

SEM-Honeywell/ADEMCO Vista - Sync Troubleshooting Guide

If a SEM-Honeywell/ADEMCO Vista is failing to sync or zone scan as expected, use the following troubleshooting steps.

Important: The panel should remain disarmed during this process.

Signs of sync failure

The following are signs that the zone sync has failed:

- The following message is displayed on the Customer Info page: *This module supports uploading and downloading panel and device settings, but due to the legacy scan, this feature is currently not available.*

★ **Customer Info** ? **PL**

[Account Management](#) | [Swap Module](#) | [On-Site Wrap Up](#) | [3G Customers Nearby](#)

This module supports uploading and downloading panel and device settings, but due to the legacy scan this feature is currently not available. For more information on how to achieve the UL/DL scan, [click here](#).

- On UL/DL compatible systems, a *Upload Failed* or *dF* message may also appear on the keypad along with this error.
- The option for *View Panel Settings* in *Panel Management* is missing. For more information about viewing panel management, see [Upload and download panel device settings](#).

Note: This only applies to UL/DL compatible SEMs. For more information about which SEMs are compatible, see [Uploading and downloading device settings on a SEM-Honeywell/ADEMCO Vista Dual-Path](#).

Panel Information

VIEW PANEL SETTINGS

SEM - Honeywell/ADEMCO Vista 20P 10.23 189j

Last Update
Panel Disarmed Thursday, July 4 2024 1:00 pm



- An *Empty Equipment List* or *SEM-Panel Sync Error* trouble condition.

CRITICAL SYSTEM ISSUES (1)

SEM-Panel Sync Error ⓘ [Learn More](#)

Panel (ID = 127)

7/10/2024

- SEM LED 1 flashing 7 times. For more information, see [SEM-Honeywell/ADEMCO Vista - Module LED Guide](#).
- Unable to arm and disarm remotely.
 - Unable to arm or disarm remotely may indicate a failed Master Code sync and most commonly happens on non-UL/DL compatible SEMs or on UL/DL-compatible SEMs that fail a UL/DL scan.
 - If you are running into this specific misbehavior, follow the steps outlined in [SEM-Honeywell/ADEMCO Vista is not arming remotely](#) first. If those steps are unable to resolve, follow the troubleshooting outlined below.

Expand all

Initial troubleshooting steps

It is recommended to perform the following steps in order. They are listed by order of expected ease.

Confirm panel compatibility^

The SEM is compatible with the Honeywell/ADEMCO VISTA 10P, 15P, 20P, and 21iP panels. Panels or PROM chips should work as long as they were manufactured in 2005 or later and have the following Rev requirements:

Panel Variant	Vista SEM panel minimum requirements	UL/DL functionality panel requirements
Vista-10P	Rev 2.0+	Rev 2.0+
Vista-15P	Rev 3.1+	Rev 5.2+
Vista-20P	Rev 3.1+	Rev 5.2+
Vista-21iP	Rev 3.1+	Rev 3.1+

UL/DL considerations:

- If the UL/DL compatible SEM is connected to a Vista-15P or 20P panel lower than revision 5.2, the panel functions the same as a legacy SEM, with the exception of being able to communicate over broadband.
- To get all of the enhanced functionality (such as access to uploader/downloader settings), the Vista panel must meet the minimum revision number as shown in the UL/DL *functionality panel requirements* column above.

For more information about panel compatibility, see [SEM-Honeywell/ADEMCO Vista - Panel compatibility](#).

Note: Vista 21iP will display as Vista 20P on Partner Portal and MobileTech app.

Verify the panel has sensors programmed^

Verify the panel has all sensors programmed properly. For more information about programming sensors via the panel's keypad, contact the panel manufacturer.

Test all sensors to ensure the keypad displays sensors properly (e.g., open/close contact sensors, walk in front of motion detectors, etc.).

Note: Zone Groups 90-93 (Configurable Zone Types) are not fully supported by the SEM. A zone set to Group 90-93 will not appear in the Equipment List.

Verify incompatible devices are not attached^

Note: Initially the SEM was not compatible with voice keypads (i.e., 6150V, 6160V, 6290W, and their variants). For compatibility with voice remote or talking keypads, verify the SEM is on version 1.60+.

If any of the following devices are attached, remove the device before using the System Enhancement Module (SEM) with the Honeywell/ADEMCO Vista. Having any of these devices may result in unexpected behavior from the security panel. If any of these devices are present, power down the system, remove the device(s), and power on the system. The SEM will attempt to scan after it powers on.

