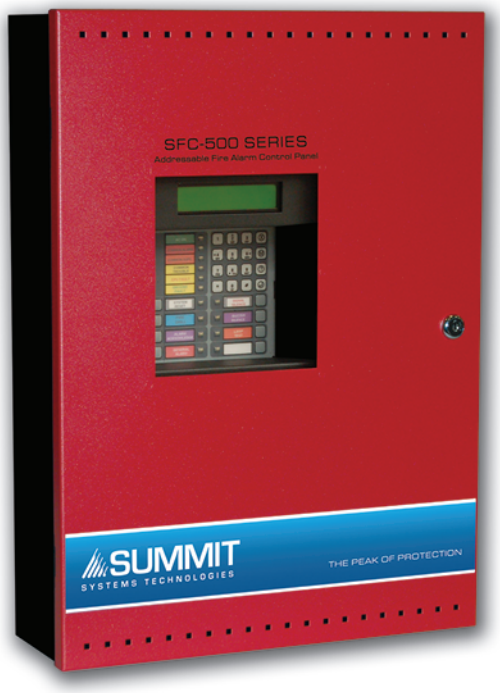
SUMMIT
SYSTEMS TECHNOLOGIES

# SFC-500 SERIES
# FIRE ALARM PANEL




# USER GUIDE

LT-965SUM Rev 1

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# Table of Contents

# Introduction

## About this Manual

This user's guide provides information on the main indicators and controls of the SFC-500 Series Fire Alarm Control Panel. With this manual you will learn about:

- What certain common LCD screen messages mean
- What the buttons on the main display do
- What the LEDs on the main display indicate

Refer to the **Glossary** on page 9 for an explanation of commonly used terms in this manual.

## Technical Support

For all technical support inquiries, please contact Summit's Technical Support Department between 8 A.M. and 5 P.M. (EDT) Monday through Friday, excluding holidays.

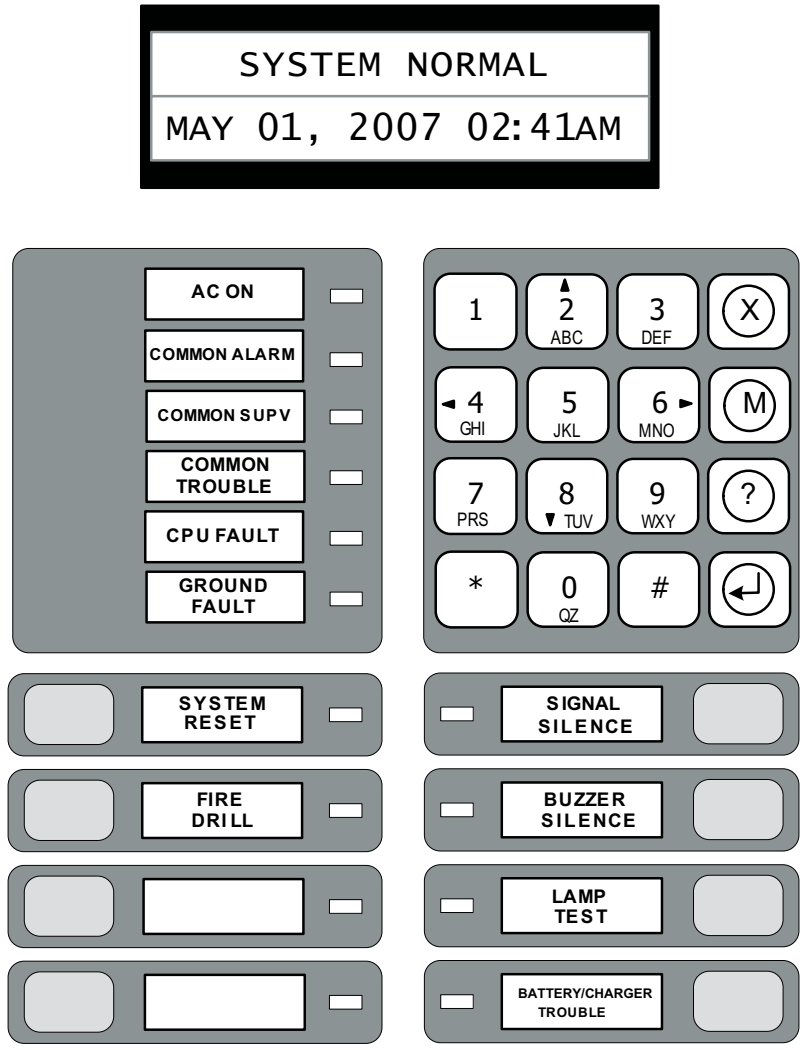
**Local Phone:** 905-695-3549 **Toll-Free Phone:** 1-866-786-6480

**Local Fax:** 905-660-4113 **Toll-Free Fax:** 1-888-660-4113

**Email:** mail@summit-st.net

# Main Display

Refer to the diagram below for the LCD display, LED indicators, and control buttons locations.



