

# POWERSERIES TROUBLESHOOTING GUIDE

***This troubleshooting guide provides additional information and troubleshooting tips for all trouble conditions that can occur on PowerSeries Control Panels***

***NOTE: This Guide is intended for use by qualified SERVICE PERSONS ONLY. It shall be used in conjunction with the Installation Manual(s) for PowerSeries ALARM CONTROLLER(s)***

## **LED Keypads, LCD Fixed Message Keypads**

- Press [**★**][2] to view a trouble condition.
- The trouble light will flash.
- Refer to the chart below to determine the trouble condition(s) present.

**NOTE:** Some trouble conditions provide additional information (indicated with an '★' in the chart below). Press the number corresponding to the trouble condition to view the additional information.

## **LCD5500 LCD Programmable-Message Keypad**

- Press [**★**][2] to view a trouble condition .
- The trouble light will flash and the LCD will display the first trouble condition present.
- Use the arrow keys to scroll through all trouble conditions present.

**NOTE:** When additional information is available for a specific trouble condition a [**★**] will appear on the display. Press the [**★**] key to view the additional information

### **TROUBLE SUMMARY**

<b>Light [1] ★</b>	<b>Service Required – Press [1] for more information</b>
<b>Light [2]</b>	<b>AC Trouble</b>
<b>Light [3]</b>	<b>Telephone Line Trouble</b>
<b>Light [4]</b>	<b>Failure to Communicate</b>
<b>Light [5] ★</b>	<b>Zone Fault – Press [5] for more information</b>
<b>Light [6] ★</b>	<b>Zone Tamper – Press [6] for more information</b>
<b>Light [7] ★</b>	<b>Wireless Device Low Battery – Press [7] for more information</b>
<b>Light [8]</b>	<b>Loss of Time or Date</b>

Trouble	Cause	Troubleshooting
Trouble [1] Service Required	Press [1] to determine specific trouble	
[1] Low Battery	Main panel battery less than 11.5Vdc  <b>NOTE:</b> This trouble condition will not clear until the battery voltage is 12.5Vdc min., under load.	<b>NOTE:</b> If battery is new allow 1 Hr. for battery to charge. <ul style="list-style-type: none"> <li>• Verify voltage measured across AC terminals is 16-18 VAC. Replace transformer if required.</li> <li>• Disconnect battery wire leads               <ul style="list-style-type: none"> <li>• Verify battery charging voltage measured across battery leads = 13.75Vdc min.</li> </ul> </li> <li>• Connect battery, remove AC power               <ul style="list-style-type: none"> <li>• Verify measured voltage across battery terminals is 12.5Vdc min.</li> </ul> </li> </ul>
[2] Bell Circuit	Bell+, Bell-...Open Circuit	<ul style="list-style-type: none"> <li>• Disconnect Bell-/Bell+ wire leads, measure resistance of wire leads.               <ul style="list-style-type: none"> <li>• Open circuit indicates break in wiring or defective siren/bell</li> </ul> </li> <li>• Jumper Bell+, Bell- with 1K resistor (Brown, Black, Red)               <ul style="list-style-type: none"> <li>• Verify trouble clears</li> </ul> </li> </ul>
[3] General System Trouble	PC5204 Output#1 Open Circuit	<ul style="list-style-type: none"> <li>• If Output#1 is unused: Ensure that terminals O1, AUX are jumpered with 1K resistor (Brown, Black, Red)</li> <li>• If Output #1 is used: Disconnect wire leads from O1, AUX terminals, measure the resistance of the wire leads               <ul style="list-style-type: none"> <li>• Open circuit indicates a break in the wiring</li> </ul> </li> </ul>
	PC5204 AUX Failure	<ul style="list-style-type: none"> <li>• Verify voltage measured across AC input terminals is 16-18VAC.</li> <li>• Disconnect all connections to PC5204 AUX terminal.               <ul style="list-style-type: none"> <li>• Verify AUX voltage is 13.75Vdc min.</li> </ul> </li> </ul>
	Printer connected to PC5400 offline	Verify printer operation (out of paper, paper jam etc.)
[4] General System Tamper	Tamper input on module(s) open circuit	Short tamper terminal to COM terminal on unused modules connected to KEYBUS (PC5100, PC5108, PC5200, PC5204, PC5208, PC5320, PC5400, PC5401, PC5700).
	Wireless Receiver - excessive noise detected	Check for external 433MHZ signal sources To disable RF Jam: enable Option [7] in program section [804] subsection [90].
[5] Module Supervision	Panel does not communicate with module(s) on KEYBUS  Keypad assigned to incorrect slot.	Modules are immediately enrolled and supervised when detected on the KEYBUS. If a module has been removed, or if the slot assignment of a keypad has been changed, module supervision must be reset. <ul style="list-style-type: none"> <li>• View the event buffer (via DLS or LCD5500 keypad) to identify the specific module(s) in trouble</li> <li>• To reset module supervision:               <ul style="list-style-type: none"> <li>• Enter Program Section [902].</li> <li>• Press [#] (wait 1 minute for panel to scan KEYBUS).</li> </ul> </li> <li>• Enter Program Section [903] to identify modules connected to KEYBUS.</li> </ul>
[6] RF Jam Detected	Wireless Receiver - excessive noise detected (Power864 only)	Check for external 433MHZ signal sources To disable RF Jam: enable Option [7] in program section [804] subsection [90].
[7] PC5204 Low Battery	PC5204 battery less than 11.5Vdc  <b>NOTE:</b> This trouble condition will not clear until the battery voltage is 12.5Vdc min., under load.	See [1] Low Battery above
[8] PC5204 AC Failure	No AC at PC5204 AC inputs	Verify voltage measured across AC terminals is 16-18VAC. Replace transformer if required.

