

SIMPLY NOT-SO SAFE?

Prominently marketing itself as the anti-alarm industry solution, DIY security systems provider SimpliSafe has quickly amassed a large customer base. However, an independent forensic analysis shoots holes in the company's model, claims and technology. **By Jeffrey D. Zwirn**

POSING AS AN ORDINARY CONSUMER, I recently purchased a SimpliSafe package in order to forensically investigate if claims about its products, compared to professional alarm contractors and the products that the alarm industry offers to the public, are accurate. I also wanted to technically quantify if the representations of SimpliSafe offering an "advanced home security system" were factual.

To that end I started by reading the SimpliSafe end-user and/or instruction manual. I then set up the system and proceeded to contact the Boston-headquartered company's technical support department a multitude of times to ask about its products and services. These questions were related to issues either not clarified and/or not disclosed through its website or in the system installation instructions.

What Exactly Is SimpliSafe?

SimpliSafe is a \$229.96 and up to \$539.95 and more (depending on the package and equipment) DIY wireless alarm sys-

tem that is shipped to consumers directly. The system consists of a base station, keypad and other devices and/or sensors such as door contacts, motion sensors, glassbreak sensors, CO detectors, smoke detectors, water sensors, freeze sensors, wireless siren (in addition to the base station's built-in siren), and a wireless panic button and/or key-chain remote.

The remote contains the SimpliSafe Easy Setup Wizard, a software program that provides animated instructions and allows system customization. The system uses an onboard cellular transmitter for central station monitoring, and subscribers receive text messages as well as other dispatch and notification services standardly provided by central stations upon receipt of signals from the subscriber's premises.

Subscribers do not sign annual or multiyear monitoring contracts, but instead are offered month-to-month monitoring at \$14.99 per month. In just a few years, the company has reportedly sold

200,000 systems ... quite a success story.

SimpliSafe's website states that CEO and Chief Engineer Chad Laurans relied on his electrical engineering degree from Yale and an MBA from Harvard to design "an advanced home security system." The website goes on to state, "With so many people [meaning the alarm industry] making a profit, they need to use sneaky tactics to extract money from you. Their alarms use old wired technology and they're hard to use (so you need to pay a service engineer for even the most straightforward task). SimpliSafe has sliced out shady annual contracts, intrusive installations, and costly middlemen. We designed our system from scratch to give you everything you need in a security system plus some exciting bells and whistles."

These audacious statements have drawn the ire of those within the security industry. And while that is enough for serious consternation, what is even more alarming, based on my findings, is that in

NOTE FROM THE EDITOR: The August issue of *SSI* featured Scott Goldfine's editorial taking aim at do-it-yourself (DIY) systems provider SimpliSafe for its aggressive marketing campaign against the security alarm industry. The article generated a flood of reaction, some of which can be seen in this issue's *Between Us Pros* on page 6. It also inspired renowned forensic alarm and security expert Jeff Zwirn, who is a longtime and regular *SSI* contributor (Security Science department), to put a SimpliSafe system through its paces and evaluate its merits. Spoiler alert: It didn't do so good. Although the opinions expressed within this article are those of the author alone, *SSI* continues to frown upon SimpliSafe's anti-security industry tactics. SimpliSafe representatives were contacted for comment but did not return inquiries by press time.



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my opinion SimpliSafe has been concealing key information from the public with regard to its claims, assertions, systems and service. Indeed, after inspecting the SimpliSafe equipment components, I identified what I believe are a profusion of irregularities.

Complete System Not NRTL Listed

Let's first look at the functional brains of the system: the base station. While the wireless smoke detector and wireless carbon monoxide (CO) detectors are listed and labeled by Intertek, a Nationally Recognized Testing Laboratory (NRTL) and in accordance with applicable statutory requirements of the National Electrical Code, NFPA 70 and UL standards, none of the other SimpliSafe devices are NRTL listed. That includes, most importantly, the base station/control panel, which is required to be listed by an NRTL.