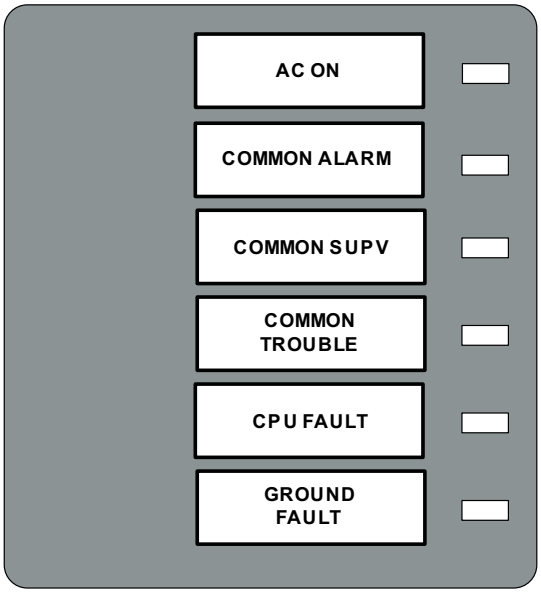

The main display panel on the fire alarm control board consists of:

- Six LED indicators (located just below and to the left of the LCD screen)
- 16 program buttons or keys consisting of an alphanumeric keypad and LCD screen keys (located just below and to the right of the LCD screen)
- Eight control buttons and corresponding LEDs (below the alphanumeric keypad)

LED indicators may be amber, red, or green, and may **illuminate continuously (steady for alarm)**, or at one of two flash rates:

- **Fast flash (supervisory):** 120 flashes per minute
- **Trouble flash (trouble):** 20 flashes per minutes

# The Buzzer and LED Indicators




### Buzzer

The buzzer sounds if there is a fire alarm, a supervisory alarm, or a trouble in the fire alarm system. It turns OFF if the condition causing the buzzer to sound goes away or the Buzzer Silence button is pressed. After being silenced, the buzzer will resound approximately 24 hours later if the condition did not clear.

### AC ON LED

The green AC ON LED illuminates steadily as long as the main power is above minimum level. The indicator turns OFF when the level falls below the minimum level and the panel switches to standby (battery) power.

### Common Alarm LED

The red Alarm LED will illuminate steadily whenever there is a fire alarm. This indicator will remain on until the system is reset.

### Common Supervisory LED

The amber Supervisory LED illuminates at the fast flash rate when there is a supervisory alarm in the fire alarm system. For non-latching supervisory alarms, the Supervisory LED will turn OFF when the condition causing the alarm goes away. For latching supervisory alarms, this LED remains ON until the panel is reset.

### Common Trouble LED

The Trouble LED flashes amber at the trouble flash rate when the panel detects any trouble condition. For non-latching trouble conditions, the Trouble LED will turn OFF when the condition causing the alarm goes away. For latching trouble conditions, this LED remains ON until the panel is reset.

### CPU Fault LED

The CPU Fault LED flashes amber at the trouble flash rate to indicate microprocessor failure on the main board.

### Ground Fault LED

The Ground Fault LED flashes amber at the trouble flash rate to indicate a ground fault detection on the wiring.

# Main Display Buttons

### System Reset Button


The System Reset button resets the fire alarm control panel and all circuits. The System Reset LED turns ON steady for the duration of the reset operation.

## Signal Silence Button


Pressing the Signal Silence button when the panel is in alarm deactivates any silenceable signal devices in the fire alarm system. Non-silenceable signal devices are unaffected. If you press the Signal Silence button a second time, or if there is a subsequent alarm, the signals will re-sound. If the panel has been configured with a Signal Silence Inhibit timer, this button will not work until the timer times out. This button also does not work if the Fire Drill is already in progress. The Signal Silence LED will illuminate steady amber while the panel is in the signal silence mode.

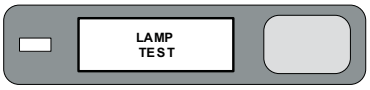
## Fire Drill Button


Pressing the Fire Drill button will simulate a fire alarm by activating the fire alarm signals without transmitting an alarm to the central station. To cancel the fire drill, press the button again. If the fire alarm system goes into a real alarm while you are performing a fire drill, this button will not turn OFF the signals or operate any programmed relays. The red Fire Drill LED will illuminate steady while the Fire Drill is active.

## Buzzer Silence Button

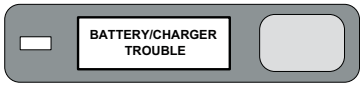

Pressing the Buzzer Silence button while the buzzer is sounding silences the buzzer. The buzzer will resound automatically if there is a subsequent event. Pressing the button again (after it has been silenced) will resound the buzzer if a condition still exists. The Buzzer Silence Button acts as a toggle. The Buzzer Silence LED will flash amber at a slow rate for a trouble or alarm (and when the Buzzer Silence button has been toggled ON). The Buzzer Silence LED will turn OFF if the Buzzer Silence button has been toggled OFF.

## Lamp Test Button



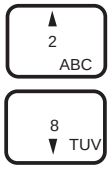

Pressing and holding the Lamp Test button causes the LCD to display the software version, all the front panel LEDs to illuminate, and sounds the buzzer. Use this button to test that the LCD display and all LEDs on the main display are working. If you hold the Lamp Test button, the Lamp Test LED will illuminate steady amber.

