Pub. 42004-509A

GAI-TRONICS®
A HUBBELL COMPANY

Models 234FS/234FSP RED ALERT® Tower and Pedestal Assemblies

Confidentiality Notice

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General Information

The Model 234FS RED ALERT® Tower Assembly is part of a completely integrated emergency communications station and supports the installation of a GAI-Tronics FS Series Telephone and includes a Model 540-001 LED Strobe. The tower assembly with strobe installed measures seven feet tall, making it easily located by potential users. The Model 234FSP RED ALERT® Pedestal Assembly also supports the installation of a FS Series Telephone and measures only 56 inches tall.

GAI-Tronics FS Series hands-free telephones are designed for isolated high-risk areas requiring emergency communications equipment or non-emergency assistance communications. Telephone users simply press the clearly labeled push button for immediate connection to a user-programmed telephone number. The LED strobe creates added visibility to telephone locations by providing a constant-on lamp that automatically flashes when the emergency or assistance button is pressed.

Installation

⚠ **ATTENTION** ⚠ **Installation should be performed by qualified personnel and only in accordance with the National Electrical Code and applicable local codes.**

The following information provides guidelines on the installation of the various components of the emergency station. The grounding electrode conductor (not depicted in the illustration) must be constructed in accordance with the National Electrical Code and applicable local codes.

A concrete pier is required to support the tower assembly. The pier must be strong enough to support the 7-feet tall Model 234FS structure that weighs approximately 125 pounds. The specific GAI-Tronics installation requirements outlined in this manual will provide a 160 mph wind speed rating (V_{ULT}). *Reference AASHTO LTS6 Risk Category II International Building Code.

The GAI-Tronics No. 84504-202 Installation Hardware Kit contains four mounting anchor bolts, a mounting template, and mounting nuts and washers needed for installation. Additional materials required to install the pier are not provided by GAI-Tronics but are shown in the installation drawings for reference. All conduit entries should be determined before pouring the pier.

