GE Security

Voice over Internet Protocol (VoIP) and Security System Reporting

Technical Advisory

www.gesecurity.com

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What is VoIP?

VoIP stands for Voice over Internet Protocol and allows conventional voice telephone service over the Internet. This service is typically provided by cable TV companies.

When a consumer chooses to switch their telephone service to a cable provider, the telephone company is notified (usually by the cable provider) to discontinue service to the customer's residence. However, the customer retains their area code and 7-digit phone number for their new VoIP service. Just like conventional phone service, a dial tone is heard when a premises phone is picked up.

How is VoIP different?

- The dial tone is simulated by equipment the cable company installs in the home.
- The actual line voltage that provides power for premises phones (handsets and DTMF and dial tones) is not the same as that provided by a telephone company (48 VDC). VoIP line voltage is much lower and comes from the cable company's equipment, which is installed and powered from an electrical outlet in the home. This means the customer typically loses phone service during a power outage, unless the cable company equipment is connected to a backup battery or an uninterruptible power supply (UPS).

How is VoIP Installed?

VoIP installation consists of three primary steps:

1. Disconnecting the telephone company wires (incoming Tip and Ring) at the Telco block.
2. Running the VoIP cable into the home.
3. Installing the VoIP adapter/interface and connecting it to the home phone wiring.

The cable entry point and VoIP adapter/interface location will vary. They may be located near the existing Telco block or anywhere else in the home.

How does VoIP affect security system reporting?

GE Security Systems are designed to work on conventional phone lines. When connected to a VoIP line:

- Systems set up to monitor the phone line (detecting for 48 VDC) will report a phone line failure locally.
- Calls to the central monitoring station may be unsuccessful since the operating characteristics of VoIP are very different from a conventional phone line. Independent testing results show security industry reporting formats are inconsistent on VoIP lines, however the SIA format typically performs better.
- Line seizure may not be possible if the VoIP adapter/interface is located at a specific phone jack in the home.

For existing monitored security systems *with* line seizure, VoIP can prevent security systems from successfully reporting to the central monitoring station if the VoIP adapter/interface is connected between the panel and house phone jacks (Figure 1).

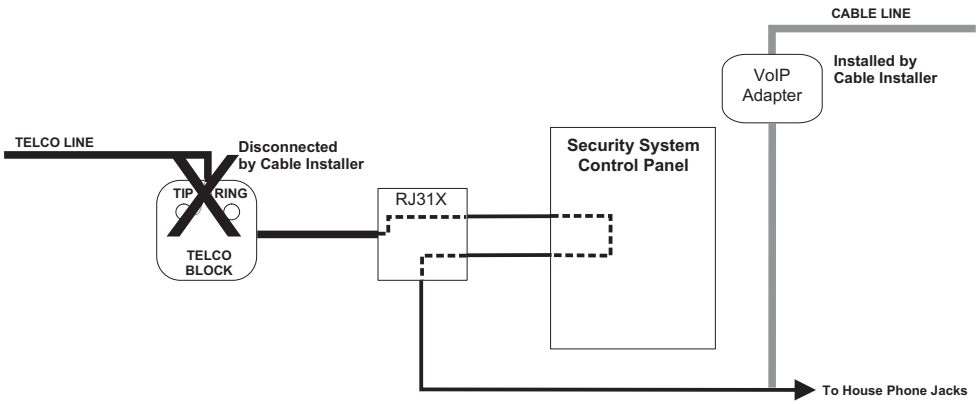

Figure 1. Security System with Line Seizure Disabled after VoIP Installation

For existing monitored security systems *without* line seizure, the system may report to the central monitoring station since the panel is basically connected to the home phone lines like a telephone (Figure 2).

Note
GE Security does not recommend installing security systems without line seizure.