## Battery/Charger Trouble Button




The Battery/Charger Trouble LED will flash amber at the trouble rate when battery charger voltage is below 20.4V (below nominal 24V). The Battery/Charger Trouble button is non-functional.

## The Up and Down Arrow Buttons




Use these buttons to scroll through any events listed on the screen. The up arrow moves to the next listed condition and the down arrow moves to the previously listed condition.

## The Info Button


Press the Info button while there is a message on the LCD screen to view additional information.

## The Enter, Menu, and Cancel Buttons

The Enter, Menu, and Cancel buttons are only used by technicians to program the fire alarm control panel.

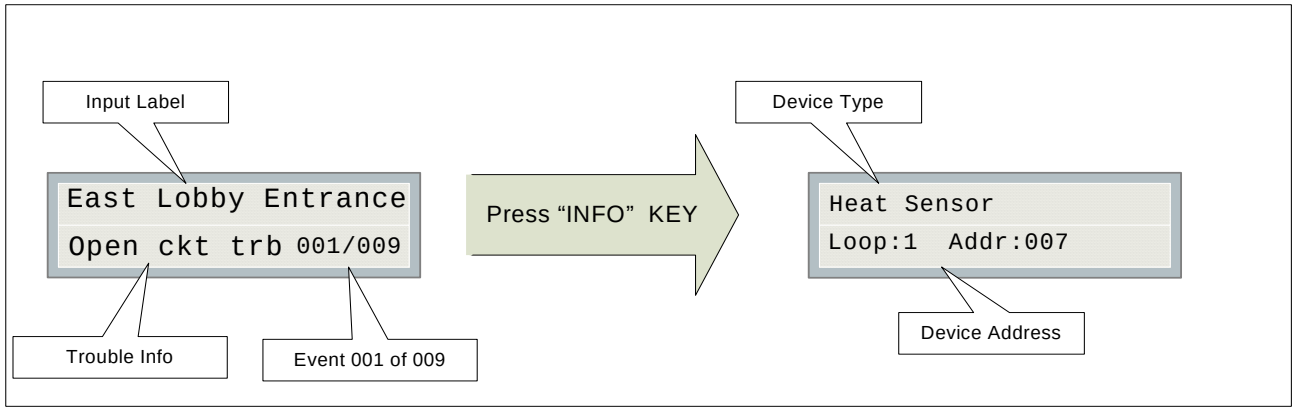
# Understanding On-screen Messages

The LCD screen of the fire alarm control panel displays messages regarding system events. System events display on the screen in a queue. Events in this queue are listed on the screen in order of priority: alarms are of highest priority, followed by supervisory, trouble, and monitor conditions. If the same type of event happens more than once (for example, two trouble conditions occur successively) they will be listed in the order that they occur first event to the last event. Priority is from the highest to lowest, i.e. alarm, supervisory, trouble and monitor. If an alarm, supervisory, or trouble condition occurs, their respective LED will be steady, fast flash and slow flash respectively.

Scroll through the events by using the 2 ABC and 8 TUV arrow buttons. If you need more information about a displayed event, press ? .

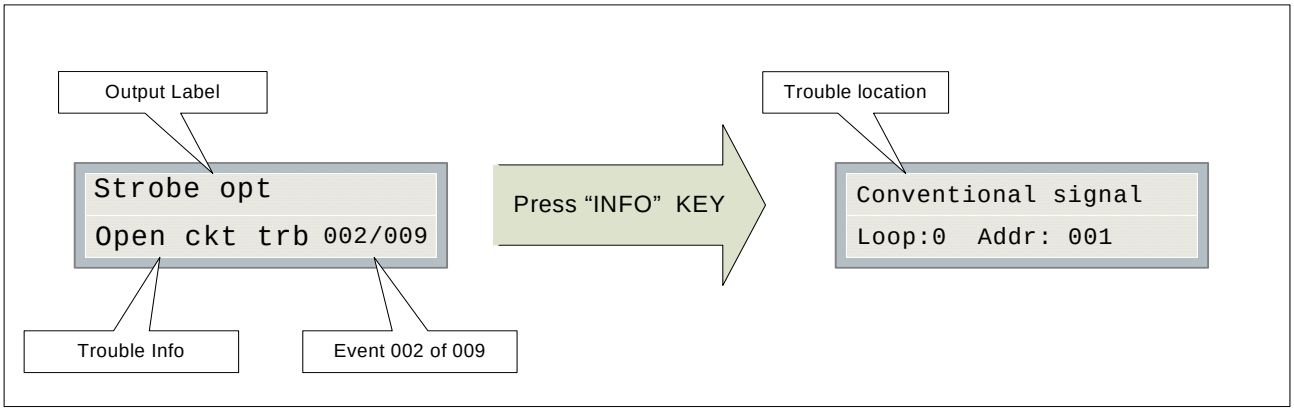
**Example 1 (input circuit)**

The message below indicates that event 1 of 9 is an open trouble at the East Lobby Entrance. When ? is pressed, the screen shows the trouble code and info. For the date and time you must review the event log.




**Example 2 (output circuit):**

The message below indicates that event 2 of 9 is a open circuit trouble on the strobe output. When ? is pressed, the screen shows the trouble label and address.



