  
 Lyskear 8  
 DK-2730 Herlev  
 Denmark

ATEX Certified .....	II 2 G Ex d [ib] IIB + H <sub>2</sub> T6
Applicable standards .....	EN 50014:1997, A1+A2:1999, EN50020:2002, EN 60079-0:2006 and EN 60079-1:2004

## Replacement Parts

Model No.	Description
10108-011	UL Listed Handset Assembly with 6-foot PVC Cord (with cable gland)
10108-012	ATEX Certified Handset Assembly with 6-foot PVC Cord (with cable gland)
13205-006	Receiver, Handset 150-ohm
61504-111	Reed Switch Assembly with plug and spacer
61504-112	Push-Button Cable Assembly
12511-001	Dynamic Transmitter and cap
13204-002	Receiver Cap
61512-030	Party Line Selector Switch with plug cable assembly

**NOTE:** The replacement equipment 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.

# 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.