Trouble	Cause	Troubleshooting
<b>Trouble [2] AC Failure</b>		
	No AC at panel AC input terminals	Verify voltage measured across AC terminals is 16-18Vac. Replace transformer if required.
<b>Trouble [3] Telephone Line Trouble</b>		
	Phone Line Voltage at TIP, RING on main panel less than 3Vdc	<ul style="list-style-type: none"> <li>• Measure the voltage across TIP and RING on the panel: <ul style="list-style-type: none"> <li>• <b>No phone off-hook</b> – 50Vdc (approx)</li> <li>• <b>Any phone off-hook</b> – 5Vdc (approx)</li> </ul> </li> <li>• Wire incoming line directly to TIP and RING. <ul style="list-style-type: none"> <li>• If trouble clears, check wiring or the RJ-31 phone jack.</li> </ul> </li> </ul>
<b>Trouble [4] Failure to Communicate</b>		
	Panel fails to communicate one or more events to central station	<p>Connect a headset to TIP and RING of the control panel. Monitor for the following conditions:</p> <ul style="list-style-type: none"> <li>• <b>Continuous dial tone</b> <ul style="list-style-type: none"> <li>• Reverse TIP and RING</li> </ul> </li> <li>• <b>Recorded operator message comes on</b> <ul style="list-style-type: none"> <li>• Verify correct phone number is programmed</li> <li>• Dial the number programmed using a regular telephone to determine if a [9] must be dialed or if 800 service is blocked.</li> </ul> </li> <li>• <b>Panel does not respond to handshakes.</b> <ul style="list-style-type: none"> <li>• Verify the format programmed is supported by the central station.</li> </ul> </li> <li>• <b>Panel transmits data multiple times without receiving a handshake</b> <ul style="list-style-type: none"> <li>• Verify that the account number and reporting codes are correctly programmed.</li> </ul> </li> </ul> <p><b>NOTE:</b></p> <p><b>Contact ID and Pulse formats</b></p> <ul style="list-style-type: none"> <li>• Program a HEX [A] to transmit a digit [0]</li> </ul> <p><b>SIA format</b></p> <ul style="list-style-type: none"> <li>• Program a digit [0] to transmit a digit [0]</li> </ul>
<b>Trouble [5] Zone Fault</b> <b>Press [5] to determine specific zones with a fault trouble</b>		
	Open circuit is present on one or more fire zones on the main panel or zone expander	<ul style="list-style-type: none"> <li>• Ensure fire zones have a 5.6K resistor (Green, Blue, Red) connected.</li> <li>• Remove the wire leads from Z and COM terminals and measure the resistance of the wire leads. <ul style="list-style-type: none"> <li>• An open circuit indicates a break in the wiring or resistor not connected.</li> </ul> </li> <li>• Connect a 5.6K resistor (Green, Blue, Red) across the Z and COM terminals. Verify the trouble condition clears.</li> </ul>
	An open circuit is present on PGM2 being used as a 2-wire smoke detector input	<ul style="list-style-type: none"> <li>• Ensure the jumper on the main panel has been removed.</li> <li>• Ensure the correct 2.2K end-of-line resistor is connected (Red, Red, Red).</li> <li>• Remove the wire leads from PGM2 and AUX+ terminals and measure the resistance of the wire leads. <ul style="list-style-type: none"> <li>• An open circuit indicates a break in the wiring or no resistor connected.</li> </ul> </li> <li>• Connect a 2.2K resistor (Red, Red, Red) across the PGM2 and AUX+ terminals. Verify the trouble condition clears.</li> </ul>