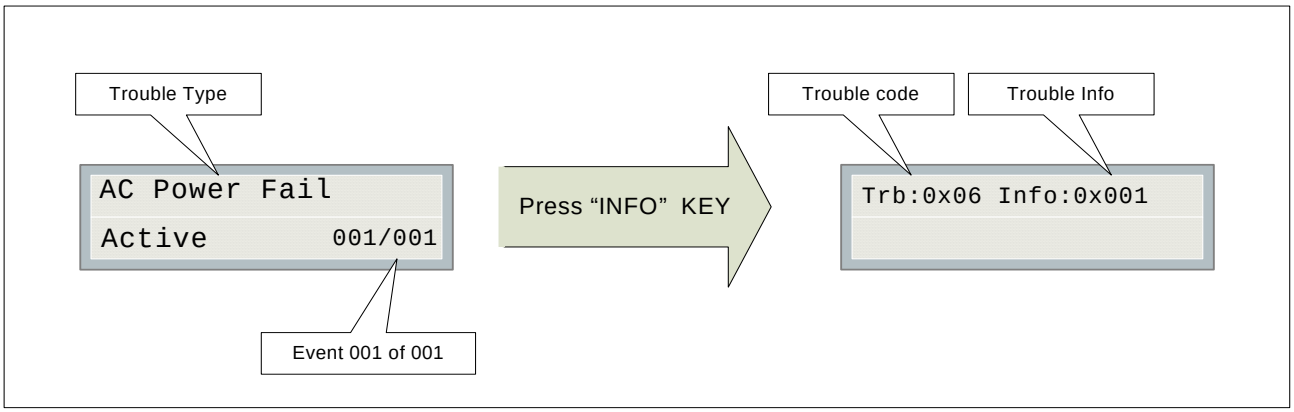

**Note:** The trouble code is a reference code for trained service personnel only.

## Common Messages

Common system messages are outlined below.

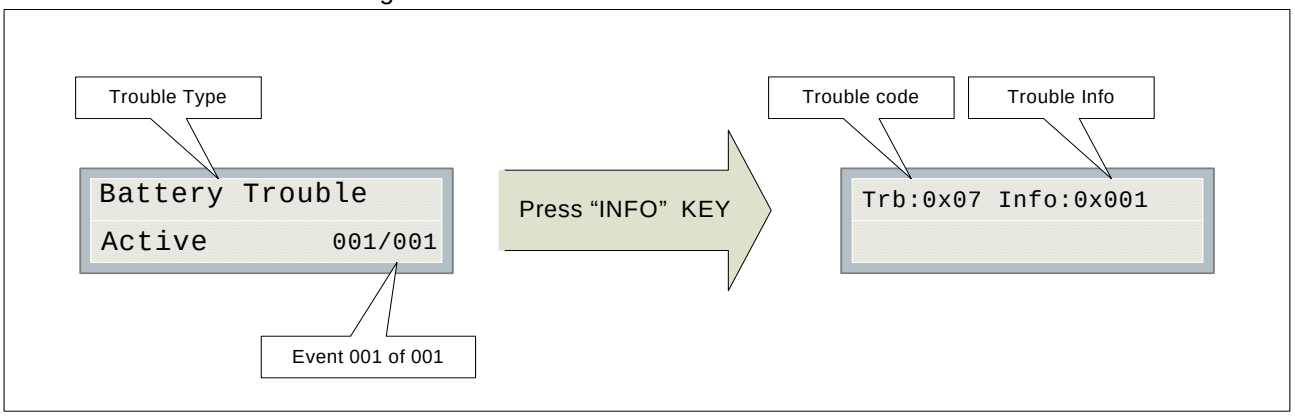
### AC Power Fail

The “AC Power Fail” message indicates that the power has dropped below the minimum level and the system is running on backup battery power. The trouble is removed when the power returns to the normal value.



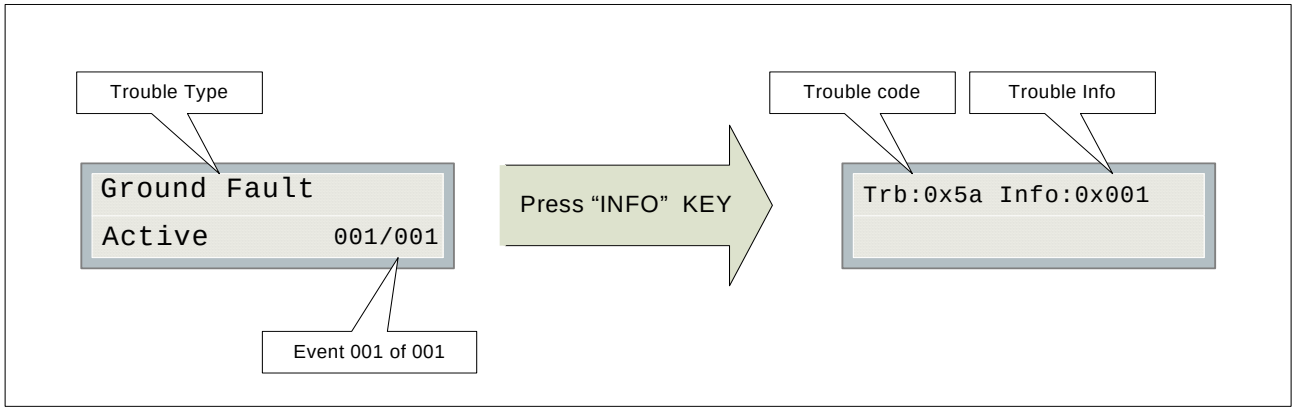

### Battery Trouble

The “Battery Trouble” message indicates that the battery voltage has dropped below the minimum value. The trouble is restored when the voltage returns to the normal value.




