



GAI-TRONICS® CORPORATION
A HUBBELL COMPANY

Model 713-102

24 V DC Remote Speaker Amplifier

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 713-102 24 V dc Remote Speaker Amplifier is an important component of the GAI-Tronics Page/Party® system. It is constructed of cold-rolled steel with a polyurethane finish. The Model 713-102 Speaker Amplifier is designed for use with the following subsets and enclosures as part of a 24 V dc Page/Party® system:

24 V dc Subsets:	24 V dc Enclosures:
Model 616C Flush-panel, Single-Party	Model 714-003 Single-Party
Model 611C Desk-edge Subset, Single-Party	Model 714-004 Multi-Party
Model 6165 Flush-panel, Multi-Party	Model 714-002 Enclosure (for speaker amplifier use)
Model 6115 Desk-edge, Multi-Party	

Installation

Install the Model 713-102 Remote Speaker Amplifier by plugging it into the appropriate enclosure. Tighten the 4 captive screws in the top and bottom edges of the amplifier. See Figure 2 for typical installation.

Adjustment

Model 713-102 provides a speaker volume adjustment, located under the nameplate on the front panel. Other adjustable features are detailed in the Operation section.

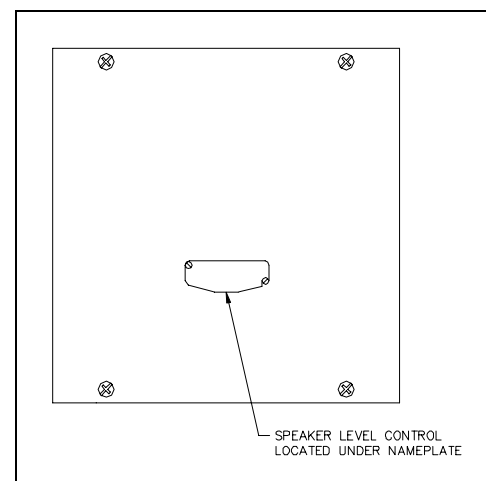


Figure 1. Model 713-102 Outline

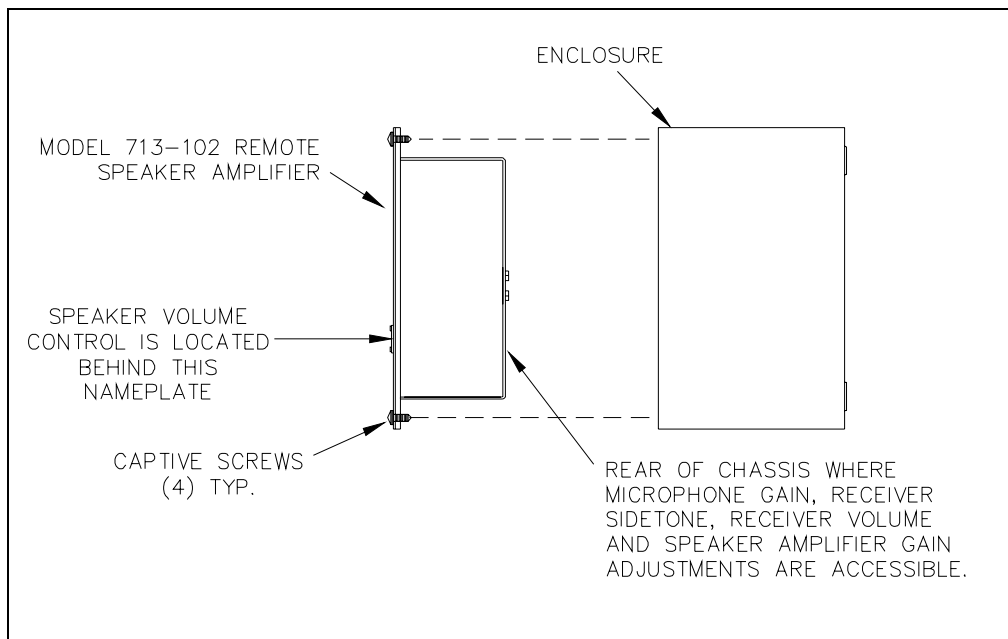


Figure 2. Installation of the Model 713-102 Speaker Amplifier

Operation

GAI-Tronics offers two types of Page/Party[®] systems: Single-Party (with one party line) and Multi-Party (with five party lines allowing up to five simultaneous two-way conversations).

