



Model 12576-504 Rack-Mount System Status Panel with LCD Display

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General Information

Product Overview

The Model 12576-504 System Status Panel is a component of GAI-Tronics' ADVANCE System.

The operation of each system status panel is programmed at the ADVANCE System control cabinet. Operating capabilities include: reset of fault alarms, and a text display of the system operating status.

The system status panel includes a sounder (sonalert) to annunciate system alarm/trouble conditions.

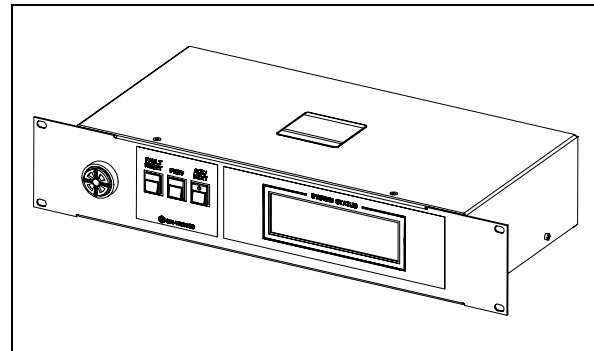


Figure 1. Model 12576-504

Features

- 12 V dc input power
- Standard 2U, 19-inch EIA rack-mount design
- Three push-button switches
- LCD text display
- Sonalert with volume control
- One LED switch indicator

NOTE: If this unit is to be used as a replacement for a previous system status panel it will be necessary to make changes to the ADVANCE configuration file before use. Please contact GAI-Tronics Service for details.

Options/Accessories

| Model | Description |
|---------------|--|
| 3308-50008-00 | Power Supply Unit 120 V ac – 12 V dc @ 1 A |

Installation

Important Safety Instructions

1. Read, follow, and retain instructions – All safety and operating instructions should be read and followed before operating the unit. Retain instructions for future reference.
2. Heed warnings – Adhere to all warnings on the unit and in the operating instructions.
3. Attachments – Attachments not recommended by the product manufacturer should not be used, as they may cause hazards.
4. 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.
5. This permanently connected apparatus must operate from a UL Listed 12 V dc @ 1 A minimum regulated power supply.

USA and Canada 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 NEC 725.55.

Mounting

NOTES:

1. Mounting hardware is not included with this assembly and must be purchased separately.
2. Due to the insertion depth and weight of this system status panel, chassis supports should be installed under the unit on both sides to prevent twisting of the front panel.

Remove the system status panel from its protective packing. Position the system status panel in the 19-inch EIA cabinet (or rack) and secure with the appropriate screws. A plastic shoulder washer should be installed behind each screw to prevent scratching of the painted finish.

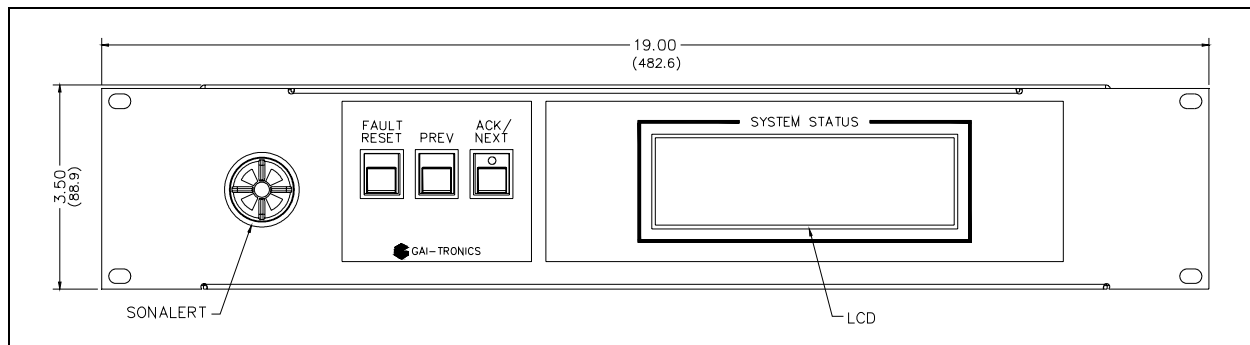


Figure 2. System Status Panel - Front View

Field Wiring

TX/RX Data

The modular terminal block labeled +/- TX/RX at the rear of the system status panel provides connection for the data line to the API connection module (or DIN terminal blocks) at the ADVANCE system control cabinet.