The system manual references UL 985 and NFPA 72, but the fact that the base station is not listed is astonishingly absent from SimpliSafe's website and marketing materials. So only some of the system's components are NRTL listed to UL Standards. The purpose of independent third-party testing like this is to independently verify safety and reliability of

the product to show that it meets universally adopted standards and codes. Such testing is required by NFPA 70 for the security and life-safety portions of the system when utilized, and is accepted as a nationally recognized industry standard and best practice.

The system's base station is packaged together within an approximately 10.5-inch-high plastic lighted hub

visible in the living area. Thus, it is more susceptible to physical destruction by an intruder, which would render the system nonfunctional and useless. I was told by a SimpliSafe representative that the consumer, being me in this case, should consider placing a lampshade on top of it for a disguise.

At the same time, in response to questions I had for SimpliSafe I received an

The SimpliSafe base station is designed to be visible in the living area. Thus, it is much more susceptible to physical destruction by an intruder, which would render the system nonfunctional. I was told by a SimpliSafe representative that the consumer should consider placing a lampshade on top of it for a disguise.

around the lower portion of its cone-type housing. Components in the system include logic boards, a small siren, cellular wireless radio transmitter, wireless receiver, AC power input jack and backup rechargeable batteries. Unlike an alarm control panel that is located in the basement or hidden in a closet, the sleek SimpliSafe base station is designed to be

email response and admissions stating in part that, while its base station is not UL Listed, it is tested (by the company itself) to meet UL standards. Importantly, there is no mention of the product meeting the compliance requirements, testing and successful listing mandates of UL 1023 and UL 985. Therefore the email I received is false and is not the equivalent

of the proper UL Listing.

It should also be noted that all of the system's wireless keypads, sirens, panic and/or key fobs, door and window transmitters, and motion detectors and audio glass-break detectors are also not UL Listed or listed by any NRTL, and there are no tamper switches on any of the wireless transmitters. So, if an intruder forcibly broke a glass window that only contained a contact, he could simply remove the cover of the transmitter to gain access to its internal battery. In turn, the SimpliSafe system would fail instantly.

SimpliSafe uses a nationally known subcontract UL-Listed Five Diamond CSAA Central Monitoring Station. That's interesting since SimpliSafe's broad marketing brush stroke is intent on damaging the reputation of professional alarm companies while the firm uses the same type of monitoring services itself.

This SimpliSafe design and equipment does not at all compare to what the professional alarm industry utilizes, is not "advanced," and does not comport with nationally recognized industry standards and best practices.

Customer Service Reps Don't Help

Continuing on with my investigative interview, I asked more questions of SimpliSafe's support department representatives and the answers were remarkable.

The system manual curiously references UL 985, which is the UL standard for Household Fire Warning System Units. According to technical support representatives I spoke with, UL 985 means the transformer is to be secured to the wall with a bracket, which the company will send you for free if required. Importantly, that is all the SimpliSafe tech support reps believe UL 985 requires to be provided, to the extent the local jurisdiction has the same requirement. Not only was the information provided grossly inaccurate

but the plug-in portion of the system's transformer that connects to the base station is not equipped to provide for restraining means, so it can easily be unplugged, accidentally or otherwise.

Stated differently, the wireless smoke and CO detectors that SimpliSafe provides to consumers *are listed*, but the base station that receives the signal, activates an alarm and notifies the remote supervising station is not. Therefore, SimpliSafe products are not in compliance with nationally recognized industry standards and best practices, and they do

not even meet Radio Shack control panel standards of the past as even this equipment was UL Listed.

Moreover, I was advised by the SimpliSafe customer service rep that if a burglar alarm, panic alarm or smoke detector and/or CO detector activates, the system's siren does not have the technical capability to distinctly sound such that the consumer could discriminate among the sources of impending danger. This critical feature is required by NFPA 72 of The National Fire Alarm and Signaling Code, and was required in the National Fire Alarm Code as well, for fire alarm and CO detector equipment, through the use of Temporal 3 and Temporal 4 sounding. Instead, the SimpliSafe consumer does not know what caused the alarm and must go to the keypad to retrieve that information, or await a text message, wasting critical time before knowing the nature of danger detected by the system. The latter assumes their cellphone is on and/or that it has functional wireless connectivity.