- AVS devices
 - This device is used for Two-Way Voice, which is not available on the SEM. The AVS also allows zone descriptors to be announced.
- 4232CBM (Connected Building Module)
- Telephone (POTS) line
 - The SEM should be the only communication path for alarm signaling to the monitoring station.
- 2GIG-STZ-1 thermostat

Sensor Activity Monitoring (SAM) is not compatible with the following device. Turn off SAM for this sensor, if installed.

- 5822T Tilt Sensor

Note: Sensors programmed with zone doubling can interfere with Sensor Activity Monitoring (SAM). It is not recommended to use zone doubling on the SEM-Honeywell/ADEMCO Vista.

Enter programming^

1. Enter the installer code.
2. Press **[800]**.
3. Press **[*]**.

4. The SEM should take over and execute the initialization scan within 1 minute.
 1. If the scan didn't start after a minute, press **[*99]** to exit.

Change the installer code^

1. Enter the current installer code.
2. Press **[800]** to enter programming.
3. Press **[*]** to enter a field.
4. Press **[20]** to program the new installer code.
5. Enter the new code to be the installer code.
6. Press **[*99]** to exit.
7. After exiting programming mode, the keypads should display *MODEM COMM* or *CC* for about 5 seconds to indicate sync on a UL/DL compatible SEM.

Set programming necessary for sync^

1. Enter the current installer code.
2. Press **[800]** to enter programming.
3. Press **[*]** to enter a field.
4. Ensure the following programming changes are completed:
 - ***29** (IP/GSM) set to 1
 - ***43** (Primary Account No) set to 1111
 - ***48** (Report Format) set to 7,7
 - ***49** (Split/Dual Reporting) is set to 0
 - ***66** (Arm Stay/Away Report Code): set to 1,0 or 1,1
 - ***196** (SEM's keypad address) set to 1,0
 - ***197** (Exit Time Display Interval) is set to 0
5. Press **[*96]** to reset the account number and initialize the downloader.
 - Reinitializes the panel's download ID and subscriber account number.
6. Press **[*99]** to exit.
7. After exiting programming mode, the keypads should display *MODEM COMM* or *CC* for about 5 seconds to indicate sync on a UL/DL compatible SEM.

Perform a communication test^

Cellular communication test

Like any Alarm.com-integrated system, sending a communication test from the Honeywell/ADEMCO Vista panel is necessary to initialize communication with Alarm.com or verify the module is communicating on the cellular network.

To send a cellular communication test using the keypad:

1. Press [#].
2. Press [987].
3. Press [*]. This sends a cellular communication test.

Upon completion, there is no local indication of success or failure. To verify a successful communication test was received, check the customer's event history on the Partner Portal or MobileTech app for a *Manual Phone Test* monitor event. For more information about checking the event history, see [View the customer's system event history](#).

Broadband communication test

Using a Dual-Path SEM-Honeywell/ADEMCO Vista, a broadband communication test can be sent using the keypad. To test the broadband remotely using the Partner Portal or MobileTech app, see [Ping the system to verify Dual-Path communication](#).

To send a broadband communication test using the keypad:

1. Press [#].
2. Press [963].
3. Press [*]. This sends a broadband communication test.

Upon completion, there is no local indication of success or failure. To verify a successful communication test was received, check the customer's event history on the Partner Portal or MobileTech app for a *Manual Phone Test* monitor event. For more information about checking the event history, see [View the customer's system event history](#).

Check the Equipment List and Event History for progress ^

Zone scans can take 5-10 minutes. To monitor progress, continue to check the Equipment List and Event History.

Keypads on systems with a UL/DL compatible SEM will display *Upload Complete* or *DC* if a successful uploader/downloader sync is completed.

Below is an example of what the Event History will display for a successful scan:

LMessage	Time Set	7/10/2024 8:25:20 am
LMessage	Equipment List scan complete	7/10/2024 8:24:09 am
LMessage	User Code scan complete	7/10/2024 8:24:09 am
LMessage	Dialer Delay Setting scan started	7/10/2024 8:24:07 am
LMessage	Zone Scan started	7/10/2024 8:23:59 am

Note: The order and names of these events may vary slightly from each generation of the SEM, but they should be similar to the image above.

Additional troubleshooting steps

If the sync still has not been achieved, continue performing the following steps. They are listed by order of expected ease, but they can be completed in any order. Any of these steps could result in a scan.

