

The Role of Exterior Lighting in Home Security

William Lee Joel, II, Senior Lighting Specialist, Richmond Art Company

In a time when security concerns have become increasingly important to most of us, just how safe do you feel when you return home in the dark of night?

Your answer probably will be influenced by where you live. The security needs of an apartment dweller in a large metropolitan region differ from those of a subdivision homeowner, and neither of them share exactly the same requirements of someone who lives in a secluded camp in the woods. Still, in almost any circumstance, our sense of comfort and safety at night is always enhanced by an approach to a home that is sufficiently well lit as to reduce, if not eliminate, the chances of unpleasant surprises.

There are two primary considerations in setting up a modern exterior lighting system for home security. The first is the correct placement of properly selected lamps and fixtures to illuminate both the approaches to and the door(s) of the home. The second is the selection of some kind of automatic device to turn the lights on or off at appropriate times.

One type of automatic on-off device is an electric eye that senses daylight. At dusk, as daylight dims, the electric eye turns on the security lamps; at dawn, when daylight returns, it turns off the lamps.

The second type encompasses a class of devices commonly called motion detectors (or motion sensors), usually a passive system employing an infrared beam. This type detects a disturbance by measuring the change in the beam of "atmosphere" that it "sees", such as a person passing through its field of view. Any disturbance to the atmosphere causes the sensor to react, i.e., to turn on the security lights.

Either of these two systems provides the welcoming effect of lights to lead your

way home. And a well-lit door or window always has a deterrent effect on intruders. Even if a burglar suspects that the house is empty, he might still pass up a well-lit home and look for another target that is "safely" (from his perspective) in the dark.

Of the two automatic on-off systems, we much prefer motion detectors. That's because motion detectors go to work only when they detect a disturbance; they can be arranged to turn on the lights as you (or someone else) come onto the property or approach the door. If the cause of the disturbance is a trespasser, he cannot be sure whether the lights came on because a

tivity might be greatly reduced. And though the sensitivity of the motion detectors can be adjusted, they are susceptible to some degree of falsing. Abrupt changes in atmospheric conditions – a heavy storm, for example, or sharp temperatures rises or drops – could set off false alarms.

Yet, within these known limitations, properly installed exterior lighting wired to motion sensors provide a measure of protection that far outweighs any minor annoyances. As a welcoming light, it adds to the comfort levels of homeowners and guests. But as a deterrent light, it heightens the discomfort of would-be intruders. ■



About the Author

Bill Joel received his B.A. from Brown University with creative design courses at the Rhode Island School of Design. He did further studies in interior and lighting design at the New York School of Design and Pratt Institute.

A professional member of AID-ASID from 1963 to 1993, Bill received a Fellowship from ASID in 1978. In 1992, he became one of the first Certified Interior Designers of the Commonwealth of Virginia. His work experience includes residential, commercial and institutional remodeling and new structures, as well as a number of feasibility studies, all with an emphasis on effective, energy-conscious, quality-lit environments. For more details, consult *Marquis Who's Who in America*. Bill has also served as a member of the FIDER Board of Visitors and Accreditation Committee, Foundation for Interior Design Education and Research; set and lighting designer for the Richmond Forum and Barksdale Theatre; and guest speaker on various radio and TV spots. Bill may be reached at Rich@RichArtCo.com.

motion detector sensed his presence or because he was actually observed by someone in the home. Even if the lights were triggered automatically by sensor, the intruder might well wonder if the sudden brightness would alert someone in the building. Using multiple motion sensors set on different circuits to light up different sides of a building and its adjacent yard can multiply the effectiveness of the security arrangement.

As with all things, however, motion detectors have limitations. They tend to work best when the weather is cold and dry. In mid-winter, the operating range of a detector might double the distance of even its manufacturer's most optimistic claims. In hot summers, conversely, with rain (or worse, fog), the detector's range and sensi-