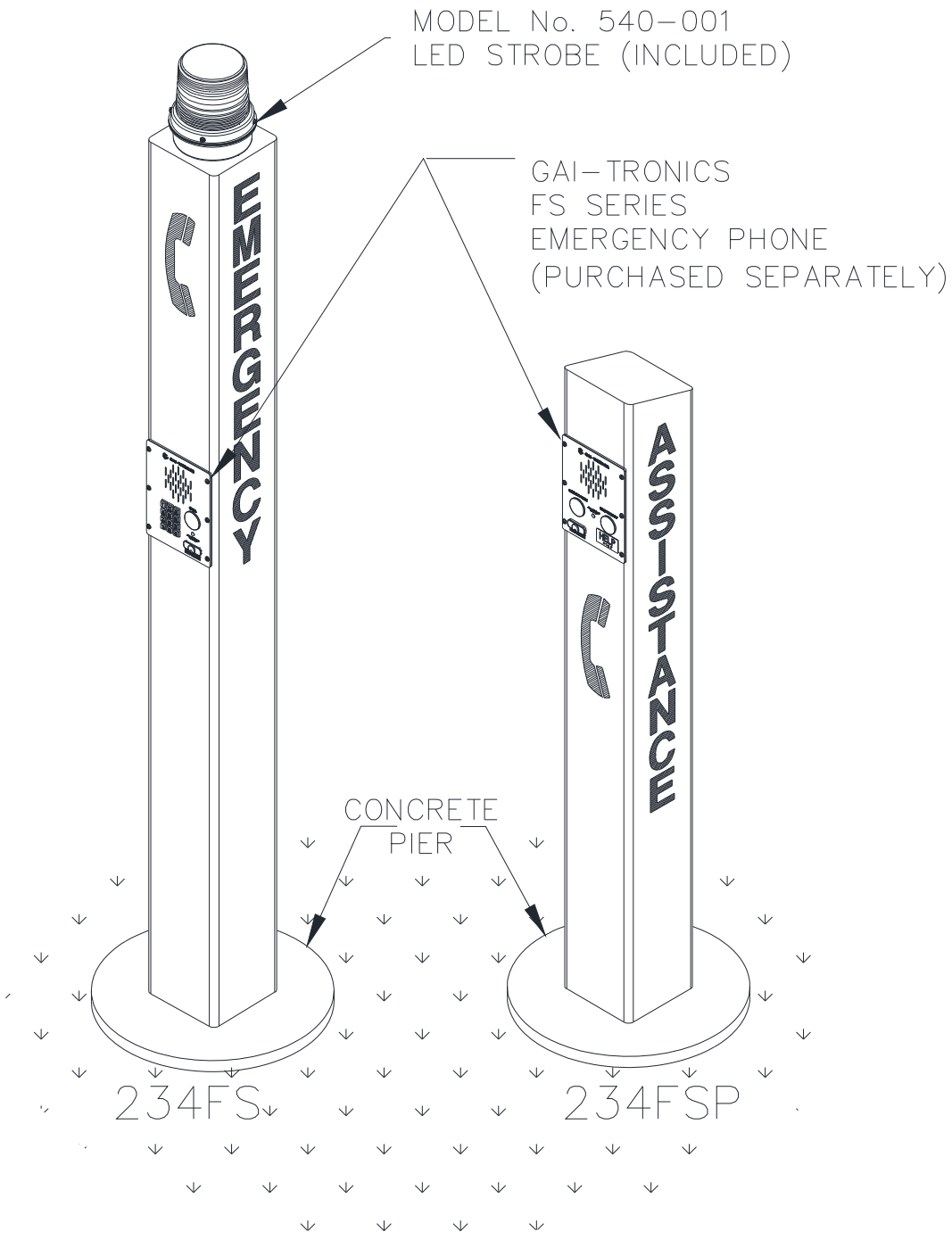

Figure 1. Model 234FS & Model 234FSP

The installation of the tower or pedestal assembly requires the construction of a concrete pier with a rebar reinforcement cage using 3,000 psi minimum grade concrete. Installation of the anchor bolts within the concrete is simplified by using the provided template. Once the concrete has properly cured, the tower body is installed with the nuts and washers included in the hardware kit. Leveling and spacing of the tower body is required for proper installation. Detailed information on each of these items is provided in this manual.

Pier Foundation Depth and Conduit Entry

The pier must have a minimum of one inch of concrete extending above the finished soil. The maximum amount that the pier can extend above grade is determined by the height of the concrete form tube while maintaining the required 42-inch pier depth below grade.

Install multiple conduits in the pier as needed for installation. Conduit is not supplied by GAI-Tronics. The number and size of the conduit entries is determined by the requirements for Ethernet, power, and/or telephone wiring. Figure 2 shows a typical conduit arrangement.

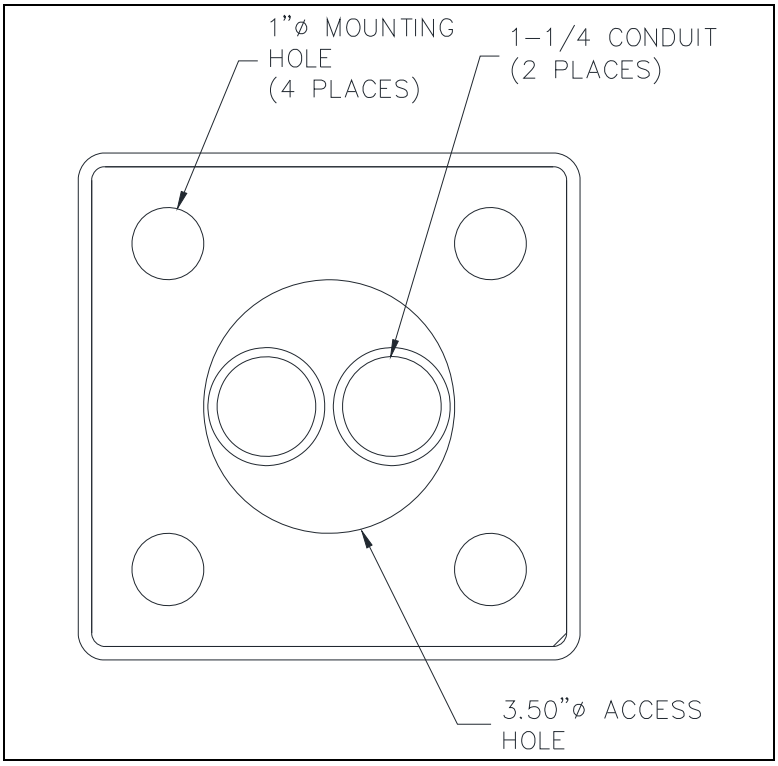

Figure 2. Sample conduit arrangement within tower

Concrete Form Construction

Begin the pier construction by placing an 18-inch diameter by 43-inch long concrete form tube into the excavated hole on top of crushed stone so that one inch of the tube extends above the finished grade. A15-inch diameter by 38-inch long rebar reinforcement cage needs to be constructed or purchased by the installer for placement into the concrete form tube before pouring the concrete. The following materials are necessary to construct the reinforcement cage:

- Four 38-inch long #4 rebar rods
- Three 15-inch diameter #4 rebar stirrups
- Precut wire ties

To construct the reinforcement cage, tie a horizontal stirrup at the center of the four 38-inch rebar rods. Place the two remaining horizontal stirrups 18 inches from that center point so that one inch of rebar extends above the top and below the bottom stirrups. See Figure 3.

Before placing the cage into the concrete form tube, be sure that crushed stone has been placed below the form tube. Place the cage on one-inch block spacers and center the cage within the concrete form. The top of the cage should be four inches below the top of the pier so that three inches are below the finished grade and one inch is above the finished grade after the pier has been poured.

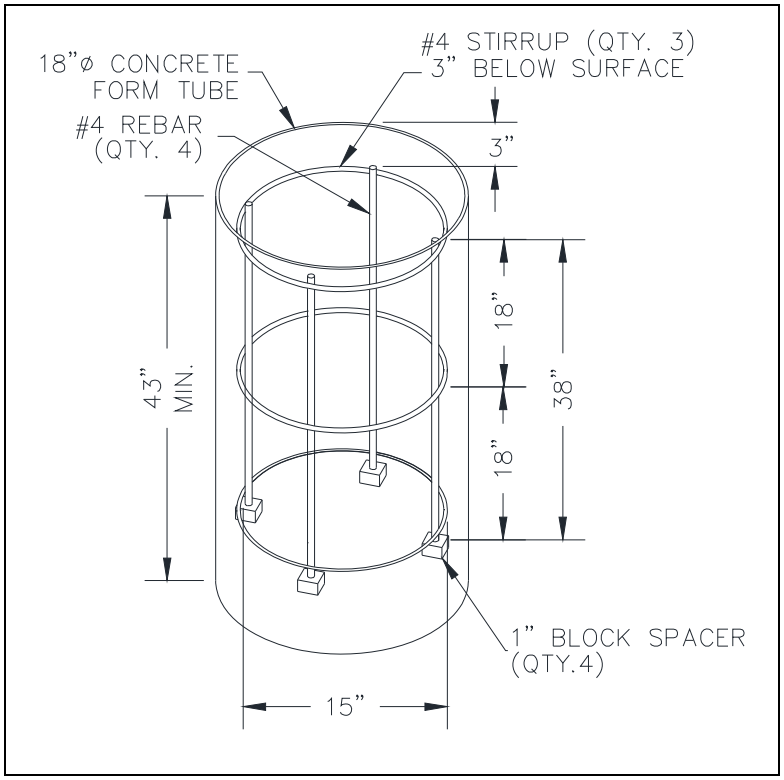

Figure 3. Reinforcement Cage Detail

Anchor Bolt Location

⚠ **ATTENTION** ⚠ Anchor bolts must be embedded a minimum of nine inches into the concrete.

Positioning of the anchor bolts is critical for tower body mounting. Upon pouring the concrete, immediately submerge the anchor bolts into the concrete pier. Use the template provided in the hardware kit to position the anchor bolts in the proper location. See Figure 4.