Check and resolve errors ^

Check the keypad and SEM to see if any error messages appear locally. If they do, resolve the error(s) and re-sync the installer code by changing it locally; if you resolve any errors, power cycle the system to attempt a new scan.

- For more information about keypad errors, see [SEM-Honeywell/ADEMCO Vista keypad errors](#).
- Check the SEM's LEDs to see if any module errors may be occurring. If errors are occurring, resolve the behavior. For more information about LED statuses, see [SEM-Honeywell/ADEMCO Vista - Module LED Guide](#).

LEDs for SEM 100, 200, 210 ^

L1 flashes when an error is encountered. The number of flashes indicates the error number. 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.

Note: It may take up to 10 minutes before L1 detects and flashes an error code.

The following table describes the errors indicated by LED L1:

Flash pattern	Description
1	Alarm.com module cannot communicate with the panel. Perform a power cycle on the panel. If the error persists, contact Alarm.com CORE Technical Support.
2 then 4	The Alarm.com module provisioning process could not be completed. If the error persists, power cycle the system, then contact Alarm.com CORE Technical Support.

Flash pattern	Description
2 then 5	The Alarm.com module provisioning process could not be completed because the module is currently roaming off the carrier's primary network.
3	The Alarm.com module is trying to register on the cellular 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 Alarm.com module is registered on the cellular network but could not connect with Alarm.com. Contact Alarm.com CORE Technical Support.
5	The radio portion of the module is not working correctly. 1. Verify power. For more information about requirements, see What are the power requirements for a SEM-Honeywell/ADEMCO Vista?. 2. If power is sufficient and 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 indicates an error only if it persists for more than a minute. Otherwise, it's an indication that the module is resolving an unusual condition regarding communication with the cellular network.
7	The SEM is unable to access panel programming. Check panel wiring and installer code.
8	If this error persists, the account may have been set up incorrectly. Check that the serial number being used matches the serial number used to create the account. If the serial numbers are the same, contact Alarm.com CORE Technical Support.

LEDs for SEM 300^

For information about the SEM300 enclosure gateway LEDs, see [SEM-Honeywell/ADEMCO Vista Dual-Path \(SEM300\) - Installation Guide](#).

L1 flashes when an error is encountered. The number of flashes indicates the error number. If there are two or more errors at the same time, the errors flashes one after the other. The LED stays off for at least four seconds between

errors.

Note: It may take up to 10 minutes before L1 detects and flashes an error code.

The following table describes the errors indicated by LED L1:

Number of flashes	Description
1	Alarm.com module cannot communicate with the panel. Perform a power cycle on the panel. If the error persists, contact Alarm.com CORE Technical Support.
2	The SIM card is missing or cannot be read. If the SIM card has been removed, re-insert the SIM card and power cycle the module.
3	The Alarm.com module is trying to register on the cellular 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. If the signal is good, the module may be roaming on a network that does not partner with Alarm.com's cellular providers.
4	The Alarm.com module is registered on the cellular network but could not connect with Alarm.com. Contact Alarm.com CORE Technical Support.
5	The radio portion of the module is not working correctly. 1. Verify power. For more information about requirements, see What are the power requirements for a SEM-Honeywell/ADEMCO Vista? 2. If power is sufficient and 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 indicates an error only if it persists for more than a minute. Otherwise, it's an indication that the module is resolving an unusual condition regarding communication with the cellular network.
7	The SEM is unable to access panel programming. Check panel wiring and installer code.

Number of flashes	Description
8	If this error persists, the account may have been set up incorrectly. Check that the serial number being used matches the serial number used to create the account. If the serial numbers are the same, contact Alarm.com CORE Technical Support.

Confirm programming changes were saved successfully^

1. Enter the current installer code.
2. Press **[800]** to enter programming.
3. Press **[#]** to enter a field.
4. Ensure the following programming changes were completed:
 - **#29** (IP/GSM) set to 1
 - **#43** (Primary Account No) set to 1111
 - **#48** (Report Format) set to 7,7
 - **#49** (Split/Dual Reporting) is set to 0
 - **#66** (Arm Stay/Away Report Code): set to 1,0 or 1,1
 - **#196** (SEM's keypad address) set to 01,00
 - **#197** (Exit Time Display Interval) is set to 0
5. Press **[*99]** to exit.
6. Power cycle the system to attempt a new scan.