A twisted pair cable (minimum Category 3) should be used for this connection. Observe cable conductor polarity (+/-) when making connections at the control cabinet: (+ connects to + and - connects to -). No damage will occur if the polarity is reversed, but the system status panel will not function.

If installing this panel external to the ADVANCE System control cabinet, the maximum cable distance to the cabinet is 3 km when using No. 24 AWG (Category 3) cable. Refer to Figure 3 for terminal block location and Table 1 for additional details.

Table 1. Data Terminal Assignment

| Label | Internal Terminal Number | Function or ACT Description |
|-------|--------------------------|--|
| + | TB1-1 | Positive terminal of data line connection (to designated + terminal at API connection module) |
| - | TB1-2 | Negative terminal of data line connection (to designated - terminal at API connection module) |

Power

The modular terminal block labeled CLASS 2 12V DC provides power connection for the system status panel. Refer to Table 2 and Figure 3 for terminal details.

Table 2. DC Power Terminal Assignment

| Label | Internal Terminal Number | Function or ACT Description |
|-------|--------------------------|---|
| + | TB2-1 | Positive terminal of external power supply (Red wire from 12 V dc power supply) |
| - | TB2-2 | Negative terminal of external power supply (Black wire from 12 V dc power supply) |
| GND | TB2-3 | Frame/chassis ground |

NOTE: The system status panel does not have an on/off power switch and will power up immediately upon application of 12 V dc power. The ADVANCE System control cabinet must also be powered and running before the system status panel is operational. The ACK/NEXT switch LED on the system status panel will flash, the sonalert will sound and the display will read “No communication with ADVANCE” until data communication is established with the ADVANCE control cabinet.

Grounding

The system status panel is equipped with a ground stud on the rear panel. The ground stud is supplied with two KEPS type hex nuts. Internally, the ground stud connects to chassis and the ground terminal at TB3-3. Be sure to connect this ground stud to the appropriate ground bar or ground terminals within the cabinet using a #6 ring lug crimped to a No. 14 AWG green/yellow (or green) wire.

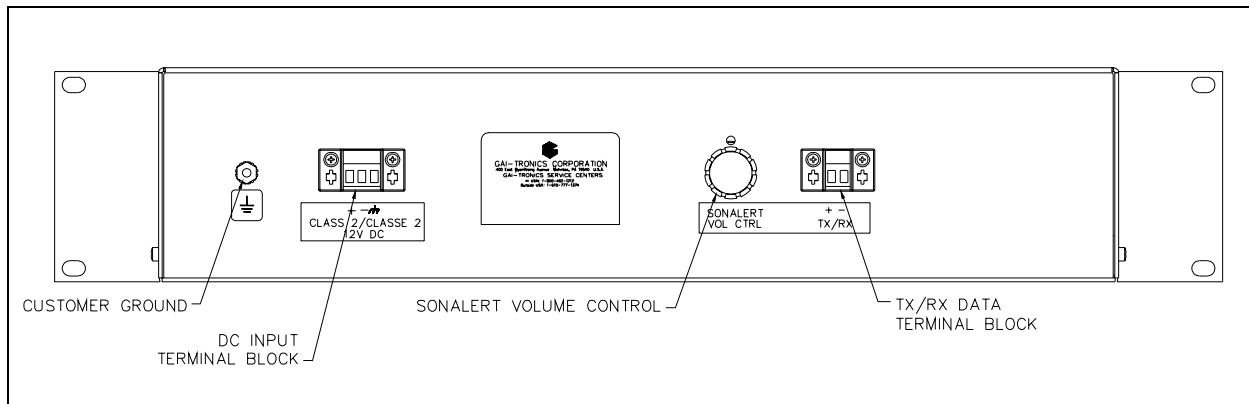


Figure 3. System Status Panel Rear View

Settings and Adjustments

User Adjustments

Sonalert Volume Adjustment

The volume adjustment on the rear panel adjusts the volume level of the sonalert alarm. Clockwise rotation will increase the volume and counterclockwise rotation will decrease the volume.