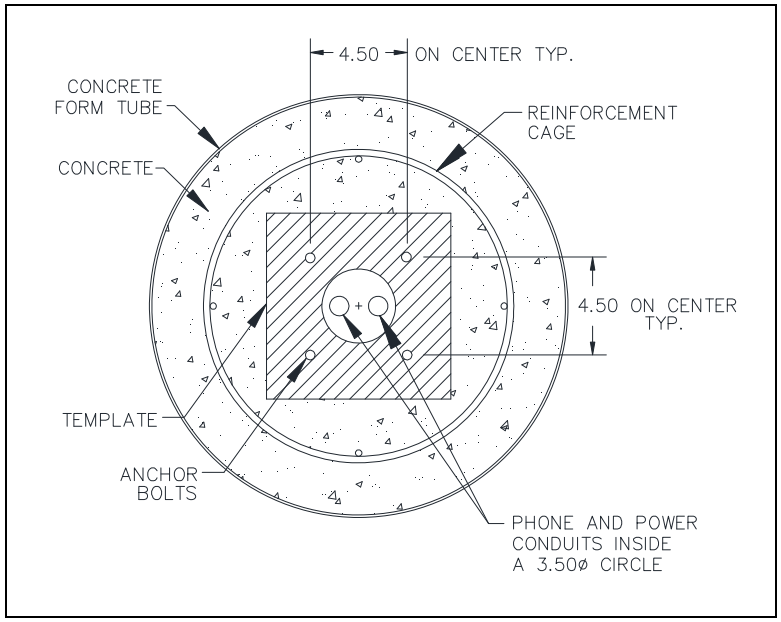

Figure 4. Anchor Bolt Location—Pier Top View

Utilize the washers and hex nuts in the hardware kit, with the supplied template, to set the anchor bolt heights and locations. The four anchor bolts should be installed so that they extend at least three inches above the top surface of the pier. See Figure 5 for the bolt protrusion dimension.

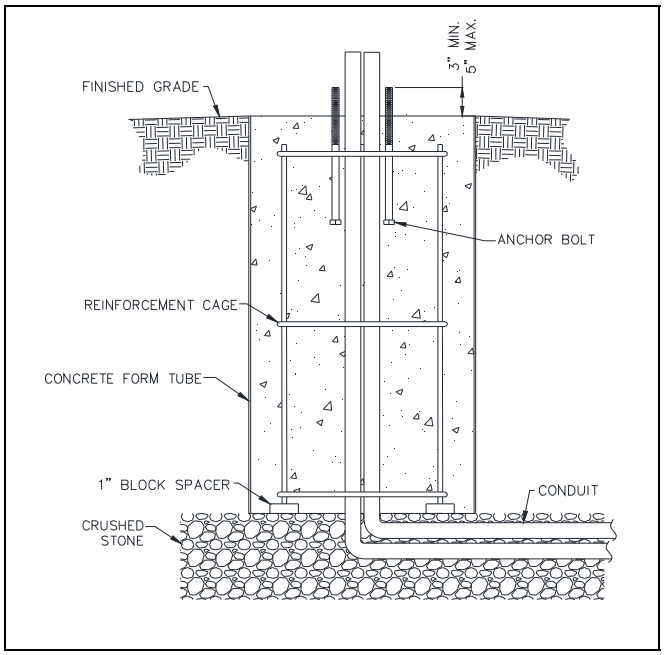

Figure 5. Concrete Pier Cross Section

Mounting the Tower

⚠ **ATTENTION** ⚠ **The tower body should not be mounted until the concrete has been allowed to cure for a minimum of 24 hours.**

1. Thread the ¾-inch hex nuts onto the anchor bolts until the tops of the nuts are 1-1/8 to 1-3/8 inches above the top of the pier. Verify that they are level. Place one washer over each nut. See Figure 6.
2. Place the tower on top of the four level hex nuts with washers. **Verify that a ¼-inch minimum air gap exists between the base of the tower and the top of the concrete pier.** See Figure 7. This air gap must not be obstructed with soil, mulch, stone, etc. Failure to maintain this air gap will cause moisture entrapment that will result in corrosion.