Change the SEM's keypad address^

1. Identify an available keypad address.
2. Enable the address at the keypad by entering the corresponding programming command using the [Keypad address table](#).
3. Power the system off.
4. Adjust the [SEM DIP switches](#) on the SEM to match the corresponding keypad address using the [Keypad address table](#).
5. Power the system on. Verify a zone scan initiates upon power up.

For additional information about enabling the keypad address, see [What keypad address should be used with the SEM-Honeywell/ADEMCO Vista?](#)

Upgrade the SEM's firmware

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1. Confirm that the SEM is on the latest firmware. For more information, see [Remotely find or request the firmware version of a panel](#).
2. If an update is available, upgrade the SEM to the latest firmware. For more information, see [Can a SEM-Honeywell/ADEMCO Vista firmware be upgraded remotely?](#).
 - If no upgrades are available or the upgrade is progressing, continue with the other additional troubleshooting steps within this section.

Important: The system must remain disarmed and powered on while the SEM is upgrading. Depending on the upgrade size and signal strength, some upgrades can take 20 minutes to over 24 hours to complete.

Verify bus devices and power budget ^

For Honeywell/ADEMCO Vista panels, the maximum combined current of connected devices should not exceed 600 mA. Connect additional devices to an external power supply if more power is needed.

1. Make a list of all bus devices attached.
 - **Note:** The Honeywell Vista panel can have a total of 8 standard keypads (such as the 6160RF keypad), but when the SEM is attached, the panel can only utilize 7 other standard keypads. AUI devices like the Tuxedo Touch or touchscreen keypads (6280W and 6290W) do not count toward the 8-standard keypad limit.
2. Verify that the power budget meets the requirements using the [Power Budget Calculator](#).
3. If the bus device configuration needs to be changed, power down the system before removing devices.
4. If it makes sense, pare down to the SEM and a single alphanumeric keypad.