### Ground Fault

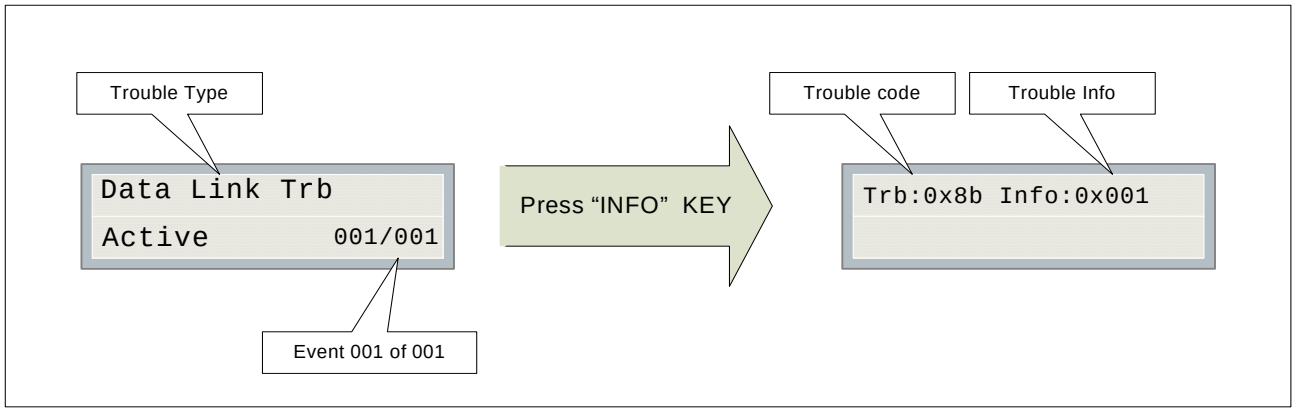
The “Ground Fault ” message indicates that there is a ground fault on the field wiring.




**Note:** The trouble code is a reference code for trained service personnel only.

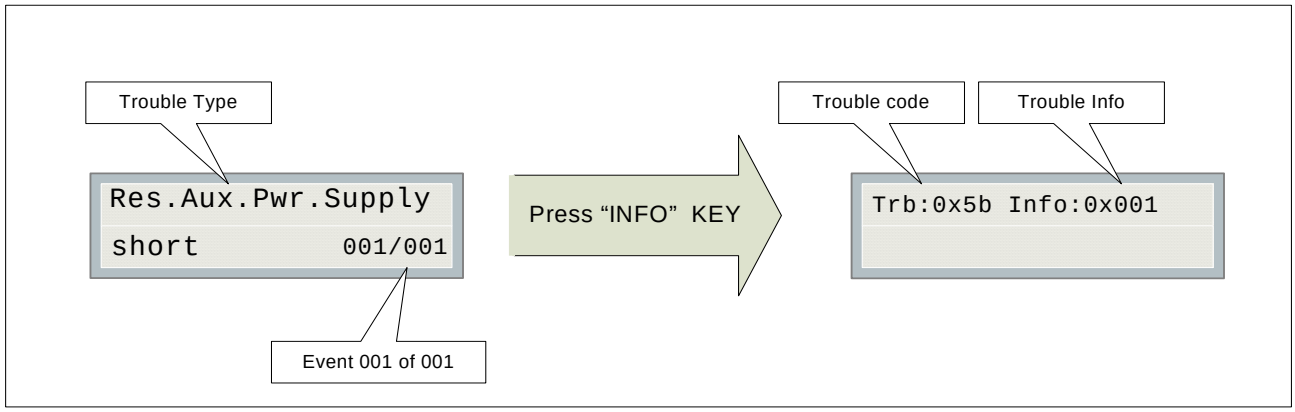
### Data Link Trouble

The “Data Link Error” message can display for one of two reasons: either the main panel and annunciator failed to communicate with each other or an unconfigured remote annunciator is communicating with the main panel. In both cases, the following trouble message is displayed:




### Resettable Auxiliary Power Supply

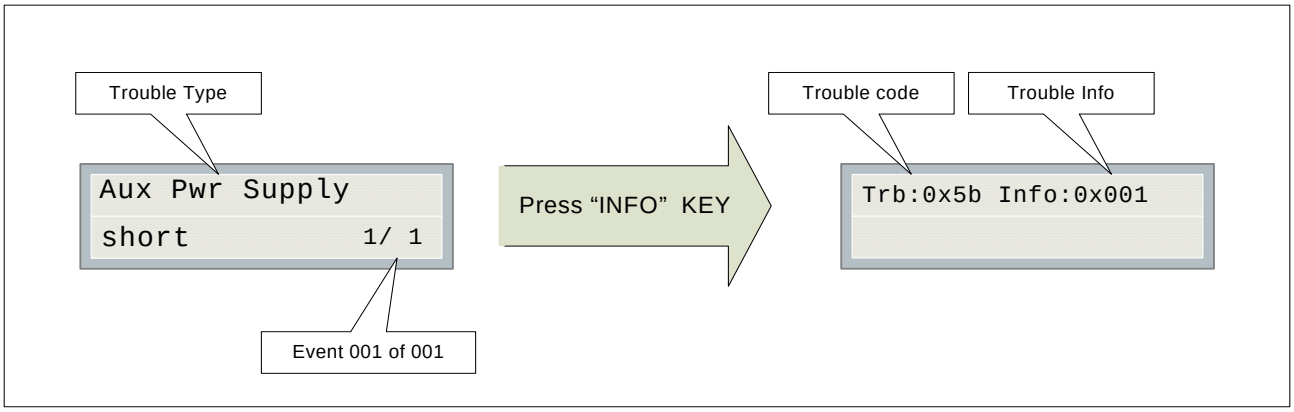
The “Res. Aux. Pwr. Supply” message indicates that the panel has detected a short on the resettable auxiliary power supply the power is cut off and a trouble message is generated. Press the SYSTEM RESET key to restore the power to the system. If the short is removed, the panel will return to normal; otherwise the trouble message will stay.




**Note:** The trouble code is a reference code for trained service personnel only.

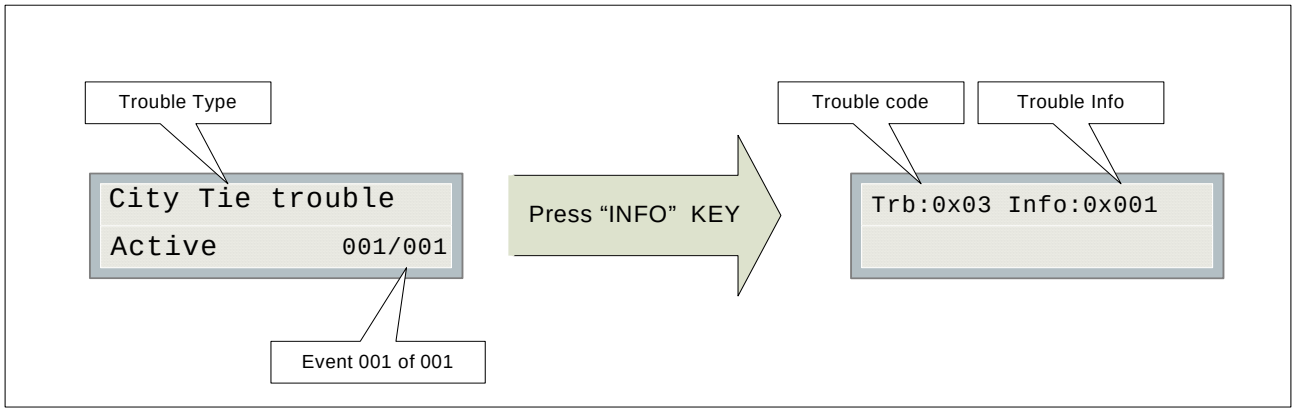
### Auxiliary Power Supply

The “Aux. Power Supply” message indicates that the panel has detected a short on the auxiliary power supply, the is cut off and a trouble message is generated. Press SYSTEM RESET to restore power the system. If the short is removed, the panel will return to normal; otherwise the trouble message will stay.




### City tie Polarity reversal - PR-300/Relay module

The “City Tie trouble” message below indicates that the panel detects an open on the city tie output.




**Note:** The trouble code is a reference code for trained service personnel only.

# Glossary

**Alarm Condition**
Occurs when devices such as detectors, pull stations, or sprinklers are activated. In a single stage system, this condition will activate all signalling devices throughout the building.

**Circuits**
Refers to an actual electrical interface and can be classified as input and output. The terms “circuit” and “zone” are often used interchangeably in the fire alarm industry.

**Fast Flash Rate**
120 flashes per minute is the rate at which an LED will flash to indicate a supervisory alarm.

**Input Circuit**
For this panel, the input circuit consists of addressable devices.

**Output Circuit**
For this panel, the output circuit is connected to audible or visual signalling devices, synchronized or unsynchronized.

**Latching Circuit**
A circuit that, when activated, will cause a condition on the panel that cannot be cleared until the panel is reset.

**LED**
The light-emitting diodes (LEDs) of the SFC-500 illuminate either amber, red, or green. When lit, LEDs provide information regarding the status of the panel.

**Non-latching Circuit**
A circuit that, when activated, will cause a condition on the panel that will be cleared once the circuit is deactivated. This term is used to describe supervisory and trouble circuits.

**Non-Silenceable Circuit**
A signal circuit that cannot be silenced by pressing the Signal Silence button.

**Relay Circuit**
A circuit in a fire alarm system that connects relay devices (e.g. fan damper relays, etc).

**Remote Annunciator**
A device that visually indicates, either by LCD or LEDs, the floor or zone where the alarm originated.

**Silenceable Circuit**
A signal circuit that can be silenced by pressing the Signal Silence button.

**Supervisory Condition**
Occurs when the system detects open circuits, short critics, and grounds. A supervisory condition is one that would interfere with the operation of the fire alarm system.