Trouble	Cause	Troubleshooting
<b>Trouble [5] Zone Fault (Cont.)</b>	One or more wireless devices have not checked in within the programmed time	<ul style="list-style-type: none"> <li>If the trouble occurs immediately, a conflict with a hard wired zone exists:               <ul style="list-style-type: none"> <li>The zone being used is already assigned to a PC5108 zone expander</li> <li>The zone being used is assigned as a keypad zone</li> </ul> </li> <li>Perform a Module Placement Test – Program Section [904] and verify the wireless device is in a good location.               <ul style="list-style-type: none"> <li>If bad test results occur, test the wireless device in another location</li> <li>If the wireless device now tests good, the original mounting location is bad</li> <li>If the wireless device continues to give bad test results replace the wireless device</li> </ul> </li> </ul>
	A short circuit is present on one or more zones with double end-of-line resistors enabled	<ul style="list-style-type: none"> <li>Remove the wire leads from Z and COM terminals and measure the resistance of the wire leads.               <ul style="list-style-type: none"> <li>A short circuit indicates a short in the wiring.</li> </ul> </li> <li>Connect a 5.6K resistor (Green, Blue, Red) across the Z and COM terminals.               <ul style="list-style-type: none"> <li>Verify the trouble condition clears.</li> </ul> </li> </ul>
<b>Trouble [6] Zone Tamper      Press [6] to determine specific zones with a tamper trouble</b>		
	A tamper condition is present on one or more wireless devices	<ul style="list-style-type: none"> <li>Perform a Module Placement Test –Section [904]</li> <li>Violate, then restore the tamper:               <ul style="list-style-type: none"> <li>If no test result then replace wireless device</li> </ul> </li> </ul>
	An open circuit is present on one or more zones with double end-of-line resistors enabled	<ul style="list-style-type: none"> <li>Remove the wire leads from Z and COM terminals.</li> <li>Measure the resistance of the wire leads.               <ul style="list-style-type: none"> <li>Open circuit indicates a break in the wiring.</li> </ul> </li> <li>Connect a 5.6K resistor (Green, Blue, Red) across the Z and COM terminals.               <ul style="list-style-type: none"> <li>Verify the trouble condition clears.</li> </ul> </li> </ul>
<b>Trouble [7] Wireless Device Low Battery      Press [7] to toggle through specific devices with low battery trouble</b>		
1st press – Wireless Zones  2nd press – Handheld Keypads  3rd press – Wireless Keys	One or more wireless devices has a low battery  <b>NOTE:</b> The event will not be logged to the event buffer until the wireless device low battery delay time expires <ul style="list-style-type: none"> <li>Program Section [370]</li> </ul>	Replace battery  <b>NOTE:</b> The trouble will not clear until the detector is violated
<b>Trouble [8] Loss of Clock/Date</b>		
	The main panel internal clock is not set	<b>To program the time and date:</b> <ul style="list-style-type: none"> <li>Enter [*][6][Master Code]</li> <li>Press [1]</li> <li>Enter the time and date (in military) using the following format: <b>HH:MM MM/DD/YY</b></li> </ul> <b>Example.</b> For 6:00 pm, June 29, 2005 <b>Enter:</b> [18] [00] [06] [29] [05]

**IMPORTANT!**

**Ensure you have the following information available before contacting Customer Support**

- Control Panel Type and Version, (e.g., PC5020 v3.2)
- List of modules connected to Control Panel, (e.g., PC5400, PC5204 etc.)