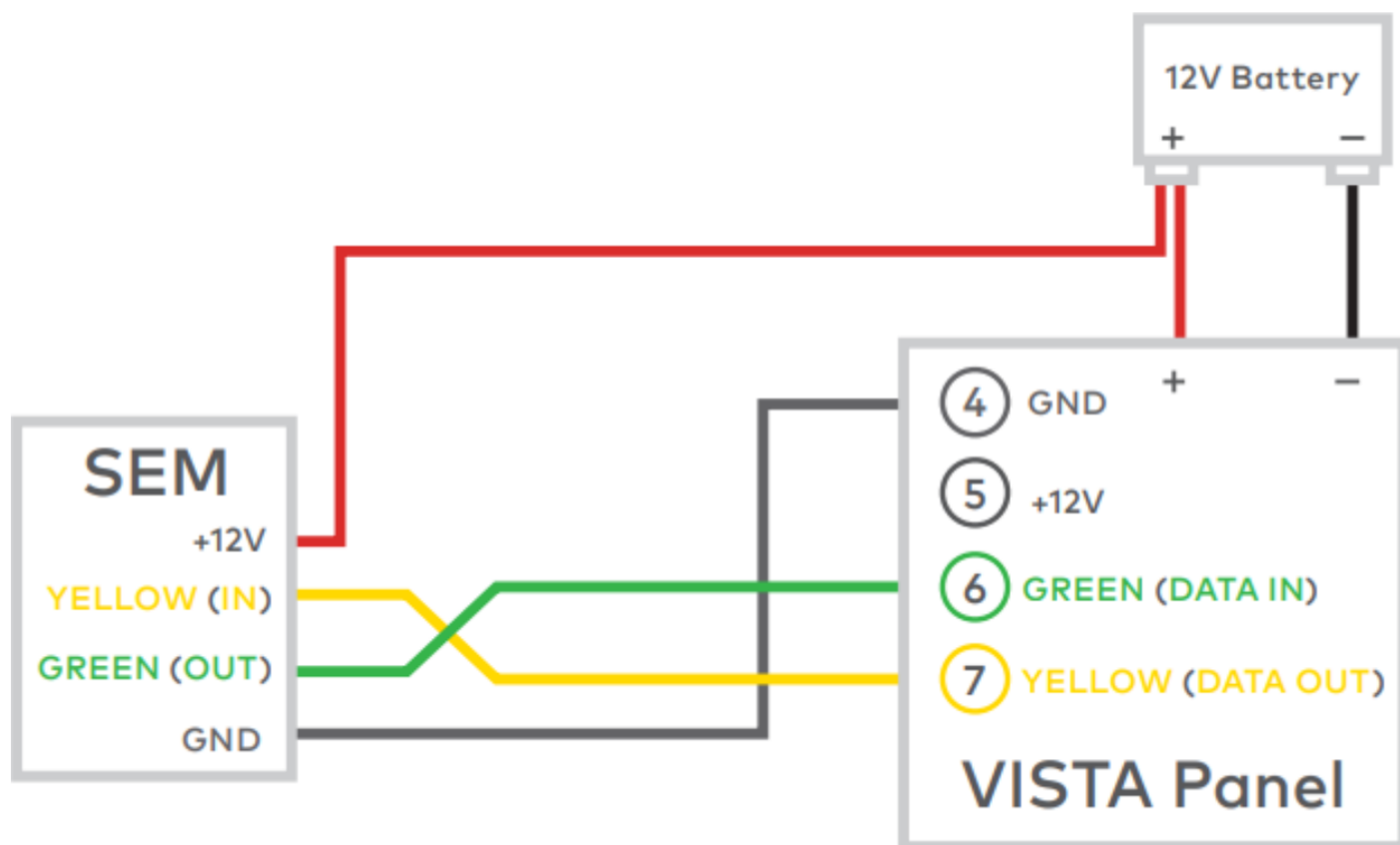
Verify wiring ^

Important: Verify all wires are secure and do not become loose when pulled on (aka pass a tug test).

Note: Prior to SEM 300, the fuse was wired between the SEM and the panel's backup battery. In SEM 300, the fuse is built into the SEM. Otherwise, the wiring is identical.

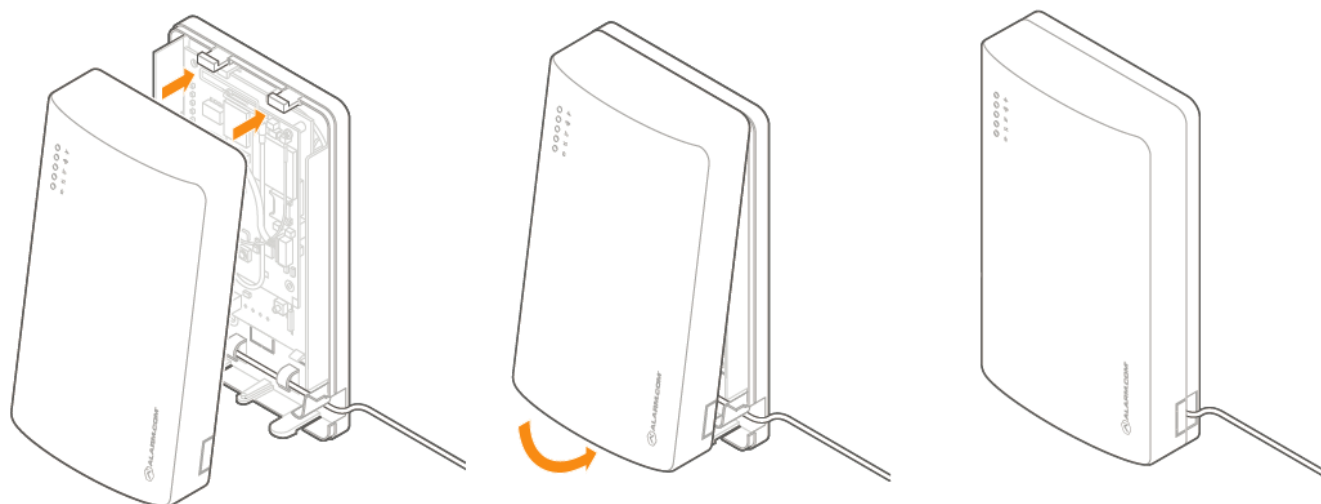
Caution: Verify panel AC power is removed and the backup battery is disconnected when wiring the SEM. If any wiring changes are necessary. Power down the system before adjusting the wiring.

Important: Alternate wiring is required when using this device for ETL installations. For more information, see [ETL requirements](#).



To wire the panel:

1. Connect panel terminal 4 (GND) to SEM GND.
2. Connect panel terminal 6 (GREEN: DATA IN FROM KEYPAD) to GREEN (OUT).
3. Connect panel terminal 7 (YELLOW: KEYPAD DATA OUT) to YELLOW (IN).
4. Use the included red cable with the two-prong battery connector to connect the battery to both the SEM and the panel.
5. Connect an Ethernet cable to the pre-installed Ethernet jack to utilize dual-path communication. Local network changes may be required before the broadband path activates. For more information about Dual-Path communication, see [Configure Dual-Path communication for a panel remotely](#).
6. Remove the snap-off plastics from the enclosure side at the desired locations, then route the cables around the internal strain relief walls and out the side of the enclosure.