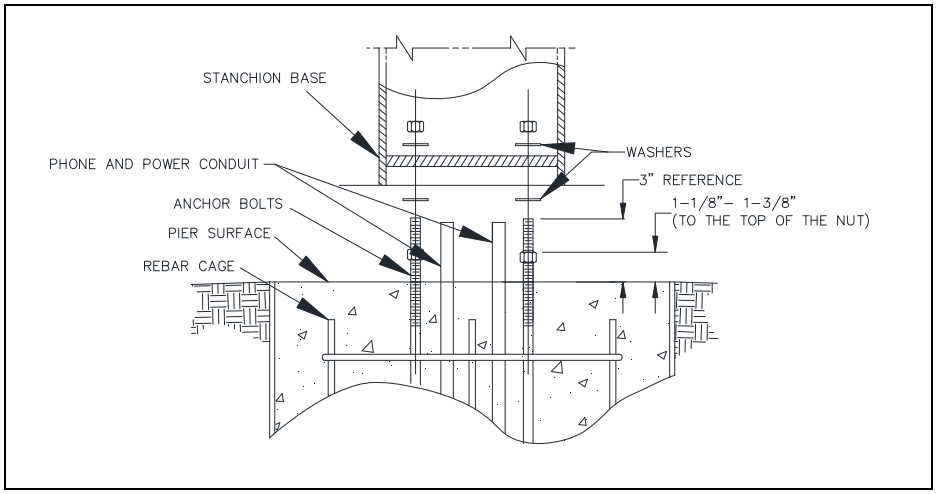

Figure 6. Exploded View

3. Entering through the rear access panel cutout, place the four remaining washers on the anchor bolts and secure with the ¾-inch hex nuts. Tighten the 3/4-inch hex nuts to a torque of 85 lb·ft.

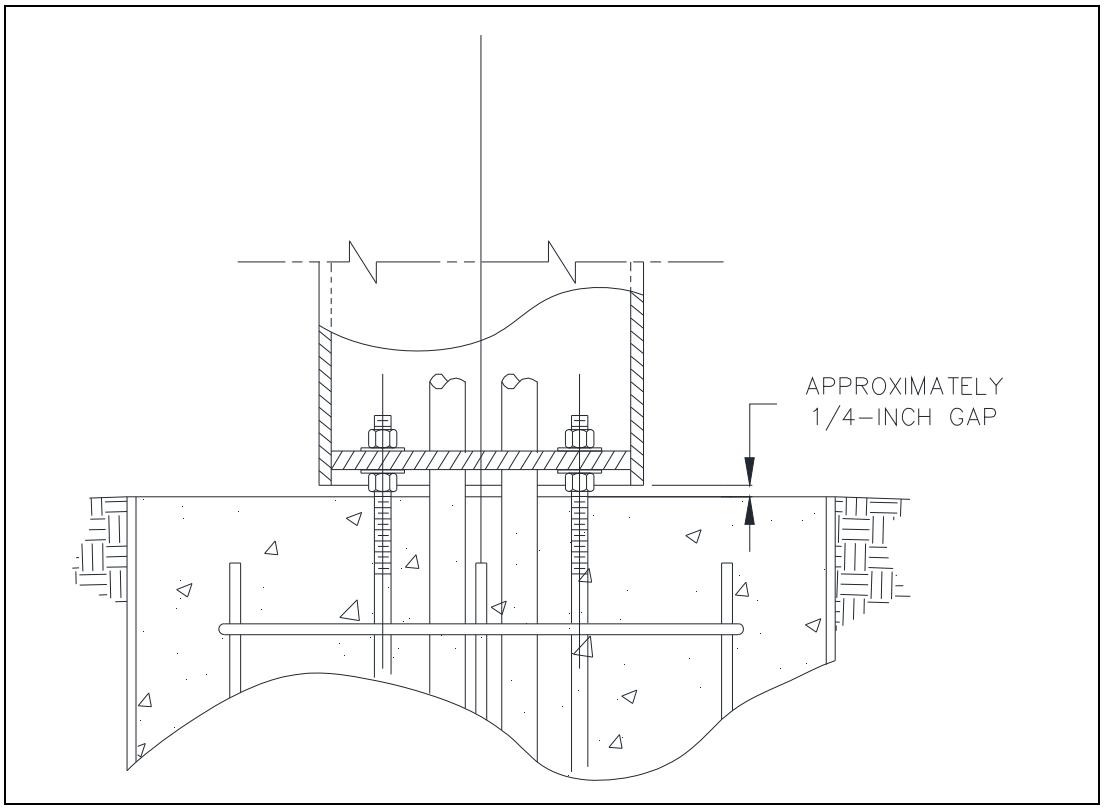

Figure 7. Assembled View

NOTE: The unit should be installed and grounded in accordance with national and local electrical codes.

Model 540-001 Strobe Installation

NOTE: A ¾-inch by ¾-inch M/F extension is provided with the 540-001 strobe. This fitting is not required for this installation and may be discarded.

1. Insert the strobe's seven 15-foot wires through the extension and the tower's threaded nipple (when installed), and allow the wires to extend to the base of the tower. Cut the wires to the appropriate length. See Figure 8.
2. Screw the strobe onto the threaded nipple/extension.
3. Refer to GAI-Tronics Pub. 42004-499 or 42004-437 for detailed strobe installation instructions. Pay careful attention to the wire colors for correct wiring. Refer to the following section and Figure 9 for general wiring instructions.