**Supervisory Alarm Condition**
Occurs when the system detects a short on a supervisory circuit.

**Trouble Condition**
Occurs when an abnormal condition such as a problem in the wiring, battery or power circuits exists in the fire alarm system.

**Trouble Flash Rate**
20 flashes per minute is the rate at which an LED will flash to indicate a trouble condition.

**Walk Test**
A test performed by a technician to ensure that each detection device is connected to the panel and working properly.

**Zones**
A fire alarm protected area that consists of at least one circuit. The terms “circuit” and “zone” are often used interchangeably in the fire alarm industry.

# Warranty & Warning Information

## Warning Please Read Carefully

Note to End Users: This equipment is subject to terms and conditions of sale as follows:

### Note to Installers

This warning contains vital information. As the only individual in contact with system users, it is your responsibility to bring each item in this warning to the attention of the users of this system. Failure to properly inform system end-users of the circumstances in which the system might fail may result in over-reliance upon the system. As a result, it is imperative that you properly inform each customer for whom you install the system of the possible forms of failure.

### System Failures

This system has been carefully designed to be as effective as possible. There are circumstances, such as fire or other types of emergencies where it may not provide protection. Alarm systems of any type may be compromised deliberately or may fail to operate as expected for a variety of reasons. Some reasons for system failure include:

*•Inadequate Installation*

A Fire Alarm system must be installed in accordance with all the applicable codes and standards in order to provide adequate protection. An inspection and approval of the initial installation, or, after any changes to the system, must be conducted by the Local Authority Having Jurisdiction. Such inspections ensure installation has been carried out properly.

*•Power Failure*

Control units, smoke detectors and many other connected devices require an adequate power supply for proper operation. If the system or any device connected to the system operates from batteries, it is possible for the batteries to fail. Even if the batteries have not failed, they must be fully charged, in good condition and installed correctly. If a device operates only by AC power, any interruption, however brief, will render that device inoperative while it does not have power. Power interruptions of any length are often accompanied by voltage fluctuations which may damage electronic equipment such as a fire alarm system. After a power interruption has occurred, immediately conduct a complete system test to ensure that the system operates as intended.

*•Failure of Replaceable Batteries*

Systems with wireless transmitters have been designed to provide several years of battery life under normal conditions. The expected battery life is a function of the device environment, usage and type. Ambient conditions such as high humidity, high or low temperatures, or large temperature fluctuations may reduce the expected battery life. While each transmitting device has a low battery monitor which identifies when the batteries need to be replaced, this monitor may fail to operate as expected. Regular testing and maintenance will keep the system in good operating condition.

*•Compromise of Radio Frequency (Wireless) Devices*

Signals may not reach the receiver under all circumstances which could include metal objects placed on or near the radio path or deliberate jamming or other inadvertent radio signal interference.

*•System Users*

A user may not be able to operate a panic or emergency switch possibly due to permanent or temporary physical disability, inability to reach the device in time, or unfamiliarity with the correct operation. It is important that all system users be trained in the correct operation of the alarm system and that they know how to respond when the system indicates an alarm.

*•Automatic Alarm Initiating Devices*

Smoke detectors, heat detectors and other alarm initiating devices that are a part of this system may not properly detect a fire condition or signal the control panel to alert occupants of a fire condition for a number of reasons, such as: the smoke detectors or heat detector may have been improperly installed or positioned; smoke or heat may not

be able to reach the alarm initiating device, such as when the fire is in a chimney, walls or roofs, or on the other side of closed doors; and, smoke and heat detectors may not detect smoke or heat from fires on another level of the residence or building.

•*Software*

Most Summit products contain software. With respect to those products, Summit does not warranty that the operation of the software will be uninterrupted or error-free or that the software will meet any other standard of performance, or that the functions or performance of the software will meet the user's requirements. Summit shall not be liable for any delays, breakdowns, interruptions, loss, destruction, alteration or other problems in the use of a product arising our of, or caused by, the software.

Every fire is different in the amount and rate at which smoke and heat are generated. Smoke detectors cannot sense all types of fires equally well. Smoke detectors may not provide timely warning of fires caused by carelessness or safety hazards such as smoking in bed, violent explosions, escaping gas, improper storage of flammable materials, overloaded electrical circuits, children playing with matches or arson.

Even if the smoke detector or heat detector operates as intended, there may be circumstances when there is insufficient warning to allow all occupants to escape in time to avoid injury or death.

•*Alarm Notification Appliances*

Alarm Notification Appliances such as sirens, bells, horns, or strobes may not warn people or waken someone sleeping if there is an intervening wall or door. If notification appliances are located on a different level of the residence or premise, then it is less likely that the occupants will be alerted or awakened. Audible notification appliances may be interfered with by other noise sources such as stereos, radios, televisions, air conditioners or other appliances, or passing traffic. Audible notification appliances, however loud, may not be heard by a hearing-impaired person.

•*Telephone Lines*

If telephone lines are used to transmit alarms, they may be out of service or busy for certain periods of time. Also the telephone lines may be compromised by such things as criminal tampering, local construction, storms or earthquakes.

