

## PowerSeries Troubleshooting Guide

The following is a troubleshooting guide designed to provide additional information and troubleshooting tips for all the possible trouble conditions that can occur on any PowerSeries control panel (Power432, Power632, Power832 and Power864).

### LED Keypad, LCD Fixed-Message Keypad

To view a trouble condition, press [\*][2]. 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

To view a trouble condition, press [\*][2]. 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.

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

## Trouble [1] – Service Required

Press [1] for to determine the specific trouble(s) present

Secondary Trouble	Reason	Troubleshooting
Trouble [1] Low Battery	The main panel battery is below 11.5 VDC. The trouble condition will not clear until the battery is at least 12.5VDC under load.	<ul style="list-style-type: none"> <li>▪ If the battery is new, allow 1 hour for the battery to charge.</li> <li>▪ Ensure the panel is getting proper AC power. Measure across the two AC terminals of the panel and ensure the AC input is between 16 and 18VAC. If not, replace the transformer.</li> <li>▪ To verify the battery charging circuit disconnect the battery and measure the voltage across the two battery leads. The voltage should be 13.75VDC.</li> <li>▪ With the battery connected remove AC from the panel and measure across the battery terminals. If the voltage is below 12.5VDC replace the battery.</li> </ul>
Trouble [2] Bell Circuit	There is an open circuit between Bell+ and Bell-	<ul style="list-style-type: none"> <li>▪ Remove the wires from Bell+ and Bell- and measure the resistance of the wires. If an open circuit is measured there is a break in the wiring or the siren is defective.</li> <li>▪ Put a 1K resistor (brown, black, red) across Bell+ and Bell- to verify the trouble condition clears.</li> </ul>
Trouble [3] General System Trouble	An open circuit is present on output #1 of the PC5204 module	<ul style="list-style-type: none"> <li>▪ If the output is not being used make sure a 1K resistor (brown, black, red) is connected between O1 and AUX+.</li> <li>▪ If the output is being used remove the wires from O1 and AUX+ and measure the resistance of the wires. If an open circuit is measured there is a break in the wiring or the device connected is defective.</li> </ul>
	The PC5204 has an AUX failure	<ul style="list-style-type: none"> <li>▪ Ensure the module is getting proper AC power. Measure across the two AC terminals of the module and ensure the AC input is between 16 and 18VAC. If not, replace the transformer.</li> <li>▪ Remove all devices connected to the AUX+ terminal of the PC5204 and measure the voltage between AUX+ and BLK of the KEYBUS. If the voltage is below 13.75VDC the module is defective.</li> </ul>
	The printer connected to the PC5400 is off-line	<ul style="list-style-type: none"> <li>▪ Check the connected printer for trouble (no power, out of paper, jam etc...).</li> </ul>
	The wireless receiver has detected excessive noise in the 433MHz range (Power432, 632, 832 only)	<ul style="list-style-type: none"> <li>▪ Check the installation for other sources of 433MHz wireless signals (could also be nearby transmission tower, airport, military base).</li> <li>▪ To disable RF Jam enable Option [7] in Program Section [804], subsection [90]</li> </ul>
Trouble [4] General System Tamper	An open circuit is present on the tamper input of one or more modules	<ul style="list-style-type: none"> <li>▪ If the tamper input on the modules connected to the KEYBUS are not being used, connect a short between the Tamper terminal and COM on every module (PC5100, PC5108, PC5200, PC5204, PC5208, PC5320, PC5400, PC5401, PC5700)</li> </ul>
Trouble [5] Module Supervision	The panel has lost communication with one or more modules on the KEYBUS or a keypad has been assigned to a different slot	<ul style="list-style-type: none"> <li>▪ 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.</li> <li>▪ View the event buffer (via DLS or LCD5500 keypad) to view the specific module(s) in trouble</li> <li>▪ To reset module supervision enter Program Section [902]. Press [#] and wait 1 minute for the panel to rescan the KEYBUS.</li> <li>▪ To view what modules are connected to the KEYBUS enter Program Section [903].</li> </ul>
Trouble [6] RF Jam Detected	The wireless receiver has detected excessive noise in the 433MHz range (Power864 only)	<ul style="list-style-type: none"> <li>▪ Check the installation for other sources of 433MHz wireless signals (could also be nearby transmission tower, airport, military base).</li> <li>▪ To disable RF Jam enable Option [7] in Program Section [804], subsection [90]</li> </ul>
Trouble [7] PC5204 Low Battery	The PC5204 battery is below 11.5 VDC. The trouble condition will not clear until the battery is at least 12.5VDC under load.	<ul style="list-style-type: none"> <li>▪ If the battery is new, allow 1 hour for the battery to charge.</li> <li>▪ Ensure the module is getting proper AC power. Measure across the two AC terminals of the module and ensure the AC input is between 16 and 18VAC. If not, replace the transformer.</li> <li>▪ To verify the battery charging circuit disconnect the battery and measure the voltage across the two battery leads. The voltage should be 13.75VDC.</li> <li>▪ With the battery connected remove AC from the module and measure across the battery terminals. If the voltage is below 12.5VDC replace the battery.</li> </ul>
Trouble [8] PC5204 AC Failure	No AC present across the PC5204 AC terminals	<ul style="list-style-type: none"> <li>▪ Measure across the two AC terminals of the module and ensure the AC input is between 16 and 18VAC. If not, replace the transformer.</li> </ul>