Internal Adjustments

Removing the Cover

Remove the two screws from top cover, and the two screws from each side (a total of six). Open the system status panel by lifting and rotating the cover back 180° and place on a flat surface. Be careful not to disconnect any cables.

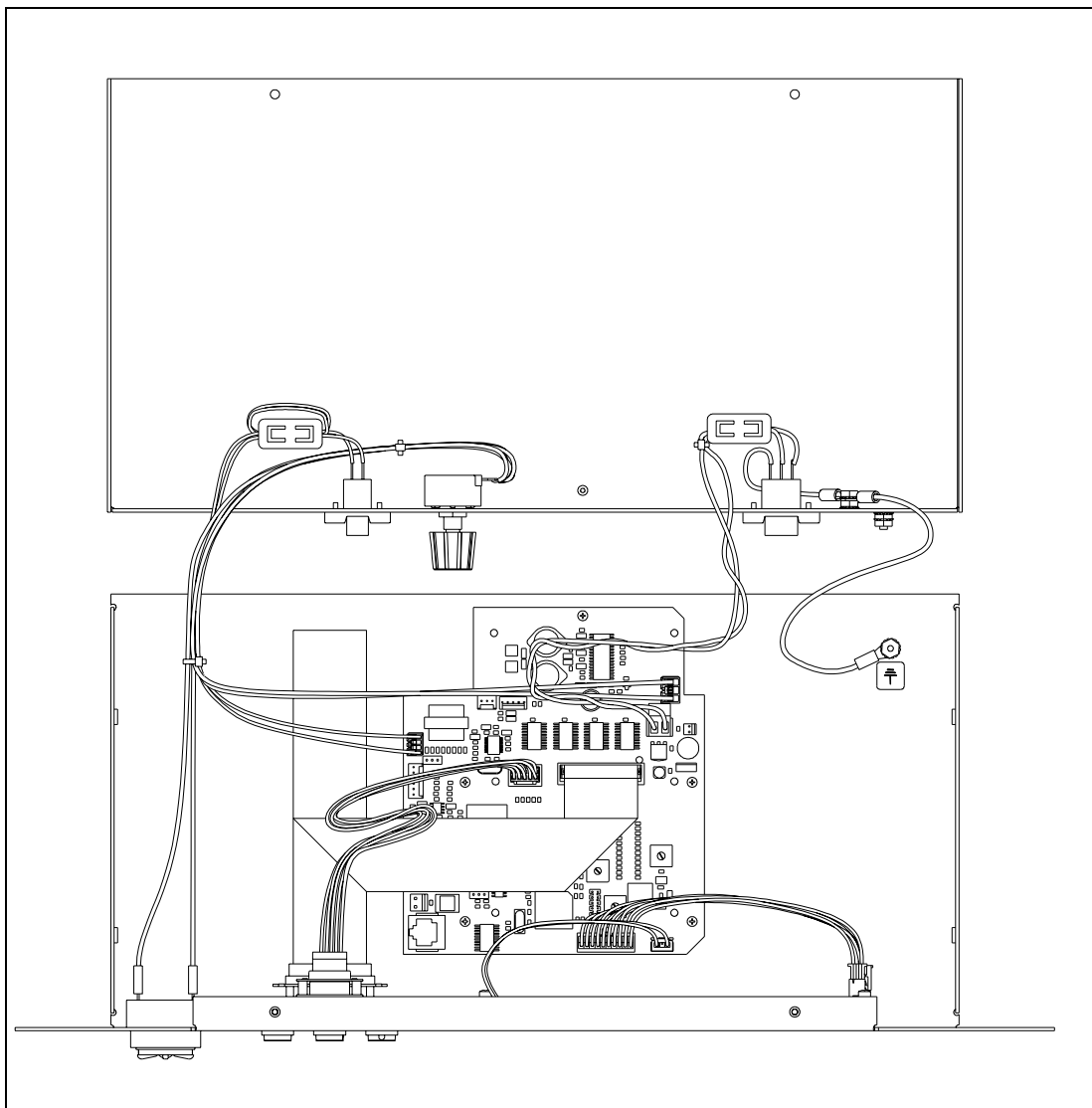


Figure 4. Interior View of System Status Panel

Jumper Settings

TX/RX Data

Jumper P9 provides a ground reference to the access panel data line. A similar jumper is located on the Access Panel Interface (API) card in the system control cabinet. The data line must be ground referenced on one side of the communication link but not both. Place P9 in the GND position to create a ground reference. Place P9 in the FLOAT position (default) to remove the ground reference. Refer to Figure 5 for jumper location.

