



XR550 Series System Testing Guide

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POST-INSTALLATION TESTING

After an XR550 Series system has been installed, perform the tests outlined in this section to ensure that each element of the system is functioning properly.

Test Communication

The panel contains a Diagnostics function that allows you to test the communication integrity of the LX-Bus™, identify individual zones, and display the present electrical state of any zone. The Diagnostics function also allows you to test the integrity of cellular communication, cellular signal, and e-mail communication.

Communication Status

To test the system's communication status using the Diagnostics function, follow these steps:

1. Reset the panel.
2. Enter the Diagnostics code **2313** (DIAG) and press **CMD**.
3. Press **CMD** until **COMM STATUS** displays and then press any top row select key or area.
4. Enter the cellular or network **PATH:** number you would like to test. The test begins immediately and displays the result. See the result sections below to determine whether the test succeeded or failed.

Cellular Results

Successful Display	Failure Display
MODEM OPERATING	NO MODEM FOUND
IDENTIFIED	NO SIM CARD
TOWER DETECTED	NO TOWER
REGISTERED	NOT REGISTERED

SIGNAL: 
CONTINUE? NO YES

This displays the cellular signal strength of the nearest tower for the SIM card carrier. The **I**'s represent the signal strength 0-7. Select **YES** to continue through the remaining component tests. Select **NO** to stop testing and return to the **COMM STATUS** option.

Successful Display	Failure Display
CONNECTED	CONNECT ERROR
	NOT ACTIVATED
COMM PATH GOOD	NO ACK RECEIVED

Network Results

Successful Display	Failure Display
LINK OK	LINK ERROR
DHCP OK	DHCP ERROR
GATEWAY FOUND	NO GATEWAY
DEST FOUND	NO DESTINATION
COMM PATH GOOD	NOT CONNECTED NO ACK RECEIVED

Test Cellular Signal Strength

To test the system's cellular signal strength using the Diagnostics function, follow these steps:

1. Reset the panel.
2. Enter the Diagnostics code **2313** (DIAG) and press **CMD**.
3. Press **CMD** until **CELL SIGNAL** displays and then press any top row select key or area.
4. The **SIGNAL:** display shows how strong the cell signal is in bars and dBm. See the sections below to determine the results of the test.

Cellular Signal Strength (CELL SIGNAL)



This option provides a way to test the cellular signal strength of the nearest tower for the SIM card provider. Press any select key or area to display cell signal strength. The X's represent the numerical value of the cell signal strength in -dBm. The █'s represent the signal strength 0-7.

Cell Roaming Indicator (263C only)



The cellular signal strength option in the panel's Diagnostic menu contains a roaming indicator. When a 263C Cellular Communicator is roaming or not in contact with a Verizon-owned tower, **ROAM** will be displayed on the top line of the keypad along with the signal strength.

To perform the cellular activation process from a keypad, the 263C must be in contact with a Verizon-owned tower. If the cellular communicator is in contact with a tower owned by another network, **ROAM** and the signal strength displays, but activation cannot be completed. This feature can be used as a diagnostic tool to troubleshoot activation issues.

Test Hardwired and Wireless Zones

After you install and program a zone, arm and trip the zone to ensure that it successfully generates an alarm message.

The following zone types have a specific Area that may need to be armed in order to result in an alarm event.

- Night (NT)
- Day (DY)
- Exit (EX)
- Auxiliary 1 (A1)
- Auxiliary 2 (A2)

The following zone types do not have a specific Area that is required to be armed, and can be tripped at any time.

- Panic (PN)
- Emergency (EM)
- Supervisory (SV)
- Fire (FI)

The following zones have other specific conditions that require consulting the panel's programming to be properly tested.

- Fire Verify (FV)
- Arming (AR)

Test Key Fobs

Key fobs should be tested in the same manner as any other zone. If the key fob is programmed for a long press, make sure it is depressed for the two second press time. When the button is programmed for Panic, Panic 2, Emergency, Emergency 2, Output, or Sensor Reset, a half-second green flash occurs to acknowledge the button press.

Test Panel Batteries

Individual panel batteries should be tested while they are disconnected from the charging circuit of the panel, and disconnected from an array of multiple batteries. For proper testing, use a battery load tester. Consult the instructions of your battery load tester to determine proper testing procedures.

TROUBLESHOOTING TESTING

Troubleshooting panel issues can be time-consuming if you don't have access to the right information. There are two main ways to use testing to find the right information - either perform a Walk Test or use the Diagnostics function. These options may be used at any time and can be instrumental when you are diagnosing the issue.

Perform a Walk Test

The panel provides a Walk Test feature that allows a single technician to test protection devices connected to zones on the system. Conduct the Walk Test within 30 minutes of resetting the panel. The Walk Test automatically ends if no zones are tripped for 20 minutes. **TEST IN PROGRESS** displays at all keypads programmed with the same Display Areas features. When 5 minutes remain, **TEST END WARNING** displays.

