

System Overview

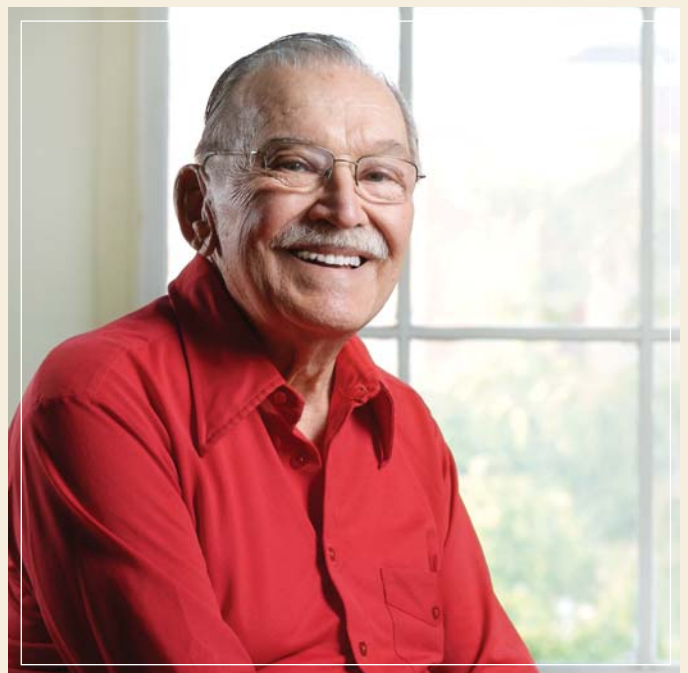


How the system works at the door

The RoamAlert system provides the most effective protection against resident wandering.

RoamAlert tag

Each resident requiring wander protection wears a RoamAlert radio frequency tag that contains a unique ID number. The RoamAlert tag is the smallest and lightest on the market today, weighing less than a third of an ounce. The tag is worn on the individual's wrist or ankle and is attached using Xmark's tear-proof band. It is waterproof, hypoallergenic and can be transferred from one person to the next. For perimeter wander prevention applications, the RoamAlert tag carries a three year warranty.



Door controller

Each key exit from the facility is monitored by a door controller. This device generates a field, which defines the door coverage area for tags. When a tag enters this field while the door is open a Wander Alarm is generated; if the door is closed, the door controller can activate an optional magnetic door lock to hold the door securely shut, and generate a Loiter Alarm if the resident does not move away from the door within 55 seconds.

The door controller can be integrated with existing access control systems to enable staff to escort a monitored resident through the exit. In addition, two on-board relays enable the RoamAlert system to activate a range of other devices, such as strobes and sounders.

The door controller is usually installed out-of-view above a drop-ceiling, and an extra antenna may be connected to enlarge the detection field to cover double doors or other wide openings.

Elevator system

This device is a door controller specially designed to be installed inside elevators. The elevator system travels with each elevator car, containing the detection field within that car. As a result, an alarm condition within one elevator car will not impact the operation of other cars in the bank. In addition, nuisance alarms from patients passing through the elevator lobby are eliminated.

The operation of the elevator system is designed to make it easy for staff to escort a resident. When a tag is within detection range and the elevator doors are open, no alarm is generated for a few seconds to give the staff member time to enter their bypass code on the keypad inside the elevator.

The full RoamAlert solution

Adding the RoamAlert software to the system opens up a wide range of additional options for wander prevention, emergency call and resident locating.

The door controllers are monitored by a server PC running the RoamAlert software. This application provides information in a clear and intuitive visual format that includes a census list of all residents and one or more floor plans of the facility. Access to the software is password controlled to ensure security.