•*Insufficient Time*

There may be circumstances when the system will operate as intended, yet the occupants will not be protected from the emergency due to their inability to respond to the warnings in a timely manner. If the system is monitored, the response may not occur in time enough to protect the occupants or their belongings.

•*Component Failure*

Although every effort has been made to make this system as reliable as possible, the system may fail to function as intended due to the failure of a component.

•*Inadequate Testing*

Most problems that would prevent an alarm system from operating as intended can be discovered by regular testing and maintenance. The complete system should be tested as required by national standards and the Local Authority Having Jurisdiction and immediately after a fire, storm, earthquake, accident, or any kind of construction activity inside or outside the premises. The testing should include all sensing devices, keypads, consoles, alarm indicating devices and any other operational devices that are part of the system.

•*Security and Insurance*

Regardless of its capabilities, an alarm system is not a substitute for property or life insurance. An alarm system also is not a substitute for property owners, renters, or other occupants to act prudently to prevent or minimize the harmful effects of an emergency situation.

IMPORTANT NOTE: End-users of the system must take care to ensure that the system, batteries, telephone lines, etc. are tested and examined on a regular basis to ensure the minimization of system failure.

## Limited Warranty

Summit Systems Technologies warrants the original purchaser that for a period of two years from the date of manufacture, the product shall be free of defects in materials and workmanship under normal use. During the warranty period, Summit Systems Technologies shall, at its option, repair or replace any defective product upon return of the product to its factory, at no charge for labor and materials. Any replacement and/or repaired parts are warranted for the remainder of the original warranty or ninety (90) days, whichever is longer. The original owner must promptly notify Summit Systems Technologies in writing that there is defect in material or workmanship, such written notice to be received in all events prior to expiration of the warranty period.

### International Warranty

The warranty for international customers is the same as for any customer within Canada and the United States, with the exception that Summit Systems Technologies shall not be responsible for any customs fees, taxes, or VAT that may be due.

### Conditions to Void Warranty

This warranty applies only to defects in parts and workmanship relating to normal use. It does not cover:

•damage incurred in shipping or handling;

•damage caused by disaster such as fire, flood, wind, earthquake or lightning;

•damage due to causes beyond the control of Summit Systems Technologies such as excessive voltage, mechanical shock or

•water damage;

•damage caused by unauthorized attachment, alterations, modifications or foreign objects;

•damage caused by peripherals (unless such peripherals were supplied by Summit Systems Technologies);

•defects caused by failure to provide a suitable installation environment for the products;

•damage caused by use of the products for purposes other than those for which it was designed;

•damage from improper maintenance;

•damage arising out of any other abuse, mishandling or improper application of the products.

## Warranty Procedure

To obtain service under this warranty, please return the item(s) in question to the point of purchase. All authorized distributors and dealers have a warranty program. Anyone returning goods to Summit Systems Technologies must first obtain an authorization number. Summit Systems Technologies will not accept any shipment whatsoever for which prior authorization has not been obtained. NOTE: Unless specific pre-authorization in writing is obtained from Summit management, no credits will be issued for custom fabricated products or parts or for complete fire alarm system. Summit will at its sole option, repair or replace parts under warranty. Advance replacements for such items must be purchased.

Note: Summit Systems Technologies's liability for failure to repair the product under this warranty after a reasonable number of attempts will be limited to a replacement of the product, as the exclusive remedy for breach of warranty.

## Disclaimer of Warranties

This warranty contains the entire warranty and shall be in lieu of any and all other warranties, whether expressed or implied (including all implied warranties of merchantability or fitness for a particular purpose) And of all other obligations or liabilities on the part of Summit Systems Technologies neither assumes nor authorizes any other person purporting to act on its behalf to modify or to change this warranty, nor to assume for it any other warranty or liability concerning this product.

This disclaimer of warranties and limited warranty are governed by the laws of the province of Ontario, Canada.

## Out of Warranty Repairs

Summit Systems Technologies will at its option repair or replace out-of-warranty products which are returned to its factory according to the following conditions. Anyone returning goods to Summit Systems Technologies must first obtain an authorization number. Summit Systems Technologies will not accept any shipment whatsoever for which prior authorization has not been obtained.

Products which Summit Systems Technologies determines to be repairable will be repaired and returned. A set fee which Summit Systems Technologies has predetermined and which may be revised from time to time, will be charged for each unit repaired.

Products which Summit Systems Technologies determines not to be repairable will be replaced by the nearest equivalent product available at that time. The current market price of the replacement product will be charged for each replacement unit.

**WARNING: Summit Systems Technologies recommends that the entire system be completely tested on a regular basis. However, despite frequent testing, and due to, but not limited to, criminal tampering or electrical disruption, it is possible for this product to fail to perform as expected.**

**NOTE: Under no circumstances shall Summit Systems Technologies be liable for any special, incidental, or consequential damages based upon breach of warranty, breach of contract, negligence, strict liability, or any other legal theory. Such damages include, but are not limited to, loss of profits, loss of the product or any associated equipment, cost of capital, cost of substitute or replacement equipment, facilities or services, down time, purchaser's time, the claims of third parties, including customers, and injury to property.**

**SUMMIT MAKES NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO ITS GOODS DELIVERED, NOR IS THERE ANY OTHER WARRANTY, EXPRESSED OR**

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