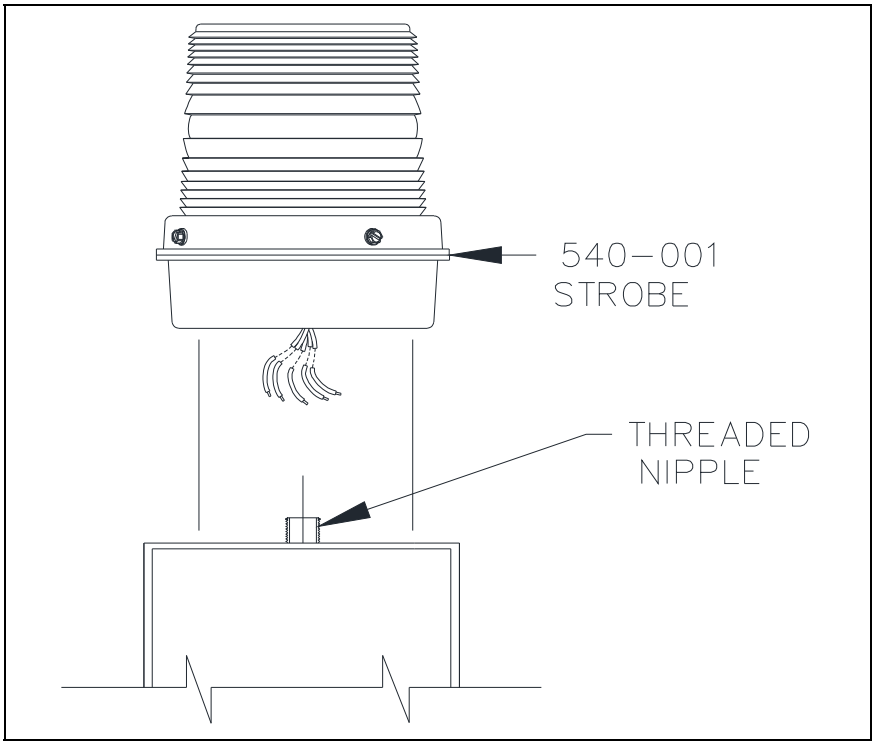

Figure 8. Strobe Assembly

Wiring Power Connections

For all component wiring, refer to the specific equipment manual and the interconnection diagram shown in Figure 9.