7. Before completing the mounting, verify the wiring connections are secure and all internal components are in their proper location.
8. Then close the enclosure by sliding the cover into the mounting points at the top of the enclosure base and then swinging down the cover to snap the thumb tabs into place.

The following table displays the typical maximum wire length by gauge size that can be used to connect Alarm.com cellular modules to modular panels (i.e., DSC PowerSeries Neo/Pro, Interlogix Concord, NX, System Enhancement Modules, etc.).

Gauge	Length
22 gauge	40 feet (12.2 meters)
18 gauge	90 feet (27.4 meters)

Note: Doubling wires and Cat5e cables (and its variants) are not supported. For more information about using Cat5e cables, see [Can Cat5e cables be used to connect Alarm.com cellular modules to panels?](#).

Verify voltage^

Measuring panel voltage is a common troubleshooting step when experiencing odd behavior on a panel. Most often, this step is required when there is a *Modem-Panel Comm* message, or the panel is not communicating properly with Alarm.com. For more information about measuring the voltage, see [Measure panel and module voltage](#).

Power requirements

Caution: Voltage outside of 16.5 -18 V range could cause modem-panel communication trouble.

The following table displays where to test voltage and what the recommended voltage is for the SEM-Honeywell/ADEMCO Vista:

Panel power requirements	16.5 VAC
Where to measure panel voltage	Terminals 1 and 2 on the main panel board.
Alarm.com module power requirements	12-13.5 VDC
Where to measure module voltage	The 12V and Ground (GND) terminals on the module gateway board.
Battery requirements	12V, 4Ah

For more information about power budget for specific devices, see [SEM-Honeywell/ADEMCO Vista - Power Budget Calculator](#).

Wire size and maximum length

The following table displays the typical maximum wire length by gauge size that can be used to connect Alarm.com cellular modules to modular panels (i.e., DSC PowerSeries Neo/Pro, Interlogix Concord, NX, System Enhancement Modules, etc.).

Gauge	Length
22 gauge	40 feet (12.2 meters)
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Note: Doubling wires and Cat5e cables (and its variants) are not supported. For more information about using Cat5e cables, see [Can Cat5e cables be used to connect Alarm.com cellular modules to panels?](#).

If voltage is too high or too low:

1. Inspect the outlet and wiring.
 - a. Inspect the outlet for damage (e.g., signs of burning, charring, or physical damage).
 - b. Check for loose connections. Loose or corroded connections can cause voltage drops or spikes.
2. Check for overloaded circuits.
 - a. Reduce load by unplugging other devices on the same circuit to see if the voltage stabilizes.
 - b. Check that circuit breakers are not tripped or malfunctioning.
3. Replace the transformer of the device.
 - a. Verify the new transformer meets the panel's requirements. These requirements are typically found in the installation guide.
 - b. The Honeywell 1321 AC transformer is rated at 16.5VAC 25VA. For more information, see [SEM-Honeywell/ADEMCO Vista - Panel installation and user guides](#).
4. If the panel voltage is still too high or too low after completing the preceding steps, contact the panel manufacturer.

Perform a hard reset^

A hard reset can be performed using the Remote Toolkit on the Partner Portal or MobileTech app. For more information, see [Send a Hard Reset command to a module](#).

Important: Verify the system is disarmed and not in programming before sending a hard reset.

1. Wait 10-15 minutes.
2. Verify the panel version displays properly on the Partner Portal or MobileTech app. For more information about finding the panel version, see [Remotely find or request the firmware version of a panel](#).

Additional considerations ^

If the steps above did not lead to a successful scan, see the options below. They can be attempted in any order, so consider equipment availability and convenience when proceeding.

- Replace the prom chip on the Vista panel. For more information, see [Swap the PROM chip for a SEM-Honeywell/ADEMCO Vista](#).
- You can factory reset the Vista panel. For more information, see [the SEM-Honeywell/ADEMCO Vista Panel installation and user guides](#) or contact Resideo.
- Test with another SEM. For more information, see [Swap a module for a customer account](#).
- Test with another panel. For more information, see [Restore settings during a module or panel swap](#).