The Walk Test only tests zones assigned to the areas programmed into the keypad in Display Areas. If any areas are armed, the Walk Test does not start and **SYSTEM ARMED** displays.

Note: If the Panic Supervision option is enabled in **SYSTEM OPTIONS**, the panic button on any programmed key fob can be tested during the Walk Test. When the panic button is pressed a verification message is sent by the receiver.

WALK TEST

Walk Test

To conduct the Walk Test, reset the control panel by momentarily placing a jumper on the RESET header. From the keypad, enter the code 8144. The keypad displays **WALK TEST** for four seconds. If the system is monitored and the communication type is DD or NET, the system sends a System Test Begin report to the central station. After four seconds, the keypad displays the zone type choices for testing.

BG FI PN SV

Zone Types

Select the zone type you want to test. An asterisk next to the zone type indicates the zone type chosen for testing. Press the select key or area again to deselect the zone type. When you have selected all the zone types you want for testing, press the **CMD** key to display the next Walk Test option. Pressing the back arrow key exits the Walk Test.

Note: For the Wireless Check-in Test, make sure no zone types are selected and press the CMD key. Pressing the back arrow key exits the Walk Test.

BG (Burglary zones) - Select **BG** to test burglary zones. Includes all NT, DY, EX, A1, and A2 zones.

FI (Fire zones) - Select **FI** to test fire zones. Includes all FI and FV zones.

PN (Panic zones) - Select **PN** to test panic zones. Includes all PN and EM zones.

SV (Supervisory zones) - Select **SV** to test supervisory zones. Includes all SV zones.

Note: During the Walk Test, trip each zone device or button on the system for 1 to 2 seconds. You do **NOT** have to hold the zones for 2 seconds in normal mode for PN type zones. You are only required to hold the panic during the Walk Test because the zone takes additional time to report when the system is in test mode.

WLS PIR

WLS (Wireless Check-in Test) - Select WLS to automatically test wireless transmitter communications. Includes all wireless devices except key fobs and transmitters programmed for a supervision time of 0 (zero).

PIR (Wireless PIR Walk Test) - The PIR Walk Test allows the installer to verify

the 1126 or 1127 operation. When enabled, the PIR LED flashes each time motion is detected for up to 30 minutes. This is a local test only and no messages are sent to the Central Station.

BELL NO YES PULS

Bell Action

This option selects the bell output action when a zone under test faults. This option allows the panel bell, and/or burglary bell, and/or fire bell to turn ON and then OFF each time a zone is tripped (opened or shorted).

NO - Select **NO** for no bell output action during Walk Test.

YES - Select **YES** to turn on any bell output for 2 seconds during Walk Test.

PULS - Select **PULS** to turn on any bell output for 1/4 second during Walk Test. Any LX-Bus device output turns on for 1.6 seconds due to the polling cycle.

TRIPS: XXX END

Trip Counter For Walk Test

Once in the Walk Test, walk around and trip each protective device. Continue tripping devices until the entire system is tested.

With each zone trip during the Walk Test:

- Keypad display increments each time a selected zone is opened or shorted
- The keypad buzzes for two seconds
- The panel sounds the alarm bells as programmed in Bell Action
- Each time a FI, FV, or SV zone trips, a Sensor Reset occurs.

If **ENHANCED ZONE TEST** is selected as **YES**:

A Verify message is sent at the time the zone trip occurs instead of at the end of the Walk Test. For FI, FV or SV zone types, the Verify message is sent at the initial trip.

For all other zone types, the Verify message is sent when the zone restores. This allows the Central Station to count the number of devices per zone.

END - Select **END** to stop the Walk Test. When the Walk Test ends or a 20-minute time-out expires, a final Sensor Reset occurs. The System Test End message is sent to the receiver along with Verify and Fail messages for each zone under test. Faulted zones then display on the keypad.

Trip Counter for DMP Wireless Check-In Test (WLS)

Displays the number of wireless zones that automatically communicate a supervision check-in message.

- The number of zones that check in. (XXX in the example).
- The total number of wireless zones programmed for supervision that should check in. (ZZZ in the example).

CKIN:XXX/ZZZ END

END - Select **END** to stop the Wireless Check-in Test. When the test ends or a 20-minute time-out expires, normal wireless zone processing returns. If all transmitters check-in, both numbers match within three (3) minutes. If a transmitter has multiple zones (1101, 1114, etc.), all zones are included in the counts. Failed wireless zones display on the keypad.