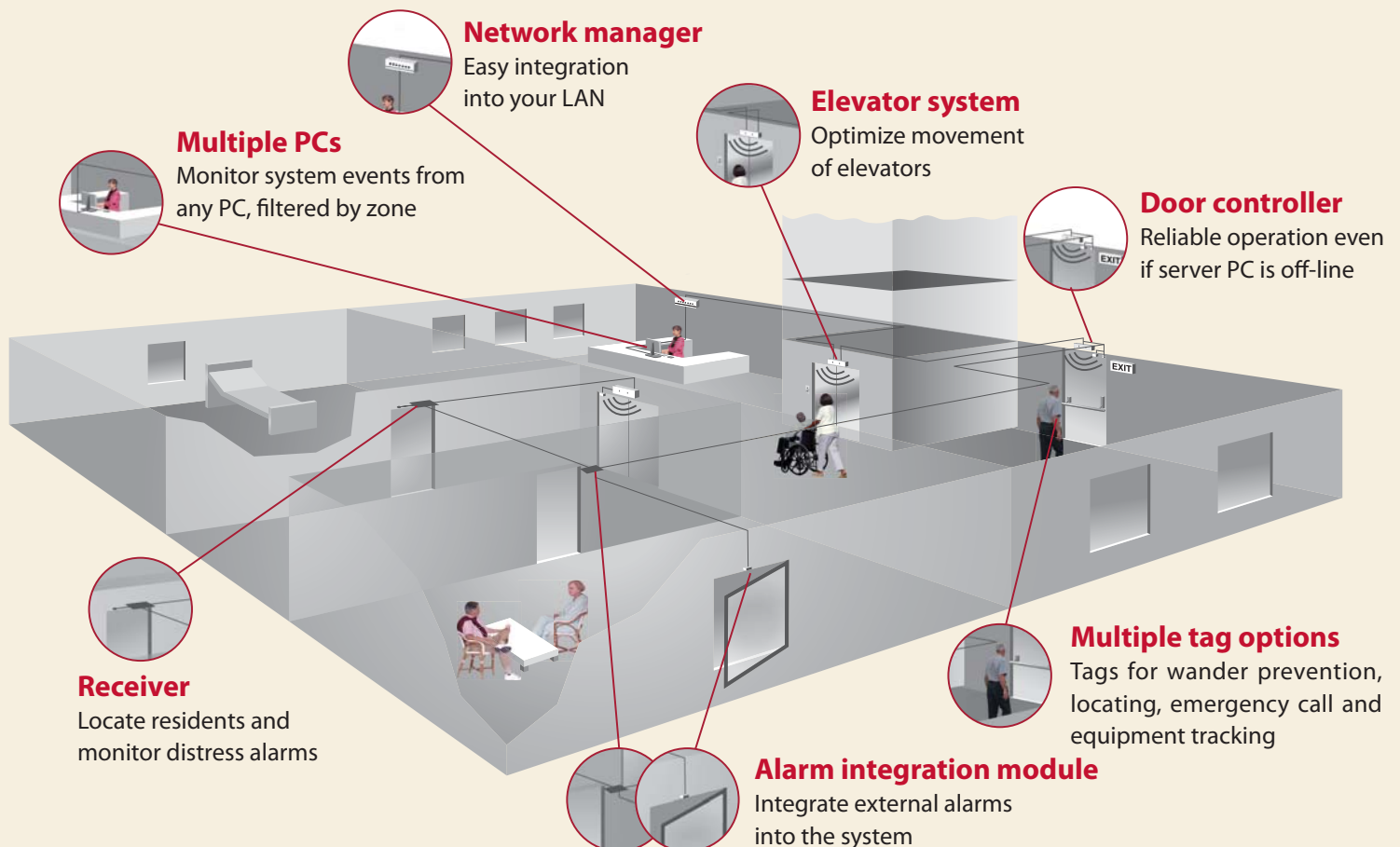
In an alarm, a warning immediately appears in the software, showing the resident's name, the location of the alarm, and even a picture. The RoamAlert system can also be integrated with other devices to enable a range of responses to an alarm, from activating a strobe light to sending a detailed page message.

Alarms can be cleared either at the door via a keypad, or through the software. In either case, the system captures complete information on the event for future reference: the time, the location, the resident and the staff member who responded.

Escorting a resident through a protected exit can also be done through the software or at the door via a keypad. As an alternative, staff members can be equipped with pendant tags that enable them to automatically pass through a door with a resident. In all cases, the identities of the staff member and the resident are recorded in the system database.

With the switch to pulse-enabled RoamAlert wrist tags (carrying a one-year warranty) and the addition of receivers to detect tag messages, the RoamAlert system also offers resident locating. The system tracks the location of all tags, and automatically updates location information in the RoamAlert software. In an emergency, you can locate each individual in a matter of moments.