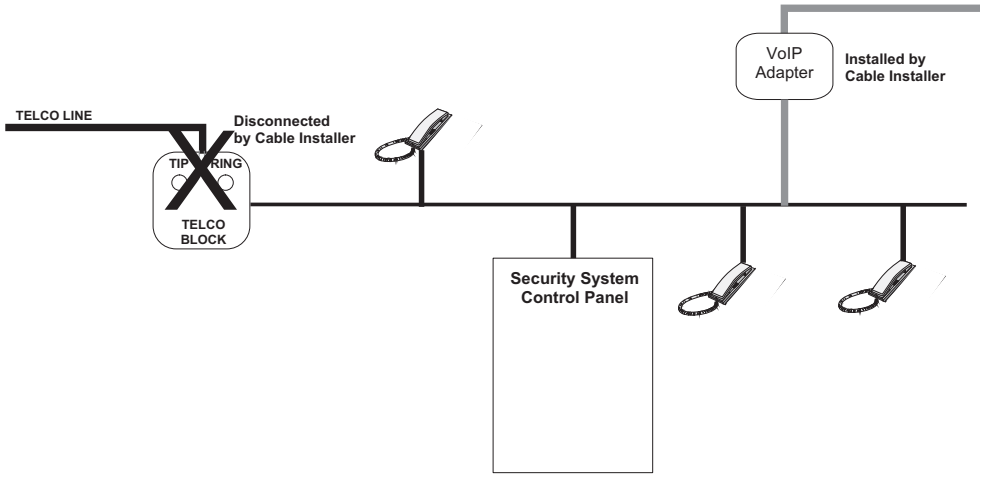

Figure 2. Security System without Line Seizure after VoIP Installation

How should dealers address alarm installations with VoIP?

Security systems and VoIP can work together, though it may require additional labor and/or components to provide compatibility. Regardless of the final hardware configuration, the system must be tested to verify successful reporting.

The following guidelines describe how to combine security systems and VoIP for successful central station communication.

- Connect the RJ31X jack so that it is after the cable company's VoIP adapter/interface (demarcation point), but before all other devices connected to the VoIP line (Figure 3). *Then test the system to make sure reports to the central monitoring station are successful*.

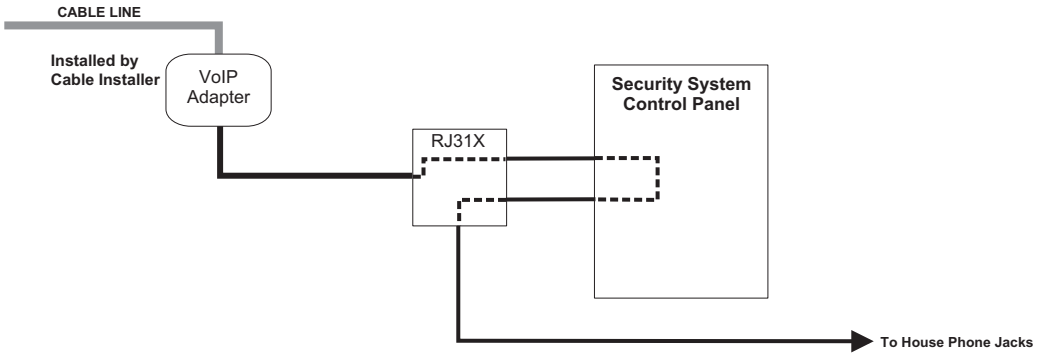

Figure 3. Security System with Line Seizure on VoIP Line

- For existing systems that monitor the phone line (such as Concord panels with the Phone Line Monitor card), this feature should be disabled to prevent nuisance trouble beeps.

If the customer only has a VoIP line, consider installing an IP addressable digital communicator.

- For Simon® 3 systems, use the Ethernet Interface (part no. 60-938).
- For Concord™ systems, use either the SuperBus® 2000 Cellular Backup Module (part no. 60-850), the SuperBus 2000 Wireless Gateway Module (part no. 60-861), or the SuperBus 2000 Wireless Gateway-Ready Kit (part no. 600-1010). With either Wireless Gateway, the Alarm.com website can be used to send reports on to the central monitoring station.
- For NX systems, use the NX-590E Ethernet Interface or NX-591E Cellular Backup Module.

Other Factors to Consider

- If a power outage occurs, VoIP service also goes down if there is no backup power installed for the VoIP adapter/interface. This means panels connected to the VoIP line cannot report to the central monitoring station. Make sure your customers understand this.
- Backup power for VoIP from a battery or UPS may or may not be an available option from the cable provider. Have your customer check with their cable provider about this. Ideally, any backup power should be equal to or greater than the panel backup battery capacity. Talk-time (normal phone use) should also be included into the backup power factor to provide customers with phone service during a power outage.
- For new sales, ask up front if the customer has VoIP. Any additional labor/equipment required can be explained up front and your installation crew can be better prepared for the job.
- For existing systems you may want to contact your customers and ask if they have switched, or plan on switching to cable phone service.
- Consider enabling an automatic weekly or monthly phone test so that the system can identify a communication problem.

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