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## **RFID and GPS Inventory Monitor Zone Index Automation System**

### **RFID and GPS for Real Time Visibility**

The Beacon Inventory Monitor Zone Index Automation Patented System is designed to be capable of identifying attributes and location of any tagged object upon entrance into a monitored zone. The System is designed to work without the human element; thereby keeping automation and security a top priority.

Upon entrance of any tagged object into the monitored zone, the System is capable of allowing the tagged object to be monitored, registered, indexed and catalogued. At exit of any tagged object from the monitored zone, the attributes and location of the tagged object can again be monitored, registered, indexed and catalogued. Since objects can change inside the monitored zone, attributes and location are identified within the monitored zone to be monitored. Because a tagged object may be subjected to damaging activities and forces while the tagged object is within the monitored zone, the System also offers the capability of monitoring the forces that have acted upon the tagged object while the tagged object was being monitored by the System. For example, by calculating acceleration or deceleration of the tagged object as it may have been moved within the monitored zone, the System can provide an estimate of the g-forces that may have acted on the tagged object.

This Beacon property entrance and exit notification, inventory control system can also automate the documentation of entry time and exit time of tagged objects such as personnel, equipment, tools, vehicles and shipping containers.

The zone monitoring process as described here accomplishes its monitoring mission by use of one or more of the following communication devices; "RFID" Radio Frequency Identification, "**SAW**" **Surface Acoustic Wave**, Barcode, Electromagnetic Wave or "GPS" **Global Positioning System**. Using at least one of these five devices, a computer system can generate inventory control information utilizing upload database management. The monitoring process may also identify what an object is, where an object is, and many other important characteristics about the object and its movements at all times within the zone to be monitored

This Inventory Monitor Zone Index Automation System is designed to be capable of recording attributes and history of any tagged object in the zone, via computer software, for viewing. This documentation of location of any tagged object along with the attributes of any tagged object, generates a unique formulation of information of real time visibility. During this **GPS monitoring** of tagged objects throughout the property, a signature map of time and location of the tagged objects may be recorded into a database for real-time viewing; as well as viewing by management, on or off the property, at a later time. One key purpose of tracking tagged objects in this manner throughout the property, is to identify time and location including scheduling, job location, safety-related issues, lost personnel, loss prevention, as well to identify potential anti-terrorist or vandalistic activities.

Tagged objects that enter the monitored zone are regarded as any physical item including but not limited to people, identification cards, tools, equipment, vehicles, or containers. Keeping track of tagged objects is an inventory management tool.

The Beacon Inventory Monitor Zone Index Automation System is capable of monitoring tagged objects within the monitored zone by using one or more of the following processes: . Device Activation: Upon entrance of the tagged object into the monitored zone. Data Transfer: Signal upload database management related to the tagged object. Date tagged object entered the zone. Time tagged object entered the zone. History of the tagged object's movements. Date of movement of the tagged object from one location to another. Time of movement of the tagged object from one location to another. Speed of movement of the tagged object from one location to another. Rate of acceleration of the tagged object from one location to another. Rate of deceleration of the tagged object from one location to another. Time tagged object remained at a single location. Association of the tagged object with a second tagged object. Predetermined correlation of the tagged object with a second of the tagged object. Date tagged object exited the zone. Time tagged object exited the zone. Device Deactivation: Upon exit of the tagged object out of the monitored zone.

With this Beacon Inventory Monitor Zone Index Automation System, it can be determined if there is a possibility that a tagged object has been tipped or turned over, as well as the amount of force the tagged object has sustained -- all of which can be used to identify the likelihood that damage may have occurred to the tagged object. If a gate, barricade, or door is utilized as a choke point upon the entrance into the zone to be monitored, then this Inventory Monitor Zone Index Automation System can be made capable of sensing and recording the opening date and time of the gate, barricade, or door. Furthermore this system will can be equipped to also sense and record the closing date and time of the gate, barricade, or door of the monitored zone. As the gate, barricade, or door is opened or closed the inventory control information is automatically updated.

If tagged objects enter the monitored zone utilizing a wide spectrum entrance where a choke point, gate, barricade, or door is not utilized, the RFID and GPS can be used to record the objects attributes, location, date, and time upon entrance into the monitored zone. Also in reverse when the object departs from the monitored zone, RFID and GPS can be used to record the objects attributes, location, time, and date of departure.

The property management system's entrance and exit notification and inventory control aspects use one or more of the following scanning means: "RFID" Radio Frequency Identification, "**SAW**" **Surface Acoustic Wave**, Barcode, Electromagnetic Wave or "GPS" **Global Positioning System** technology. This system is applicable but not limited to the following types of facilities: Federal and state prisons, Federal and state warehouse property including property for hazardous materials, Federal and state distribution property areas, Commercial warehouse property, Commercial distribution property areas, and Private, state, and federal construction sites in addition to other types of sites. Any other circumstance where an object needs to be inventoried, tracked, or monitored.