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SMART HOMES, SMART OPPORTUNITIES

NEW TECHNOLOGY CONTROLS EVERYTHING, FROM THE HVAC TO THE HOME THEATER—ARE YOU READY?

By Paula Felps

A **TECHNOLOGY HAS BECOME** more sophisticated, it has also become more accessible. For consumers, that means that even modest, existing homes can be retrofitted with high-tech touches, and new homes have a host of options that can be built-in for impressive results.

Keeping on top of the hottest trends opens the door for business opportunities that can include new and existing customers. When it comes to automation, electricians should think far beyond simply wiring a home-theater system, and start looking at opportunities that exist throughout the entire structure.

So-called “smart homes” are becoming more prevalent, offering automation in more ways than even George Jetson dared to imagine. From lighting to thermostats to even hot tubs, today there are ways to control virtually every component in the house from afar.

Taking control

Much of a home’s equipment and applications can be controlled from a single remote control. The industry standard for remote controllers is the X10 protocol, which uses a combination of power line wiring and radio frequency bursts for signaling and control.

The X10 was developed in Scotland in 1975 specifically for the use of remotely controlling home devices and appliances. Still the most popular and affordable, in recent years the market has seen the emergence of higher bandwidth alternatives such as KNX, INSTEON, BACnet, and LonWorks, but the X10 continues dominating the home automation market.

X10 controllers can range from the simple to the sophisticated; they can control multiple units and incorporate programmable timers that perform certain functions at specific times during the day. During installation, it’s possible to use separate codes within the house, allowing a command such as “all lights on” to only affect one area of the home. (Another point to consider during installation is whether or not the X10 signals should be blocked from leaving the home, so the signals being sent don’t interfere with an X10 control system in a neighboring home.)

Functions such as turning the thermostat up or down, or having lights in the house come on at a certain time can also be done through automatic control instead of via remote control. These automatic functions are operated by a controller that is configured with computer software, but fortunately it can run even when the computer is turned off. Keep in mind that Windows and Macintosh operating systems use completely different software to run the controller.

“BASICALLY, [HOMEOWNERS] CAN PRETTY MUCH MONITOR ANYTHING WITH AN ELECTRICAL ASPECT TO IT. THEY CAN EVEN CHECK FOR WATER LEAKS FROM THEIR WASHING MACHINE.”

Seeing the light

For most homeowners who want to ease into home automation, lighting is the most logical starting point. Mike Scharnagl, a leader in home automation, has incorporated many of the latest home automation tools in his own home and says that lighting is the easiest entry point—and it helps consumers realize that a whole new world exists for them to explore.

“Lighting is popular because it’s easy to do. You can install simple motion sensors and have lights come on when you enter a room. Or you can control your lights when you aren’t there by remote control,” he says. “And then you start looking at all the other things you can do.”

Homeowners who want home-theater systems are often good candidates for upgrading their lighting system as well. For an electrician installing such a system, adding programmable lights is a simple but logical upgrade.

“Think about someone with a high-end home theater system. They’ve spent all this money on a system that sounds great and looks great—they aren’t going to want to get up and turn off the lights,” Scharnagl says. “Everything else in that room is being controlled by a remote, so it makes sense that the lights are, too.”

Lighting is just the tip of a very large and expanding iceberg, and there are two main reasons for its popularity: convenience and cost savings. While some consumers simply like the convenience of making sure they can turn on the lights in their home before they arrive, others are driven by the savings that come from being able to use less power during their absence—or even when they leave a room.

Today, programs allow them to set a “scene” that, with the touch of a button, will allow them to adjust the lighting. So instead of using a dimmer switch to adjust the lighting each time, they select the lighting that suits a certain mood (i.e., “dinner lighting”) and then program that setting into a remote.

Those who enjoy the energy savings aspect of the equation will likely want to expand their options and begin using automated programs for such items as their thermostats, heating/AC ducts, and appliances. Scharnagl says that even the air ducts in individual rooms can be configured for remote control, allowing the homeowner to open or close the ducts based on whether or not the rooms are in use. Likewise, a consumer can start heating up the hot tub on a drive home from work, or turn the air conditioning down by remote, so conditions are perfect when they get home.

“If you keep your home cooling while you’re working, it’s going to cost a lot more than being able to turn the thermostat down while you’re on the way home—but the result is going to be about the same,”

he says. “There are a lot of simple things that make your life more convenient, but also save money.”

Room for growth

After lighting, the two most popular areas for home automation are HVAC and surveillance. The option of heating or cooling a home remotely is extremely attractive to homeowners, while the safety of surveillance systems enhances the feeling of security. When such systems are connected to a home automation system, they can alert the homeowner if a door or window is opened, or can detect any number of other disturbances.

“Basically, they can pretty much monitor anything with an electrical aspect to it,” Scharnagl says. “They can even check for water leaks from their washing machine.”