Potentiometer Adjustments

LCD Display Brightness

R2 adjust the brightness of the backlight of the display. Clockwise rotation increases the brightness. Refer to Figure 5 for potentiometer location.

LCD Display Contrast

R1 adjusts the contrast of the display. Clockwise rotation increases the contrast. Refer to Figure 5 for potentiometer location.

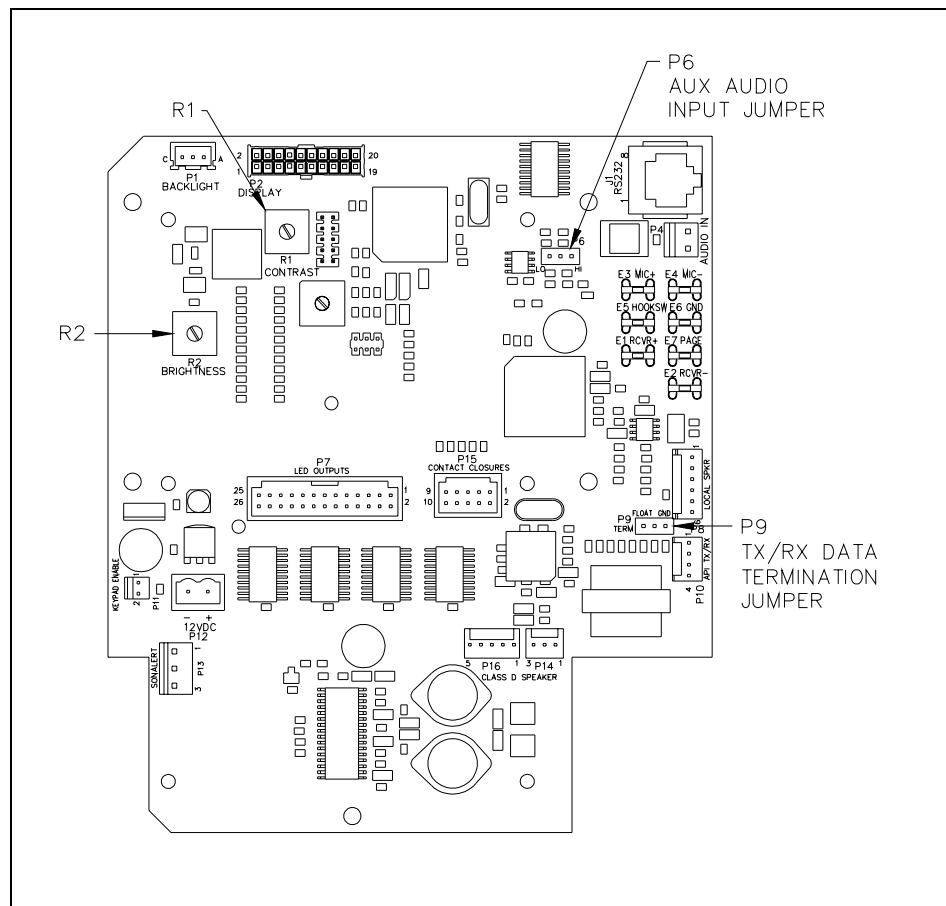


Figure 5. System Status Panel Board

Attaching the Cover

After all adjustments have been completed, replace the cover over lower chassis, being careful not to pinch any cables. Secure the cover using the six screws originally removed from the top and sides.