TEST END WARNING

Test End Warning

When five minutes remain on the 20 minute Walk Test timer, the keypad displays **TEST END WARNING**. If no additional test zone trips occur, the test ends and a final Sensor Reset automatically occurs. The System Test End message is sent to the receiver along with Verify and Fail messages for each zone under Walk Test. Faulted zones then display on the keypad.

Note: Key fobs do not send failure messages in order to prevent functioning key fobs that are not present at the time of the test from being reported as MISSING.

ZONE: 10	-FAIL
SOUTH LOBBY	

Failed Zones Display

For each zone that did not trip (failed), except key fobs, at least once during the Walk Test, all keypads with matching Display Areas programming display the zone name and number and buzz for one second. Any selected (*FI *PN *SV) 24-hour zone that is faulted at the end of the Walk Test displays a trouble condition for that zone regardless of the message programmed for the open or short condition of the zone and a zone trouble is sent to the receiver. Press the **CMD** key to display the next failed zone.

Note: For the Wireless Check-in Test, failed wireless zones display only on the keypad. Zone Verify/Fail reports are not sent to the central station receiver for the wireless check-in test.

Use the Diagnostics Function

The panel's Diagnostics function (described in the Post-Installation Testing section of this guide) can also be used to determine the system's LX-Bus and zone statuses.

Test the LX-Bus

This function allows you to test the ability of the panel to communicate with zone and output expander modules connected to the LX-Bus circuits.

Keep in mind, a device address is not the same as a zone number. If you are testing 714 or 715 Zone Expander Modules, which each contain four zones, the device address is the first zone number. When the panel polls a 714 on the LX-Bus, it recognizes it as a four zone device and does not poll the remaining three zones. The 714 module internally polls the remaining zones and transmits any status changes to the panel. This greatly reduces the amount of time it takes the panel to poll all LX-Bus devices.

1. Reset the panel.
2. Enter the Diagnostics code **2313** (DIAG) and press **CMD**.
3. Press **CMD** until **TEST LX-BUS** displays and press any select key or area.
4. The keypad displays **LX-BUS:**. Using the digit keys, enter the LX-Bus number, 1 to 5, to test that LX-Bus circuit.
5. The keypad now displays **ADDRESS: -**. Enter a 2-digit LX-Bus device address and press **CMD**.
Note: When testing LX-Bus devices, enter only the addresses to which the modules have been set.
6. Press any select key or area when **TEST LX-BUS** displays.
7. The keypad displays **TESTING . . . STOP** during the device testing. At any time, you can select **STOP** to end polling. The panel records the number of no responses from the device. If all polls are received back by the panel correctly, the keypad displays **00000/65535 FAIL**. If one or more polling attempts fail, the keypad displays *** * * * */65535 FAIL** with the * representing the number of failed polling attempts. A display of **65535/65535 FAIL** indicates a problem with the interface card or its LX-Bus wiring such as a bad or broken wire, harness not properly connected, or excessive noise or distance. It can also mean that a zone number was entered that did not match a device address.
8. Press the back arrow key to enter a new device address or press **CMD** to exit the **TEST LX-BUS**.

Check the Zone State

This function allows you to enter any zone number and check its current electrical state (normal, open, or shorted). To check a zone's state using the Diagnostics function, follow these steps:

1. Reset the panel.
2. Enter the Diagnostics code **2313** (DIAG) and press **CMD**.
3. Press **CMD** until **ZONE STATE** displays. Press any select key or area.
4. The display changes to **ZONE NUMBER:**. Enter in the zone number you want to check and press **CMD**.
5. The panel displays the current state of the zone as **NRML** (normal), **OPEN**, or **SHORT**.

Retrieve the LX-Bus Status

This function allows the panel to poll all devices connected to the LX-Bus of an interface card and check for any overlapped, missing, or extra addresses. To retrieve the system's LX-Bus status using the Diagnostics function, follow these steps:

1. Reset the panel.
2. Enter the Diagnostics code **2313** (DIAG) and press **CMD**.
3. Press **CMD** until **LX-BUS STATUS** displays and press any select key or area.
4. When **OVLP MIS EXT** displays, choose the type of status test you would like to run. See the definitions below for more information.

Overlap (OVLP)

An overlap occurs when one device address is the same as any of the last three zones on another 714 or 715. The overlap feature cannot determine when two devices have the same address.

Example: Model 714 Address 00 = Zones 500 501 502 503, and the Model 711 Address 02 = Zone 502. Zone 502 would report as an overlap because both the 714 and 711 have devices set to 502.

Missing (MIS)

A missing occurs when a zone between 500 and 999 has been programmed in **ZONE INFORMATION** and no device with that zone address has been installed on the LX-Bus. To correct the problem, check your zone programming and zone expansion module addressing.

Extra (EXT)

A device is extra if it is installed on the LX-Bus, but none of its zones are programmed into the system.



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