You can extend protection to all residents and staff through the addition of pendant tags, which enable the individual to call for help from anywhere in your facility at any time by pushing the button on the tag.



Server and client PCs

The server PC is a standard Windows®-based computer running the RoamAlert software. It is physically connected to the door controllers, receivers and alarm integration modules via a network manager. Typically located at a nursing station, the server PC monitors and controls all system devices, and is used for configuring system operation.

Additional client PCs can be connected at other locations throughout the facility over a local area network (LAN) to enable staff to monitor system activity and perform basic functions. The system can be accessed from different locations simultaneously.

The RoamAlert software displays facility floor plans and a resident census. Designed for ease-of-use, the software presents only task-critical information to the operator. Different levels of password access ensure security while allowing staff members to perform their jobs efficiently. User accounts can be created and authority assigned according to each facility's requirements.

The software records all activity, including alarms, in a database. A variety of reports of system activity can be viewed on-screen and printed.

Receiver

The receiver is an optional device that enables emergency call with pendant tags, and resident locating with pulse-enabled RoamAlert tags.

Typically installed in the ceiling, receivers are placed at regular intervals throughout the facility to pick up messages from tags when they are away from a door controller. This information is forwarded to the server PC along with the receiver's own unique identity. The server PC then automatically updates location information in the software.

The server PC monitors the operation of each receiver to ensure a high level of operational confidence. If the receiver fails to operate for any reason, an alarm occurs in the software.

Alarm integration module

The alarm integration module is an optional device that provides additional inputs and outputs for the RoamAlert system to integrate external alarms and security devices. The RoamAlert software provides a variety of options to customize the operation of each connected device, including time-of-day functions and grouping by zone. A typical application might be monitoring windows to prevent a resident from leaving the facility.

Network manager

The network manager connects the network of door controllers, receivers and alarm integration modules to the server PC over an Ethernet connection. This arrangement gives the facility greater flexibility to locate the PC in the optimum spot, while reducing cabling costs by piggybacking on an existing Local Area Network (LAN).

The network manager continues to manage the device network even if communication with the server PC is lost. All events are logged for up to 8-10 hours under the maximum network load, and then passed to the server PC when a connection is re-established.

Pendant tag

The pendant tag has two functions. For staff members (or others), it can be used to automatically bypass an exit with a monitored resident without having to enter a passcode on the keypad, or initiate an action through the software. The system records the identity of the staff member and the resident.



The pendant tag also enables an individual to call for assistance from anywhere within the coverage area of the RoamAlert system. When the individual presses the distress button on the front of the tag, a message is sent to the system, and the identity of the person and their current location is displayed in the software. Note that this application requires the use of receivers. The pendant tag carries a one-year warranty.

Asset tag

The asset tag is used to locate and protect valuable mobile assets within your facility, such as keys to a medicine cabinet. The tag sends a regular signal that is detected by the receivers. This information can be used to accurately track and locate equipment within the facility.

The compact tag can be attached to a variety of assets, and includes an anti-tamper mechanism to prevent unauthorized removal. The system can also generate an alarm if the tag is brought near a monitored exit without authorization, and when the battery power in the tag becomes low. The asset tag carries a three-year warranty.

Software configuration options

The RoamAlert software offers several options to customize the operation of the system.

- **Time of day functions**—Enable free access through an exit during day-time hours, while locking it at other times.
- **Door Ajar alarm**—Be notified if a monitored exit is left open for a configurable period.
- **Categorization**—Customize door access on a per-resident basis, so that each resident can pass through some exits—to reach a common area, say—and not others.
- **Volunteer Mode**—Assign a pendant tag to a volunteer or another resident that enables them to escort one or more residents—and those residents only—through monitored exits.
- **Transport function**—Enable a resident to leave the facility for a family visit or other reasons. No need to share passcodes with family, or have a staff member bypass each exit individually.

About Xmark

For over 25 years, Xmark Corporation has provided Radio Frequency Identification (RFID) solutions to locate and protect people and medical equipment in healthcare environments. Its market-leading infant and pediatric protection, wander prevention, staff safety, and asset tracking applications are trusted by over 5,000 healthcare institutions worldwide.

Xmark systems are installed and serviced through an international network of authorized dealers, and backed by the industry's most comprehensive customer support program. All aspects of Xmark's business are certified to the ISO 9001 quality standard.



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