Operation

The system status panel operator is only capable of viewing the system operating status on the LCD display. The following paragraphs provide a general overview of the system status panel features. Push-button switches provided on the system status panel are assigned specific system control functions.

Push-Button Switch Summary

Each push-button switch function is assigned a specific function. The following describes the function(s) of each switch on the front panel of the system status panel:

ACK/NEXT – the *ack/next* push button performs three unique functions, each of which is dependent upon system status or conditions. The 1st function is an illuminated state which indicates unacknowledged event(s) or condition(s) in the system. The 2nd function is an *acknowledge* function, which when depressed is used to acknowledge an event, causing the switch lamp to extinguish (if there are no other unacknowledged events). The 1st and 2nd functions are sequenced repeatedly as long as outstanding events or conditions exist. The 3rd function (*next*) is available only when all events or conditions are acknowledged. The *next* function is used in conjunction with the *previous* push-button to navigate forwards and backwards, respectively, through the history buffer of messages.

PREV – is an abbreviation for previous and is used in conjunction with the next function (of the *ack/next* push-button switch) to navigate forwards and backwards, respectively, through the history buffer of messages.

FAULT/RESET – the Fault/Reset push-button switch used to reset active alarms displayed on the LCD and fault relay outputs at the ADVANCE System control cabinet, which are retained until the faulted condition is corrected.

Maintenance

Troubleshooting

| Symptom | Possible Cause |
|--|--|
| System Status Panel Ack/Next LED flashes and sonalert is sounding. The panel is not operational. | <p>The system status panel has lost data communication with the Access Panel Interface (API) card at the ADVANCE System control cabinet.</p> <p>Possible Causes:</p> <ul style="list-style-type: none"> • Disconnected data cable between the API card and system status panel. • Data cable is connected to an un-programmed API card output. • Data cable polarity is reversed (observe +/- polarity). • Defective API card at ADVANCE system control cabinet. • Defective APU board inside system status panel. |
| Some or all push-button switches do not function. | <ul style="list-style-type: none"> • Push-button switches are not programmed. • Defective switches or an improper connection exists between switch board and APU board inside unit. |
| Display does not function | <ul style="list-style-type: none"> • The display is not enabled in the system programming. • Display cable is not properly connected at the APU board inside the unit. |

Servicing Guidelines

1. Notify plant personnel of a system shutdown prior to servicing the unit.
2. Disconnect power before connecting external wiring or installing or removing this panel.

Specifications

Power Requirements

DC Power Supply

Input voltage 12 V dc (nominal)
 Maximum current draw 700 mA

Access Panel Cabling

Twisted pair cable Category 3 minimum
 Nominal cable characteristic impedance 100 ohms
 Frequency response 32.0 to 256 kHz
 Maximum attenuation 24 dB
 Signal level 1.000 to 1.125 Vp-p
 Signal-to-noise level >16.5 dB, 300 kHz bandwidth
 Line length 3.0 km with Category 3, No. 24 AWG; attenuation = 8.0 dB/km

Mechanical

Chassis dimensions 19.00 × 3.47 × 8.00 inches (482.6 × 88.1 × 203.2 mm)
 Overall dimensions 19.00 × 3.47 × 9.13 inches (482.6 × 88.1 × 231.9 mm)
 Net weight 6.1 lbs. (2.77 kg)
 Shipping weight 8 lbs. (3.63 kg)

Environmental

Operating temperature range +32° F to +120° F (0° C to +49° C)
 Relative humidity Non-condensing 85% max.

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.