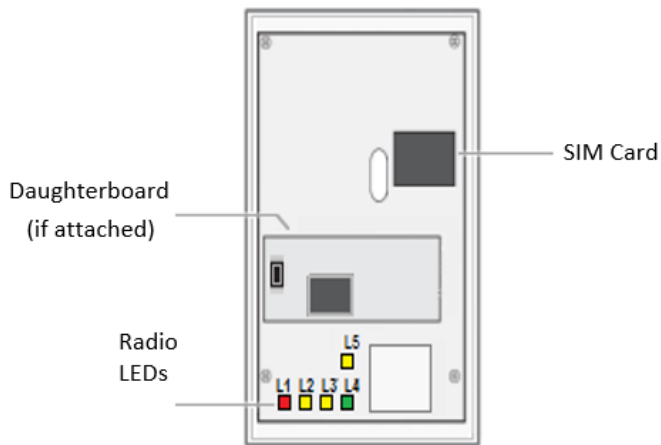


## Interlogix Simon XT Troubleshooting Guide - GSM Troubleshooting

### LEDs

The radio module has 5 LEDs marked L1 (Red), L2 (Yellow), L3 (Yellow), L4 (Green), and L5 (Yellow).

Figure 1: Alarm.com XT/XTi GSM Module



### Radio LEDs

The radio LED descriptions shown in Figure 1 are given below. Table 1 shows the normal LED pattern for the three module modes.

#### L1 (Red)

L1 flashes 1-8 times when there is an error. If there are two or more errors at the same time, the errors will flash one after the other. The LED will stay off for at least four seconds between errors. See Table 5 for the LED 1 Error Flash Guide.



## L2 (Yellow)

L2 flashes with every communication between the module and the panel. Normal pattern calls for a series of quick flashes every two seconds in Idle Mode or four seconds in PowerSave Mode. Occasionally this will flash to indicate Z-Wave status. See Table 6 for the LED 2 Z-Wave Status Guide.

## L3 (Yellow)

L3 flashes with every communication between the module and its radio unit in Idle Mode, and with every communication with Alarm.com in Connected Mode. In PowerSave Mode, this LED flashes in unison with LED 2.

## L4 (Green)

L4 indicates the GSM signal level as a number of flashes (0 to 5 bars). A level of 5 bars is obtained only in the strongest signal conditions. Signal level is updated every ten seconds if it fluctuates, or every 30 seconds if it is fairly stable.

## L5 (Yellow)

L5 indicates Z-Wave errors. See Table 6 for the LED 5 Error Flash Guide.

LED	Idle	PowerSave	Connected
L1	Flashes Errors	Flashes Errors	—
L2	Communication w/ Panel	Communication w/ Panel	Communication w/ Panel
L3	Communication w/ Radio Unit	Same pattern as L2	Communication w/ Alarm.com
L4	Signal Level (0-5)	—	2 seconds on/ 2 seconds off



## GSM Phone Test

This step must be taken before any signals are sent. To initiate module communication with Alarm.com and the GSM network the first time, perform a “GSM phone test”.

### Simon XT

1. Scroll down through the control panel menu until it displays ‘System Tests’ and press ‘OK’.
2. Enter the installer code (default 4-3-2-1), then ‘OK’.
3. Scroll down until the panel displays ‘Comm Test’ and press ‘OK’. The panel will display ‘GSM Comm Test in progress’ to indicate the test has been initiated.

### Simon XT*i*

1. Press the Status & Settings icon on the lower right of the home screen
2. Scroll down and press ‘Programming’.
3. Enter the installer code (default 4-3-2-1), then ‘OK’.
4. Press ‘System Tests’.
5. Press ‘Comm Test’.

The panel will display “GSM Comm Test in progress” to indicate the test has been initiated.

The Simon XT/XT*i* panel will let you know when the GSM Phone Test has been completed by displaying ‘GSM Test signal sent OK’ on the panel screen. This indicates that Alarm.com has received and acknowledged the signal. This does not guarantee that the signal went through to a central station; it confirms that the Alarm.com Operations Center received the signal. The central station should be contacted directly to verify that the signal was received on the correct account and that the Central Station routing settings have been set up correctly. The signal may not go through to the central station if either:

1. Central Station Account settings were entered incorrectly on the Alarm.com Dealer Site.
2. Alarm.com was unable to send the signal successfully to the Central Station.

## Reporting Information



## Simon XT

To receive basic troubleshooting information from the panel, press any of the following keys listed in Table 2 for 10 seconds and read the following information displayed on the screen.

Table 2: Diagnostic Key Presses

Key	Message Description
1	10-digit module serial number. Needed to create an Alarm.com account.
2	Module firmware version.
3	15-digit SIM card number. You may be asked for this number by a technical support representative to verify that the module was activated on the GSM network.
4	List of report types that the module will send to Alarm.com and the central station. See Table 3 for a list of the report types.
5	Wireless signal strength level and module status or error, if any. The panel will display bars for the signal level (0 – 5) and a number (2 – 31) followed by its current Mode. See Table 4 for a list of possible GSM status labels.