The wireless SimpliSafe siren is not

properly supervised and not listed, plus the system's base station and the central station do not receive any trouble signal if the unit fails. Only a local beep sounds during certain times when its batteries get low. This configuration alone does not meet the mandates and requirements set forth in NFPA 72 or applicable UL standards, and does not meet nationally recognized industry standards and best practices. Also, the siren is not listed by an NRTL. Without proper supervision and reliable audibility, the occupants of the home will not be promptly alerted and warned of a life-safety emergency.

Additionally, consumers are not likely to recognize the importance of having sounders that are loud enough and in the right locations in order to alert and warn them of an emergency. There is no warning in the SimpliSafe manual to instruct the end user regarding the criticality of audibility on all life-safety systems or as to NFPA requirements regarding same. It should also be noted that the base station has an onboard siren measuring approximately 2.25 inches in diameter integrated into its bottom. SimpliSafe represents the siren produces 85dBs of sound. However, since the siren is facing downward, and is partially enclosed in the base station, I found it to be muffled during activations.

The wireless, nonsupervised siren is represented by SimpliSafe to be 105dB. Company personnel advised me it can be installed outdoors, even though it has no tamper switches and is not listed or recognized to be placed in an outside environment, or designed to any standard to be exposed to the elements.

So if the SimpliSafe system activates due to detection of a life-safety emergency from a wireless smoke or CO detector in the basement of the home with the base station of the system on the first floor, the home's sleeping occupants on the second floor would have difficulty being able to reliably be alerted and warned in accordance with NFPA 72 audibility requirements. They in part require the fire alarm sounder to be 15dBs over the ambient noise level at pillow. The com-

pany rep I spoke with said NFPA 72 has nothing to say about sirens. Even though the system's manual references NFPA 72, when I asked the tech support rep if he had a copy of it, I was told SimpliSafe is a paperless company and that I should Google it.

System Relies on Pro Monitoring

The in-house rep also told me that SimpliSafe's components are better because they are wireless. Yet they do not have encrypted wireless technology available, and I was told its wireless smoke and CO detectors cover 300 square feet. Typically, smoke detectors sold by the professional alarm industry protect an area of up to 900 square feet. And CO detectors, which are time-based to only detect high levels of CO starting at 70 ppm, take 60-240 minutes sustained at the detector before an alarm activation will occur under UL 2034.

The company rep reiterated the marketing claim that SimpliSafe is the better alternative to professional alarm systems since you cannot cut any wiring. But the cutting of any protective loop wiring on a normally closed burglary alarm circuit triggers the alarm system; it does not impair it. The base station, which has a blue light on it, is recommended to be mounted near a window. So the unit would be vulnerable to an intruder to render it nonfunctional. It should be noted that when the system goes into alarm its blue light turns off, supposedly making it difficult for an intruder to find it. But the sound of the system's onboard siren still comes from its base station, which in my opinion makes it easily identifiable with or without the light. Plus, all an intruder need do to know how the system works (and can be defeated) is to note SimpliSafe's decals or yard signs, and then reference its website.

With regard to system monitoring, SimpliSafe uses a nationally known subcontract UL-Listed Five Diamond CSAA Central Monitoring Station whose primary target audience is professional alarm dealers. That's interesting since SimpliSafe's broad marketing brush



Forensic alarm and security expert Jeff Zwirn (top) puts a SimpliSafe system through its paces. The system consists of base station, keypad, several types of sensors/detectors, door contacts, wireless siren (in addition to the base station's built-in siren) and a wireless panic button and/or key-chain remote.

stroke, with its powerful Internet and social media campaigns, is intent on damaging the reputation of professional alarm companies while the company uses the same type of monitoring services itself.

In the SimpliSafe manual it states the system should be tested by a "qualified" technician every three years,

which came from earlier editions of NFPA 72. However, the 2010 edition of NFPA, per Table 14.3.1, requires annual testing. I asked the rep who that would be, meaning who would the consumer call? Would I have to call an alarm company to perform this test? I was advised by the rep that the local fire marshal would do this task. How-