## Trouble [2] – AC Failure

Secondary Trouble	Reason	Troubleshooting
None	No AC present across the panel AC terminals	<ul style="list-style-type: none"> <li>▪ Measure across the two AC terminals of the panel and ensure the AC input is between 16 and 18VAC. If not, replace the transformer.</li> </ul>

## Trouble [3] – Telephone Line Trouble

Secondary Trouble	Reason	Troubleshooting
None	The phone line voltage across the main panel TIP and RING terminals is less than 3 VDC	<ul style="list-style-type: none"> <li>▪ Measure the voltage across TIP and RING of the panel:                             <ul style="list-style-type: none"> <li>○ No phone off-hook – measured voltage should be approximately 50VDC</li> <li>○ Any phone off hook – measured voltage should be approximately 5VDC</li> </ul> </li> <li>▪ Try wiring the incoming line directly to TIP and RING. If the trouble clears, there is a problem with the wiring or the RJ jack.</li> </ul>

## Trouble [4] – Failure to Communicate

Secondary Trouble	Reason	Troubleshooting
None	The panel has failed to communicate one or more events to the central station	<ul style="list-style-type: none"> <li>▪ Connect a headset to TIP and RING of the control panel and listen to the communication                             <ul style="list-style-type: none"> <li>○ If the panel does not break dial tone, reverse TIP and RING</li> <li>○ If a recorded operator message comes on, check that the phone number is programmed properly; also dial the same number programmed using a regular telephone to determine if a [9] must be dialed or if 800 service is blocked</li> <li>○ If the panel does not respond to the handshakes, verify the format programmed is supported by the central station</li> <li>○ If the panel transmits data multiple times without receiving a handshake, verify the account number and reporting codes are programmed properly</li> </ul> </li> </ul> <p>Note:</p> <ul style="list-style-type: none"> <li>• Contact ID and Pulse formats – program a HEX [A] to transmit a digit [0]</li> <li>• SIA format – program a digit [0] to transmit a digit [0]</li> </ul>

## Trouble [5] – Zone Fault

**Press [5] to determine the specific zone(s) with a fault trouble**

Secondary Trouble	Reason	Troubleshooting
Press [5] to view specific zone(s) in fault	An open circuit is present on one or more fire zones on the main panel or zone expander	<ul style="list-style-type: none"> <li>▪ Make sure all fire zones have a 5.6K resistor (green, blue, red) connected.</li> <li>▪ Remove the wires from Z and COM terminals and measure the resistance of the loop. If an open circuit is measured there is a break in the wiring or there is no resistor connected.</li> <li>▪ Connect a 5.6K resistor (green, blue, red) across the Z and COM terminals to verify the trouble condition clears.</li> </ul>
	An open circuit is present on PGM2 being used as a two-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 wires from PGM2 and AUX+ terminals and measure the resistance of the loop. If an open circuit is measured there is a break in the wiring or there is no resistor connected.</li> <li>▪ Connect a 2.2K resistor (red, red, red) across the PGM2 and AUX+ terminals to verify the trouble condition clears.</li> </ul>

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 hardwire 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 transmitter is in a good location. <ul style="list-style-type: none"> <li>○ If bad test results occur, try testing the transmitter in another location</li> <li>○ If the transmitter now tests good, the original mounting location is bad</li> <li>○ If the transmitter continues to give bad test results try replacing the transmitter</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 wires from Z and COM terminals and measure the resistance of the loop. If a short circuit is measured there is a short in the wiring.</li> <li>▪ Connect a 5.6K resistor (green, blue, red) across the Z and COM terminals to verify the trouble condition clears.</li> </ul>

### Trouble [6] – Zone Tamper    Press [6] to determine the specific zone(s) with a tamper trouble

Secondary Trouble	Reason	Troubleshooting
Press [6] to view specific zone(s) in tamper	A tamper condition is present on one or more wireless devices	<ul style="list-style-type: none"> <li>▪ Perform a Module Placement Test – Program Section [904] - and violate and restore the tamper: <ul style="list-style-type: none"> <li>○ If no test result occurs, replace the transmitter</li> </ul> </li> </ul>
	A 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 wires from Z and COM terminals and measure the resistance of the loop. If an open circuit is measured there is a break in the wiring.</li> <li>▪ Connect a 5.6K resistor (green, blue, red) across the Z and COM terminals to verify the trouble condition clears.</li> </ul>

### Trouble [7] – Wireless Low Battery    Press [7] to determine the specific device with a low battery

Secondary Trouble	Reason	Troubleshooting
Press [7] to view the specific wireless device(s) with a low battery trouble:  1 <sup>st</sup> time – Wireless Zones 2 <sup>nd</sup> time – Handheld Keypads 3 <sup>rd</sup> time – Wireless Keys	One or more wireless devices has a low battery  Note – The event will not be logged to the event buffer until the wireless device low battery delay time expires – Program Section [370]	<ul style="list-style-type: none"> <li>▪ Replace the battery (the trouble will not clear until the detector is violated)</li> </ul>

### Trouble [8] – Loss of Clock or Date

Secondary Trouble	Reason	Troubleshooting
None	The main panel internal clock is not set	<p>To program the time and date:</p> <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: HH:MM MM/DD/YY</li> </ul> <p>For example:    6:00 pm, June 29, 2005    enter [18] [00] [06] [29] [05]</p>