6	Battery voltage read by the module and the AC power status.
8	GSM frequency currently used by the module. 'High' = 1900MHz, 'Low' = 850 MHz.

Table 3: Report Types

Tst	Phone Tests	Pgm	Panel Programming
Ala	Alarms	Tpr	Tamper
Sys	System Troubles	Can	Cancel
Zon	Sensor Troubles	Nor	Normal Activity
Arm	Arm/Disarm	Pow	Modem On Line
Byp	Sensor Bypass	Png	Pings
Ac	AC Power Failure	C&S	Crash and Smash
Pho	Phone Failure	Bat	Panel Low Battery

Table 4: GSM Status

Mode	Description
Idle	Idle and registered on the GSM network (most common).
Roaming	Idle + roaming on partner GSM network.



PowerSave	AC power is down.
Registering...	In process of registering with GSM network. See LED 1, 3 flash error.
Connection Error	Cannot connect to Alarm.com. See LED 1, 4 flash error.
Radio Error	Radio not working properly. See LED 1, 5 flash error.
Server Error	Encryption Error. See LED 1, 8 flash error.
Connected	Currently talking to Alarm.com Servers.
Connecting...	In the process of connecting to Alarm.com Servers.
Updating...	Updating signal level.

## Simon XTi

To access the above troubleshooting information on the Simon XTi, go to 'Programming', press 'Interactive Services' and go to the 'Module Status' section.

## Troubleshooting Procedures

### Check Power

To check the battery voltage and AC power status, press and hold '6' for XT. For XTi, check in 'Module Status' section.

- If the battery voltage is less than 6.00 V, the battery needs to be recharged (the panel should recharge the battery over time, if left in and running on AC power).
- If the battery will not recharge, check the battery leads to make sure they are connected securely to the panel. You may need a new battery.



- If there is no AC power the module will remain in PowerSave Mode. While in PowerSave Mode, the radio LEDs L2 and L3 will flash simultaneously. Check the connection from the AC power supply.
- Power cycle the system by disconnecting the AC and the battery. Wait at least 30 seconds and then reconnect the battery. If the panel does not display 'GSM Module OK,' connect the AC power and check again.

### Check the GSM Phone Test Has Been Performed Correctly

The Phone Test must be completed before any signals can be sent from the panel to Alarm.com over the GSM network. See the GSM Phone Test procedure above.

### LED 1 Troubleshooting

Use LED 1 (visible at the bottom of the radio) to determine what the issue is. If there is no LED activity, check the module power. If there is LED activity, use Table 5 to troubleshoot the problem.

Table 5: LED 1 Flash Guide

Flashes	Issue
1	Module cannot communicate with the panel. Perform a power cycle on the panel. If the error persists lift the module out of the panel and re-insert it. If the error is still observed try a different module. Finally, if that does not fix the problem, try a new panel.
2 then 4	The module provisioning process could not be completed.
2 then 5	The module provisioning process could not be completed because the module is currently roaming on the carrier's network.



3

The module is trying to register on the GSM network. If it persists for more than a few minutes, the module is having problems registering. Check L4 for signal level. If signal level is lower than 2 "bars", change the panel's location or use a

remote antenna option.

4

The module is registered on the GSM network but cannot connect with Alarm.com. Contact Alarm.com Technical Support.

5

Radio portion of the module is not working correctly. If this persists for more than a few minutes the module may need to be replaced. This error is extremely rare so verify that the

module is flashing 5 times.

6

This is an error only if it persists for more than a minute. Otherwise, it's just an indication that the module is fixing an unusual condition regarding communication with the GSM

network.

7

The module is not compatible with this panel type. Please

insert a compatible module.





If it persists, the account may have been set up incorrectly. Contact Alarm.com Technical Support. You will be asked to

8

check the serial number of the module.

## Signal Troubleshooting LED 4

If the LEDs are working properly and you can't get signals to transmit, it is likely a coverage problem or an activation issue (less likely). If you are still not getting signals, you need to check coverage to ensure there is network coverage at the installation location. To find coverage for your location go to <https://alarmadmin.alarm.com/Support/CheckCoverage.aspx>. The location should be in *at minimum* a moderate coverage area. Use LED 4 to determine the signal.

- If there at least 2 bars and you are still not seeing communication, contact Alarm.com Technical Support.
- If there are less than 2 bars, make sure the module is not underground, in a closet, or surrounded by any metal. Move the module and use LED 4 to find a good coverage area. Keep in mind that it may take L4 a moment to read and display the signal level at a new location.