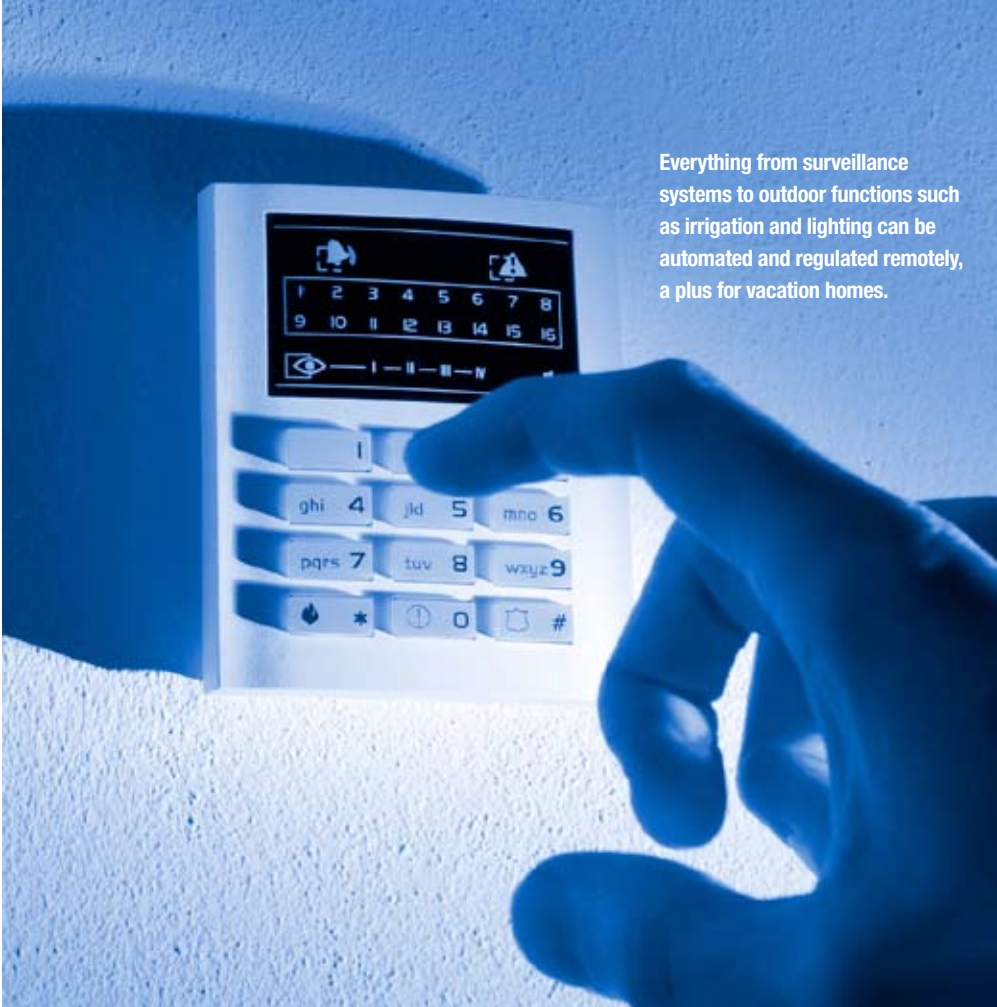
For most buyers in search of home automation, the most difficult part is getting the wiring work completed. Scharnagl says the industry offers tremendous opportunities for electricians who take the time to learn about the industry and educate themselves about what’s available and what’s coming down the pipeline. Changing out outlets and switches—which is usually the most challenging part of the installation—is simple work for electricians, and during these trying economic times, Scharnagl sees tremendous opportunity in store for electricians who want to grow their business.

“People are focusing on ways to save money long-term, and this is a simple way to do it,” he says. “They can save time and money, and make their home more efficient.”

“Then, as we come out of this downturn, and new homes are being built again, they’re going to have this automation included. It makes the home more valuable and it’s such a convenience for the homeowner. So it’s something that’s worth learning about.”

While the interest in home automation can be found across the country, business is most brisk in such warm-weather states as California, Florida, Arizona, and Texas. Scharnagl credits that to the nearly year-round need for air conditioning, along with the fact that those states have a larger population of homeowners with such energy-using additions as heated swimming pools and hot tubs. Florida is a leader in the vacation home market, so there is a strong opportunity to automate second homes that can be monitored year-round from the homeowner’s full-time residence.

“The best bet for anyone who’s interested in this is to take a class and learn all the solutions out there,” Scharnagl says. “It’s really very simple, but there’s so much potential. And it really lets them offer a lot of added value.”



Everything from surveillance systems to outdoor functions such as irrigation and lighting can be automated and regulated remotely, a plus for vacation homes.

Top 10 Home Automation Applications, From the Litterbox to the Lights

Today, there are many ways for consumers to automate their homes, and there are a host of new possibilities on the horizon. Here are 10 home automation systems that are scoring big with homeowners:

1. **Internet-connected video cameras:**

Whether they want to check up on the nanny, check in on their pets while they're at work or keep an eye on their home when they're away, consumers are asking for surveillance systems with online viewing access from any computer.

2. **Programmable thermostats:** Automated thermostats can be adjusted from any room in the house—or even via cell phone while the customer is on the way home from work.

3. **Programmable appliances:** From hot tubs to ovens, a number of appliances can be heated up or turned on through a cell phone interface.

4. **Whole-house lighting:** A programmable system eliminates the need to walk around and turn off all the lights in the house; it shuts them all down with the touch of a single button.

5. **Programmed routines:** Virtually every action can be programmed to suit the customer's morning (and evening) routine, such as turning the heat up, having the lights gradually brighten, turning on the coffee maker, and then switching on the television.

6. **Security alerts:** Security systems can be programmed to send alerts via email or phone when activity is detected in the home while the owner is away.

7. **Home entertainment systems:** Controlling every component of the home entertainment system, including the TV, DVD, and whole-house audio, can now be done with a single touch-screen remote that can be operated from any room in the home.

8. **In-home security:** Via security cameras integrated into the home entertainment system, customers can see who's at the front door without leaving their sofa; the image of the visitor is displayed on their television screen.

9. **Home tasks:** Schedule chores such as watering the lawn or turning outdoor lights on and off through a simple computer program.

10. **Pet care:** Automatic dispensers help feed and water pets—and even clean the litterbox via customizable and programmable tools.