- *Single-Party*: To initiate a call, lift the station handset and press the page button or pressbar. Speak directly into the handset to make your page announcement. The paged individual lifts the handset of any Page/Party[®] station for two-way communication over the party line.
- *Multi-Party*: First select an available party line with the party-line selector switch. Make your page announcement as in single-party operation, remembering to indicate the party line used. The paged individual then selects the indicated party line and lifts the handset for two-way communication.

The following adjustments are accessible through the rear amplifier chassis using a small screwdriver:

- *Microphone Gain*: adjusts the gain level from the microphone signal to the page or party lines
- *Receiver Sidetone*: adjusts the amount of signal transmitted from the microphone to the handset receiver. To adjust the receiver sidetone, blow into the transmitter while turning the sidetone adjustment. The sidetone is properly set when the person blowing can barely hear themselves.
- *Receiver Volume*: adjusts the gain level from a party line to the receiver

Troubleshooting

The following table lists some of the most common difficulties encountered in Page/Party[®] systems. Included are some troubleshooting hints to aid in remedying these problems.

Problem	Solution
Any problem with station performance occurs.	Review all the steps of the installation, ensuring that you have correctly followed ALL steps. Check all the terminations on the board and in the line balance assembly before proceeding to any other adjustments.
Integral speaker level requires adjustment.	<ol style="list-style-type: none"> 1. Adjust the volume control behind the nameplate on the front panel. 2. Replace the speaker or driver.
Outgoing conversation level requires adjustment.	<ol style="list-style-type: none"> 1. Adjust the microphone gain by removing the amplifier and attaching a Model 10440 Series Extension Maintenance Cable between the connectors. Use a small standard screwdriver ($\frac{1}{8}$-inch blade) to slowly turn potentiometer (R17) on the rear chassis of amplifier until reaching the proper microphone gain. Remove the cable and re-install the amplifier. 2. Replace the handset microphone.
Incoming conversation level requires adjustment.	<ol style="list-style-type: none"> 1. Use a small standard screwdriver to adjust the receiver volume control on the rear of the amplifier using the extension cable assembly as described above. 2. Replace the receiver element in the handset.
Feedback/distortion (a hum or buzz on the line) occurs during all Page/Party [®] station operation.	<ol style="list-style-type: none"> 1. Adjust the receiver sidetone on the rear of the amplifier using the extension cable as described above. 2. The line may be improperly terminated. Inspect the system cable for loose connections, shorts, and grounds. Line balance assembly connections are critical. 3. Replace the line balance assembly.
Feedback occurs only during page.	Use the muting feature in the amplifier enclosure at the terminal blocks. Connect the violet wire at terminal 8 to terminal 7.
Sidetone (how the operator hears his own voice) requires adjustment.	<ol style="list-style-type: none"> 1. Adjust the receiver sidetone at the amplifier, using the extension cable as described above. 2. Check that the line balance assembly resistors are connected properly. (See GAI-Tronics Publication 42004-139 or 42004-140 for 24 V dc systems.)
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

Power input voltage..... 21-28.8 V dc range, 25 V dc nominal
 Construction/Finish 16-gauge cold-rolled steel/gray polyurethane
 Speaker Amplifier Output Push-pull, Class B, 12 watts min., with nominal supply voltage
 Amplifier Sensitivity 0.5 V ac, for rated output
 Frequency Response..... 250-4,000 Hz, +0/-3 dB referenced to 1,000 Hz
 Distortion 1.5% max. THD @ 1,000 Hz, 12 watts
 Regulation..... Full load to no load - 1 dB max. rise
 Input Impedance..... 50,000 ohms nominal
 Controls Speaker volume (adjusted through an access hole behind the nameplate on the front panel)
 Temperature Range -22° F to +158° F (-30° C to +70° C)
 Dimensions 8.1 H × 8.1 W × 3 D inches (206 × 206 × 76mm)
 Shipping Weight..... 5.6 lbs (2.6 kg)

Replacement Parts

Part Number	Description
12508-002	Hardware Kit
12523-001	GAI-Tronics Nameplate Kit
12601-001	PCBA Standoffs
12604-004	Fuse, Slow-Blow 2A
12604-005	Fuse, Slow-Blow 0.3A
25210-005	Gasket
69713-202	PCBA Remote Handset/Speaker Amplifier

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.