Troubleshoot signal level and contact Alarm.com Technical Support. You may need to relocate the module in order to get better coverage. See section 8 for more wireless signal maximization tips.

Note: Finding a way to expose the module's antenna is also a good way to increase the signal level.

**Panel Extremely Slow to Respond/Signals Not Transmitted** The nature of the wireless module is such that it will only immediately respond to commands sent from the website if the module is actively communicating with the wireless network (Connected Mode). For power management purposes, if it does not receive any commands or proactively send any signals for an extended period of time, the radio module goes into Idle Mode.

In Idle Mode, it *will* send alarm signals instantaneously. Any signal originating from the system itself will be sent with no delay at all times (alarms, armings/disarmings at the panel, AC failures, sensor low battery messages, etc.). If a command is sent to the system when it is in Idle Mode, there will be a slight delay between when the signal is sent and when the panel responds. We first have to "wake up" the module. When it acknowledges that wakeup message, it will receive our command. This is the system's normal radio communication pattern. The delay should never be more than about 2 minutes.



If it takes longer than that (or is not received), troubleshoot the signal by using LED 4, pressing and holding the '5' key on the XT, or going to 'Programming', 'Interactive Services', and 'Module Status' on the XTi.

Relocation of the module may be necessary. Exposing the module antenna may also help.

## Z-Wave Troubleshooting on LED 2 & 5

L2 flashes with every communication between the module and the panel. Normal pattern calls for a series of quick flashes every two seconds in Idle Mode or every four seconds in PowerSave Mode.

L2 and L5 also occasionally flash in patterns to indicate Z-Wave status. Refer to the LED 2/5 Flash Guide or the emPower™ Installation Guide on the Alarm.com Dealer Site for more information on Z-Wave enrollment and troubleshooting procedures.

	Flashes	Device Status/Error	Description
LED 2	4	Add mode (lasts 120 seconds or until a device is added).	In this mode you can add a device to the local Z-Wave network. Devices cannot be added if they are already a part of a network.
	2	Delete mode (lasts 120 seconds or until a device is deleted).	In this mode you can delete a device from a Z-Wave network. A device can only be in one network at a time, and therefore must be deleted before it can be learned into a new network.
	Solid	Successful add or delete node.	After receiving this signal, leave all devices by the GSM module for 1 minute. Locks must be left for 4 minutes
	Solid & 1 Flash	Add node attempt failed because node already in a network (lasts 60 seconds).	Device you attempted to add to a network is already in a network, and must be deleted before it can join a new network.



	2	No other nodes are in the network (lasts until a device is added to the network).	No devices have been added yet.
LED 5	5	Learn mode error (lasts 60 seconds).	The module failed to add in a device to the ZWave network.
	6	No Home ID present (lasts until the module connects to Alarm.com and is configured).	When the GSM module first connects to Alarm.com, it is configured with a unique network ID

### Alarm Reporting Delay/No Signals to Website or Central Station

This may be due to the dialer delay on the panel. The panel has a built-in dialer delay which will keep the system from sending an alarm signal to the monitoring station for 30-45 seconds after the alarm is tripped. This delay is in place to reduce false alarms.

If the user disarms before this period expires, we do not send the alarm signal. If, after testing, you determine that it is not the dialer delay that is causing this, first check to make sure the Central Station forwarding account has the correct contact and event type forwarding information. If, after checking this you are still having issues contact Alarm.com Technical Support.

Note: Alarm.com should still report a "Pending Alarm" on the Alarm.com website when a panel issues an alarm and is awaiting the expiration of the dialer delay. This will come to us immediately and once the dialer delay expires, the website will either report a typical alarm (no one disarmed the panel) or a disarm (cancelled during the dialer delay).

### Wireless Coverage Tips

- Check that the antenna is installed. If you have the 6' cable antenna, it can be run down the inside of the wall. If you have a remote antenna with 12-18 ft. of cable, this will probably be the best option.
- Check that the panel is upright.
- Check that the module is not inside of or leaning against a metal structure.
- Try to move the module as high as possible in the house. If deep inside a building, try to move the module near a window. When you move the module to a new location, wait for a few minutes before checking if coverage has improved.
- To reset the radio module, unplug the panel from the power outlet. Disconnect the battery and power down the radio module completely. Wait 30 seconds. Reconnect the battery. Plug the panel in the power outlet.
- If nothing works and the module is in an adequate coverage area, try a new module or a different network.
- Note: Like other types of cellular communication, full coverage does not guarantee that the system will operate correctly. The position of the system within the building, the antenna, the type of building, and interference from other electronic equipment are all factors that can affect communication.



## Alarm.com Technical Support

You can contact Alarm.com's Technical Support team by phone at (866-834-0470) or by visiting the Support Center on the dealer website at [https://alarmadmin.alarm.com/Support...e\\_Summary.aspx](https://alarmadmin.alarm.com/Support...e_Summary.aspx).