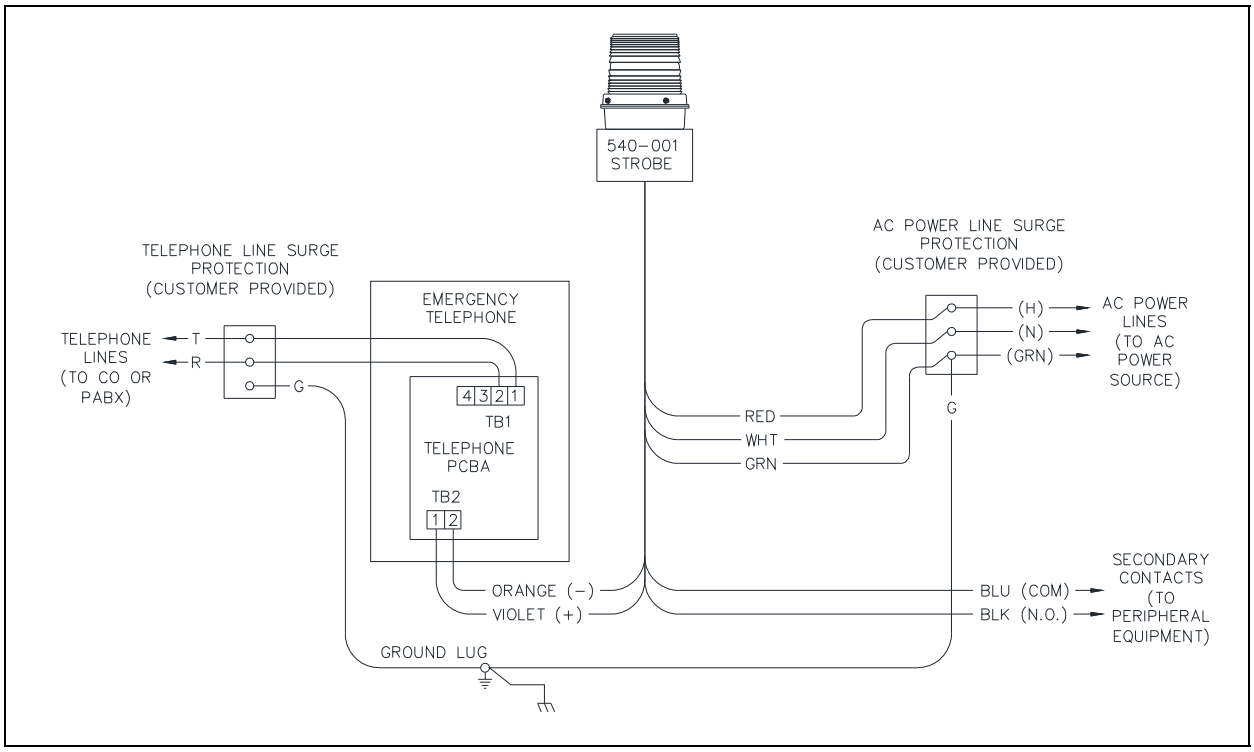

Figure 9. Interconnection Diagram with AC-Powered Strobe

All wiring connections should now be complete, with the exception of the tower panel light and strobe wire connections to the incoming power lines. All connections must be made in accordance with the National Electrical Code (NEC) in the United States or the Canadian Electrical Codes (CEC) in Canada. Install the power conductors per Figure 9.

A grounding stud connection has been provided inside the rear access panel.

After making the connections according to the prevailing electrical codes, replace the access panel cover onto the tower base using the security screws.

Repairing Surface Damage to Powder-Coated Towers

Scratch Repair

1. Carefully sand the damaged area to clean and score the base metal, taking care to minimize any additional damage to the surrounding powder coating.
2. Wipe the sanded area with a cleaning solvent, such as DuPont "PrepSol." Allow the area to dry. This type of product is available at auto parts stores. Denatured alcohol can also be used.
3. Prepare the bare metal surface for painting by treating it with a phosphoric acid solution intended for this purpose. Allow the area to dry.
4. Using a cotton swab or small brush, paint the prepared surface with an automotive enamel or oil base polyurethane enamel such as Red Devil or Rustoleum. DO NOT USE Krylon paints due to adhesion problems. Carefully blend the repair enamel into the powder coating at the edges.

NOTE: EXACT color matches may not be attainable.

Decal Repair

1. Use a sharp instrument, such as a razor blade, to loosen and lift a corner edge of the damaged decal.
2. Carefully peel back and remove the loosened decal.
3. Wipe the area clean with denatured alcohol. Allow the area to dry.
4. Prior to attaching a new decal, dampen the target area with a fine mist of water (fine spray from a plant misting bottle is ideal).
5. Peel the backing from the replacement decal, leaving the decal's front cover material attached, and carefully align it with the target area.
6. With the cover material still attached, press the replacement decal in place, then squeegee any water from under the new decal starting at the center and working toward the edges.
7. Peel off the front cover material, being careful not to tear or lift the decal. If the decal lifts as the cover material is being removed, push down on the uncovered decal, and squeegee as necessary to remove any large air bubbles; small air bubbles will disappear as the decal dries.

Replacement Parts and Accessories

Table 1. Parts and Accessories

Part No.	Description
25398-021	Replacement EMERGENCY Decal, White
25398-022	Replacement ASSISTANCE Decal, White
25398-020	Replacement handset decal, White
84504-202	Installation Hardware Kit
540-001	Replacement LED Strobe, 120 V ac

Specifications

Dimensions

Model 234FS..... 77.0 H × 7.0 W × 7.0 D in (1.96 × 0.18 × 0.18 m)

Model 234FSP ..... 56.0 H × 7.0 W × 7.0 D in (1.42 × 0.18 × 0.18 m)

Weight (approximate)

Model 234FS..... 125 lb (56.7 kg)

Model 234FSP ..... 94 lb (42.6 kg)

Wall thickness.....3/16-inch steel

Finish .....Powder-coated epoxy

Approvals

UL/cUL listed OUTDOOR telephone stanchion.....Canadian Electrical Code, Part I (CE Code, Part I), and the ANSI/NFPA 70 National Electrical Code (NEC)

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.